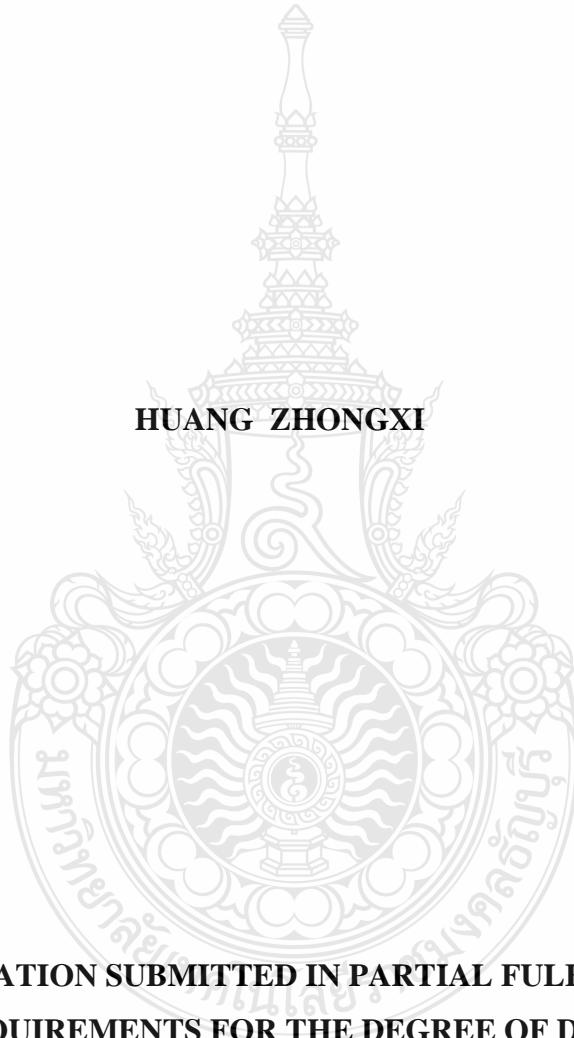


**THE INFLUENCE MECHANISM OF CHINESE LITHIUM-ION BATTERY
NEW VENTURE GROWTH BASED ON THE PERSPECTIVE OF
ENTREPRENEURIAL CHARACTERISTICS**

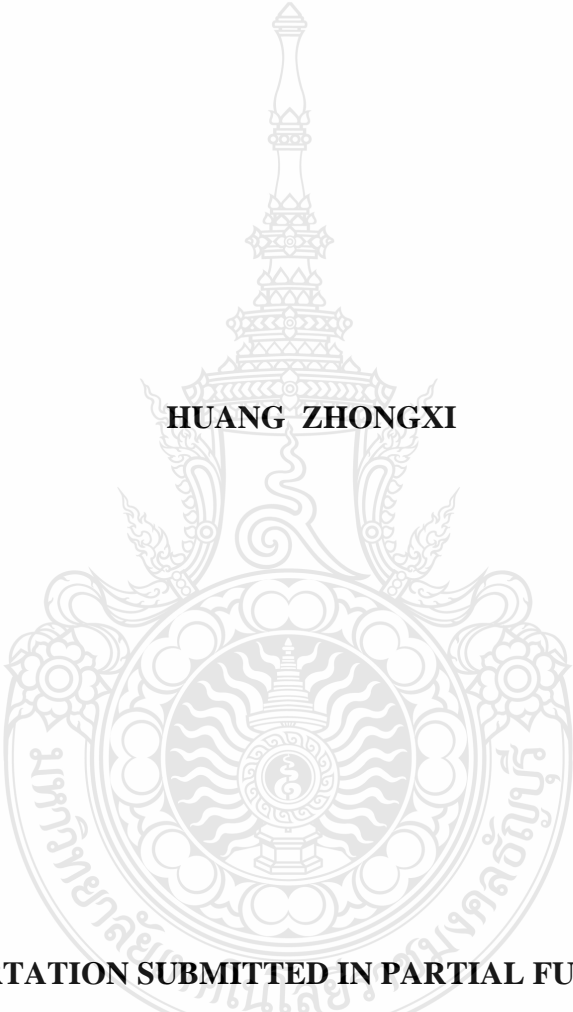
HUANG ZHONGXI



**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY PROGRAM IN BUSINESS ADMINISTRATION
FACULTY OF BUSINESS ADMINISTRATION
RAJAMANGALA UNIVERSITY OF TECHNOLOGY THANYABURI
ACADEMIC YEAR 2023
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Dissertation Advisor	Associate Professor Khahan Na-Nan, Ph.D.
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ABSTRACT

This dissertation has three objectives. Firstly, it investigates how entrepreneurial self-efficacy, resilience, and passion affect new venture growth by experimentally investigating and synthesizing current evidence. Secondly, the study examines how entrepreneurial self-efficacy affects new venture growth, both directly and indirectly, through entrepreneurial resilience. Finally, the dissertation examines how entrepreneurial passion moderates entrepreneurial resilience and new venture growth.

This study employed a mixed-methods approach, integrating quantitative and qualitative analyses. Data were gathered, in the quantitative phase, from questionnaires completed by 384 CEOs of Chinese startups. The questionnaire data were analyzed using Macro Process 4.00 software to discern direct and indirect influences, as well as mediation and moderation effects. In the qualitative analysis, the study focused on interviewing CEOs of Chinese lithium-ion battery companies established within the past eight years and utilized content analysis.

The document-based synthesis demonstrates that entrepreneurial self-efficacy has a direct and indirect impacts on new venture growth through resilience. Entrepreneurial passion moderates entrepreneurial resilience and new venture growth. According to the quantitative study, entrepreneurial resilience mediates the effect between entrepreneurial self-efficacy and new venture growth. Furthermore, entrepreneurial passion moderates entrepreneurial resilience and new venture growth. The key informants' qualitative insights highlight the importance of entrepreneurial spirit for owners and managers taking on enterprise responsibilities.

Keywords: entrepreneurial self-efficacy, new venture growth, entrepreneurial resilience, entrepreneurial passion

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Globalization is one of the major changes taking place in the world economy, and the changes in the market under the background of globalization have also brought new opportunities and a large number of uncertain factors to the development process of enterprises (Skokic et al., 2015). Globalization has changed the original state and pattern of markets, the workforce, culture, time and space, and has also profoundly affected the interdependence between enterprises, value creation in innovation networks, and patterns of economic activity. It has caused global innovation factors and resources to continuously flow across organizations, regions, and borders, converge, and flow to different levels of innovation processes, leading to the redistribution and dynamic balance of innovation resources. With the globalization and restructuring process of resources, knowledge, technology, etc., enterprises need to continuously explore opportunities that can promote their sustainable growth (Sofka & Grimpe, 2010). Since the 21st century, the advancement of technological change, the acceleration of globalization and the arrival of the information age have made the competitive environment faced by enterprises increasingly complex and unpredictable. Digitalization and data-driven technologies have fundamentally changed consumer behavior and the business environment in which businesses worldwide rely for survival, bringing new opportunities and challenges to innovation and entrepreneurship activities in various industries around the world. How to maintain competitive advantage in this complex and volatile environment has become a topic of continuous concern in academia. If an enterprise cannot make strategic adjustments based on changes in the environment, even those that occupy a competitive advantage will encounter difficulties, thereby losing their competitive advantage, or even being eliminated.

As a key force in promoting world economic development and industrial transformation, new enterprises are also important job creators and competition promoters. Innovation and entrepreneurship inject new vitality into social development and are an important source of economic growth. As an important driving force for economic

development, entrepreneurial activities and the growth of new enterprises are receiving increasing attention from governments around the world. The emergence of new enterprises has become a driving force for innovation (Drucker, 1999), and entrepreneurial activities can promote economic growth. Rostow (1975) fully demonstrated theoretically the important role of entrepreneurial innovation and entrepreneurial activities in economic growth. Startups have greatly promoted the socio-economic development of countries and regions. On the one hand, startups can provide a large number of new employment opportunities for society, reduce inflation in countries or regions, and on the other hand, promote the development of industrial technology, creating new social wealth (Lee et al., 2001). Entrepreneurship activities provide society with novel products, novel processes, more exports, and more job opportunities (Jian, 2007). In recent years, the Global Entrepreneur Observation Report has pointed out that entrepreneurial activities in various countries around the world are increasingly prosperous and growing. As entrepreneurial activities have brought many benefits to socio-economic growth and development, in recent years, many researchers and policymakers have proposed that the success of entrepreneurs is "the triumph of entrepreneurship and the source of power for the development and progress of the world" (Gilder, 2013). Entrepreneurial activities themselves are the most dynamic part of a country's economic development, constantly providing strong impetus for rapid economic growth (Birley et al., 1987).

Since the mid-1970s, profound changes have taken place in the economic system of the United States, shifting from a "managed" economy to an "entrepreneurial" economy. During this period, a large number of small and medium-sized enterprises have emerged in the United States, and most of these small and medium-sized enterprises are new ventures. These enterprises have greatly increased the employment opportunities of the American people and contributed a huge force to the growth of GDP in the United States (Drucker, 2002). Today's China, like the United States at the time, is in the midst of a wave of entrepreneurship. In recent years, the Chinese government has issued various entrepreneurial support policies, and private entrepreneurial activities have been extremely active. At the same time, all provinces and cities have established entrepreneurial service centers to support the development of local entrepreneurial enterprises. Since the adjustment of the national economic structure in 2015, the supply side reform has been

deepening, resulting in significant downward pressure on the national economy and an increasingly severe employment situation. In order to enhance the vitality of market entities and create more employment opportunities, various regions have continuously responded to the entrepreneurship and innovation policy proposed by Premier Li Keqiang (2014). The continuous growth of entrepreneurial enterprises in various regions has not only promoted the development of the regional economy, but also made outstanding contributions to alleviating the employment pressure in the region. According to statistics, the main body of entrepreneurship in China is young people, and the motivation for entrepreneurship is dominated by opportunity-based entrepreneurship. According to previous data, there is a positive growth trend between opportunity-based entrepreneurs and employment positions, and the proportion has now increased to 1:8 (Hong & Jie, 2015). It can be seen that entrepreneurship has become an important breakthrough in alleviating employment pressure.

Since the reform and opening up in 1979, China has experienced astonishing economic growth, in which the emergence and growth of new enterprises have played a crucial role. The number of new ventures reflects the vitality of the social economy to a certain extent. Since the 18th National Congress of the Communist Party of China, the contribution rates of the number of private enterprises and registered capital to the total growth of enterprises have reached 98.9% and 69.8%, respectively. They are the main driving force for the development of enterprises. The sixth session of the 19th National Congress of the Communist Party of China further emphasized the main force role of entrepreneurship. In 2020, the number of small and medium-sized enterprises was 909000, accounting for 95.68% of the total enterprises, and the operating income was 137.3 trillion yuan (Zhe, 2021). China's overall entrepreneurial activity is increasing and has become one of the most active regions in the world. As an important job provider and competitive participant, new ventures have continuously injected new vitality into China's economic and social development. Since 2010, the number of Chinese startups has increased by nearly 100% annually. In 2014, the number of new ventures reached a new high, with over 3.65 million new ventures being born (Zhe, 2021). In 2015, Premier Li Keqiang proposed "mass entrepreneurship and innovation" at the two sessions as a "dual engine" (Zhe, 2021) to promote the continuous development of China's economy. In order to transform the driving

force of economic development and improve quality and efficiency as soon as possible, China has vigorously promoted innovation and entrepreneurship, and new ventures are the main force for the smooth implementation of entrepreneurial activities, as well as the engine driving innovation and promoting regional economic development. Under the strong guidance and support of national policies, the enthusiasm of the public for entrepreneurship is rising, and the number of new ventures is increasing day by day.

The development of new enterprises has become increasingly prominent in promoting the national economy, which is conducive to stable economic progress. China is undergoing comprehensive transformation, and a high degree of uncertainty is a prominent feature of China's transition environment. With the proposed strategy of "mass entrepreneurship, mass innovation", Chinese startups are facing enormous opportunities and challenges. How to promote the effective growth of startups has become a hot topic for scholars to discuss. Enterprise growth refers to the process of an enterprise from growth and expansion to stagnation and recession. Penrose et al. (2007) believed that the growth of an enterprise stems from its internal resource reserves and allocation, and resources are the key elements of enterprise growth. Timmons et al. (2004) believes that enterprise growth is a process of utilizing advantageous resources to seek development opportunities. Sun Xue (2004) believes that enterprise growth refers to maintaining stable growth or significant improvement in overall performance for at least three years.

Currently, although China has a significant number of new ventures, they are facing relatively severe survival and growth problems. Currently, the average survival period of Chinese new ventures is less than 3 years, and a large number of new ventures have failed to cross the Death Valley and have fallen. According to the GEM (2018) report, although there is an average of 20000 companies established in China every day, most of them face failure difficulties at the early stages of entrepreneurship, with less than 20% of new ventures surviving for more than 3 years (Zeng, 2021). The grim entrepreneurial situation has dampened the entrepreneurial enthusiasm of many people, casting a shadow over China's booming entrepreneurial economy. Therefore, how to survive and develop in today's era of drastic changes and continuous development is a problem that must be solved by new enterprises.

Most new businesses quickly end up failing due to their newly entered defect characteristics (Dahl & Reichstein, 2007). New enterprises have a limited resource and capability base, and in the process of growth, they are often constrained by resources. Due to information asymmetry and the uncertainty of innovation projects, financial markets are unlikely to provide the necessary investment for new enterprises (Stam & Wennberg, 2009). As a startup, compared to large mature enterprises, it faces many challenges. For example, due to the existence of industry entry barriers, the internal resources and capability base of startup companies are relatively limited, which is also one of the main reasons for the failure of many new enterprises (Steininger, 2019) China's new ventures generally have a situation of being too small and growing slowly, especially under the current economic new normal, facing a more severe survival environment (Shu & Ying, 2016). Therefore, if a new venture wants to survive and develop, it must be committed to improving growth performance (Shu, 2011). The practical experience of many founders of new ventures indicates that the growth and performance improvement of startups not only depends on internal resources and capabilities, but also requires external support, such as government support (Guo & Xian, 2014). In addition, the business environment faced by enterprises today has greatly changed compared to decades ago. Factors such as intensified global competition, rapid expansion of information, and accelerated technological upgrading have led to greater risks and uncertainties faced by entrepreneurship than in the past. On the other hand, for startups themselves, they do not have stable cash flows, established management models, and clearly visible strategies, so their ability to withstand risks is low (Yue, 2006). Baker & Nelson (2005) believes that in the initial stage of entrepreneurship, due to a lack of resources, new ventures will more or less experience the phenomenon of "entrepreneurial patchwork", and entrepreneurial teams do not have a complete human capital structure and corresponding incentive measures at the beginning of the period.

Entrepreneurship is a long-term and complex process, and entrepreneurs inevitably face many uncertain factors and problems to solve. In the face of uncertainty, individuals with low self-efficacy often experience negative emotions, such as nervousness, anxiety, and depression. These negative emotions can reduce individual confidence, doubt their entrepreneurial ability, shake their belief in entrepreneurship,

seriously hinder the sustainable development of entrepreneurial passion, and even lead to business interruption or failure. Self-efficacy refers to an individual's level of confidence in their ability to complete a specific activity or task (Schlaegel & Koenig, 2014). The more confident individuals are in their abilities, the more likely they are to succeed. Individuals with a high sense of self-efficacy tend to choose tasks that are suitable for their level of competence or even more challenging. As described by Gist (1987), the mechanism by which self-efficacy affects behavioral outcomes is: the higher the level of self-efficacy, the more likely an individual is to pursue setting higher goals; In order to achieve the set high goals, individuals need to pay a higher level of effort, and therefore their performance level will be higher. Individuals with a low sense of self-efficacy are prone to believe that efforts are futile when faced with difficulties and obstacles, and have relatively weak confidence in completing tasks and goals. Bandura (Wen, 2020) emphasizes the important impact of individuals' internal self-factors and self-motivation on individual behavior. In uncertain situations, self-efficacy can enable individuals to regulate their own psychology. In order to achieve the desired goals in their hearts, individuals actively discover and explore opportunities and come up with various ways to overcome difficulties. The sense of self-efficacy associated with new venture is known as entrepreneurial self-efficacy, which is defined as an individual's confidence in their ability to carry out entrepreneurial activities (Chen & Greene, 1998) Entrepreneurship self-efficacy plays a crucial role in determining whether individuals pursue entrepreneurial careers and engage in entrepreneurial behavior (Newman et al., 2019).

Scherer et al. (1989) believed that entrepreneurial self-efficacy is the degree of confidence that individuals identify with their entrepreneurial identity and believe that they can successfully start a business. Chen et al. (1998) have conducted a series of studies and believe that in the process of entrepreneurship, the belief that individuals have clear entrepreneurial goals, are capable of completing entrepreneurial tasks, and persist in entrepreneurial success even when faced with difficulties is called entrepreneurial self-efficacy. Luthans & Ibrayeva (2006) proposed that entrepreneurial self-efficacy is a criterion for individual self-assessment, that is, a belief that individuals can successfully start a business by measuring their innovation ability. Ming (2009) believes that entrepreneurial self-efficacy is a belief that individuals consider entrepreneurial activities

and evaluate whether they can successfully complete tasks. It includes two aspects: one is related to entrepreneurial content, and the other is related to entrepreneurial behavior. Li (2011) believes that entrepreneurial self-efficacy is an individual's confidence, that is, an individual recognizes their abilities when starting a business, believes that they will create brilliance on the entrepreneurial path, and successfully accomplish their goals. Jian (2006) believes that entrepreneurial self-efficacy affects entrepreneurial performance through opportunity identification, that is, individuals participate in activities with an optimistic attitude when starting a business, believe that their abilities can solve work problems, better identify opportunities, better complete tasks, and achieve high performance. Individuals with a high sense of entrepreneurial self-efficacy, who recognize their abilities, will strive to achieve established goals and achieve better entrepreneurial performance. Wei & Zhao (2012) took technology entrepreneurs as the research object and found a positive correlation between the two, that is, the higher an individual's sense of entrepreneurial self-efficacy, the more able they are to persevere in completing tasks without fear of difficulties and dangers when starting a business, and they can still remain calm and make the most advantageous decisions in uncertain situations, resulting in higher performance.

Resilience is a person's ability to continue living after adversity or difficulties. Characteristics of resilience include resilience after traumatic events, coping with adversity, and successfully addressing challenges to achieve positive outcomes. Entrepreneurship resilience can be described as entrepreneurs' ability to manage difficult personal and market conditions, as well as unstable events, and to face the future (Denz-Penhey & Murdoch, 2008). Entrepreneurial resilience is a dynamic adaptation process that allows business owners to continue to be forward-looking in the face of harsh market conditions and the volatile events they have always faced in the market. Resilient entrepreneurs welcome rather than resist change, and strive to achieve goals and meet challenges. In addition, resilient entrepreneurs have a high tolerance for ambiguity. Resilient entrepreneurs view difficult situations with a positive attitude, rather than fear, indifference, or despair. The characteristics of entrepreneurial resilience include resilience, tact, and optimism. Resilience refers to the ability of entrepreneurs to exercise personal control rather than waiting for the support of others. Resourcefulness refers to

the skills, abilities, and resources that entrepreneurs possess to manage adverse conditions. Optimism is the ability of entrepreneurs to maintain a positive attitude in difficult situations. Optimism helps entrepreneurs learn from past mistakes and view them as opportunities rather than failures. Entrepreneurship resilience includes: (1) the ability of entrepreneurs to respond to the instability and changes in the business environment; (2) Entrepreneurs maintain physical and psychological health in turbulent environments; (3) The ability of entrepreneurs to recover from setbacks; (4) If the previous approach is not appropriate, change the new way of managing business (Coates et al., 2013). Other characteristics related to entrepreneurial resilience are the ability to make realistic plans, self-confidence, positive self-magic, communication skills, and the ability to manage strong impulses and feelings (Bulmash, 2016).

Self-efficacy is a state of overall confidence in an individual's own abilities. The higher the level of self-efficacy, the more confident individuals feel to others, and the more courage they have to deal with adversity. As a protective mechanism for individuals when encountering adversity, psychological resilience can prevent individuals from acquiring more failure experiences. Regarding the research on self-efficacy and psychological resilience, Hai (2011) found that self-efficacy can positively predict the level of psychological resilience. Yun (2018) found a significant positive correlation between self-efficacy and the total score and various dimensions of psychological resilience. Jing et al. (2022) found that self-efficacy can positively predict the level of psychological resilience, and social support plays a partial mediating role in the relationship between general self-efficacy and psychological resilience. By improving individual self-efficacy and social support, it can promote the development of individual psychological resilience. Entrepreneurs who have a high sense of entrepreneurial self-efficacy are confident in themselves and have more courage to deal with adversity. Entrepreneurship self-efficacy can have a corresponding positive impact on entrepreneurial resilience, reflected in attitudes, behaviors, and performance towards entrepreneurs, as resilient entrepreneurs can quickly recover from setbacks and failures, accept their current situation, and face everything in the future with confidence (Fu et al., 2021).

Entrepreneurial resilience has an important impact on entrepreneurial performance. First of all, the entrepreneurial process is a very long and arduous process. In today's era where the probability of entrepreneurial failure is so high, it is important to understand how entrepreneurs survive uncertainty. Entrepreneurial decisions are often accompanied by errors and miscalculations, as existing information is either ambiguous or incomplete. Entrepreneurs must constantly keep up with changing emergencies by adjusting their goals and strategies (Xiu & Meng, 2020). They need to have a certain degree of resilience so that entrepreneurs can lead their teams forward in the process of confronting difficulties and pain. Therefore, in the process of constantly adapting to and dealing with challenging tasks, entrepreneurs can continuously improve their own abilities as core members of entrepreneurs or entrepreneurial teams, thereby promoting the improvement of entrepreneurial performance. Secondly, resilience is a very important personality trait that can help individuals overcome hardships and continue to meet challenges (Bullough et al., 2014). For example, resilient entrepreneurs can actively mobilize resources such as funds and contacts from corporate stakeholders in difficult situations, and bring new business concepts to the enterprise. The value obtained from outside the enterprise can be applied to the enterprise. Finally, entrepreneurial resilience means strong identity, which has a direct impact on entrepreneurs' behavior and corresponding entrepreneurial output (Rutter, 1985). Role identification can make entrepreneurs more immersed in the entrepreneurial process, and they will strive to think about enterprise development at all times.

From the above analysis, it can be seen that entrepreneurial self-efficacy not only directly affects the growth of new enterprises, but also indirectly affects the growth of new enterprises through influencing entrepreneurial resilience, which is also the focus of this study

Passion has received much attention in entrepreneurial activities (Smilor, 1997), is the core driving force of entrepreneurship (Cardon et al., 2013), and is also one of the focuses of entrepreneurial research (Cardon et al., 2012). Stimulating and releasing individual passions can effectively transform individual talents and interests into successful actions, thereby making important contributions to society (O'Keefe et al., 2018). Entrepreneurship passion is a very important part of the characteristics of

entrepreneurs. Entrepreneurship passion is the positive emotional feedback that entrepreneurs show in their entrepreneurial practice. Entrepreneurs are leaders in entrepreneurial activities, and their personality, positive emotions, and social experiences can have an impact on entrepreneurial practice. Successful entrepreneurs have a spontaneous entrepreneurial passion, which can be transmitted to team members and positively affect the long-term activity of entrepreneurship. Many researchers regard the passion of entrepreneurs as a kind of ability or characteristic, which makes them willing to spend a lot of time and energy to achieve their goals, drawing their thoughts, actions, and pursuits from them (Baum et al., 2001). Entrepreneurship passion can guide entrepreneurs to set more challenging goals, actively overcome difficulties, do not abandon, do not give up, and display greater creativity when dealing with challenges.

As an emotional characteristic, entrepreneurial passion is the key to influencing entrepreneurs' cognition and subsequent behavior (Biao et al., 2018). As an important dimension of entrepreneurial passion, positive emotions can effectively promote individuals' cognitive processes such as perception of the external environment, creativity, inspirational thinking, memory, and stress response (Baron, 2008). Baron (2008) proposed that entrepreneurial passion can improve entrepreneurial performance by enhancing the creativity of entrepreneurs, and on the other hand, it can positively regulate the impact of other factors (self-efficacy, entrepreneurial resilience) on entrepreneurial opportunity recognition and entrepreneurial performance (Baron, 2008). Hayton & Cholakova (2012) pointed out that entrepreneurial passion enhances entrepreneurs' perception, organization, and association of information related to entrepreneurial activities, thereby promoting the generation of entrepreneurial ideas; At the same time, it will also enhance entrepreneurial self-efficacy and the impact of entrepreneurial resilience on entrepreneurial performance (Hayton & Cholakova, 2012). Therefore, this study will further explore whether entrepreneurial passion plays a regulatory role between entrepreneurial self-efficacy, entrepreneurial resilience, and new enterprise growth, thereby broadening relevant theoretical research in this field. Since the late 1970s, the global demand for batteries has been increasing, and in the mid-1980s, the demand for batteries with high energy density has become increasingly strong. Against this backdrop, nickel hydrogen batteries and lithium-ion batteries emerged in the early

1990s. Compared with the international development of this industry, China's lithium-ion battery industry started relatively late, with a development history of less than 30 years, and the production technology of enterprises has not yet reached the top international level; But China, relying on its advantages in labor productivity, has always maintained a certain advantage in low-end production capacity and has a certain scale in global production capacity. Batteries are considered the technological core of the future energy revolution, widely used in various fields such as energy storage, new energy vehicles, electric vehicles, drones, aircraft models, Bluetooth devices, electric tools, instrument equipment, intelligent terminals, 3C digital, electric ships, and future electric aircraft. Global electrification has become the trend. As the most critical core component of all electric equipment, batteries directly determine the quality of the entire product system and play a crucial role in the stability and reliability of products such as service life and battery life.

Lithium batteries are widely used in fields such as digital devices and new energy vehicles due to their high energy density, high average output voltage, small self-discharge, superior cycling performance, fast charging and discharging, and long service life. According to the different electrolyte materials used in lithium-ion batteries, they can be divided into liquid lithium-ion batteries, polymer lithium-ion batteries, or plastic lithium-ion batteries. The positive and negative electrode materials used in two types of lithium-ion batteries are the same. The positive electrode material is divided into lithium cobalt oxide, lithium manganese oxide, ternary material, and lithium iron phosphate material, while the negative electrode is graphite. The main difference between the two is that liquid lithium-ion batteries use liquid electrolytes, while polymer lithium-ion batteries use solid polymer electrolytes. This kind of polymer can be classified as "dry" or "colloidal". At present, polymer gel electrolyte is mostly used. Lithium ion batteries are composed of a positive electrode, a negative electrode, and an electrolyte. For positive electrode materials that account for up to 50% of the production cost of lithium-ion batteries, China, Japan, and South Korea have nearly 94% of the global processing capacity. In terms of negative electrode materials, currently only China, Japan, South Korea, the United States, and India have large-scale negative electrode material production capacity, while China accounts for 78% of the global operational negative electrode material production capacity. In terms of

diaphragms, the vast majority of production capacity is now located in China, Japan, and South Korea. In terms of electrolytes, approximately 62% of the existing production capacity is located in China (Gui, 2022).

The Chinese economy has entered a stage of "sub-rapid growth". Innovation, adjustment, and acceleration of the development of strategic new law industries are the fundamental choices for China's economy. The lithium-ion battery industry is the cornerstone of the development of four emerging industries: "new energy", "new materials", "new technology", and "high-end manufacturing". It is a new driving force for global economic development and a driving force for global industrial economic recovery. The battery revolution is known as a more profound industrial revolution than the information revolution. The lithium-ion battery industry will also be another high growth industry that has driven global investment frenzy, following networks and solar energy. In the face of resource scarcity and increasingly severe environmental pollution, the development of new energy has received high attention from the Chinese government, and the lithium-ion battery industry, as the "heart" of new energy vehicle enterprises, has naturally become a focus of social attention. The lithium battery industry is a key area in the new energy industry. China's application of automation equipment technology in the field of lithium battery development and utilization is in the early exploration and development stage, with broad development space and great potential. China is the world's largest automotive consumer market. Since 2009, China's automobile production and sales have consistently ranked first globally. However, in terms of key technologies for traditional fuel vehicles, we are still far behind the advanced level of foreign countries. As early as the early stages of reform and opening up, the Chinese automobile industry embarked on the path of "exchanging market for technology". However, so far, Chinese automobile industry brands have still gained development opportunities in the international market. Therefore, the government actively guides enterprises to actively participate in the new energy vehicle industry with lower competition barriers, in order to achieve the vigorous development of China's automotive industry. With the increasing market share of new energy vehicles and the establishment of people's environmental awareness, there are higher requirements for the rapid development of lithium battery industry (Gui, 2022).

1.2 Statement of the Problem

On September 18, 2018, the State Council issued an opinion on promoting high-quality development of innovation and entrepreneurship and creating an upgraded version of "mass entrepreneurship and innovation". "Mass entrepreneurship and innovation" continues to advance to a larger scale, higher level, and deeper level. With the improvement of the entrepreneurial environment and the improvement of service levels, entrepreneurial enterprises are receiving more and more policy support. Chinese lithium battery new ventures are becoming an important pillar of China's economic development. Chinese lithium battery new ventures are the basic component of the national economy, and they are also the most dynamic and creative part of the economy. Chinese lithium battery new ventures are also an important source of implementing innovation driven transformation and development, and are the basic support for the transfer and transformation of scientific and technological achievements, improving economic efficiency, and promoting high-quality development. In the new stage of China's economic construction, if the growth performance of Chinese lithium battery new ventures is stable and long-term development, it will make outstanding contributions to China's economic development. However, in China, the average lifespan of Chinese lithium battery new ventures in the start-up stage is only 2.5 years (Xiao & Xiao, 2020).

Since the significant increase in the number of startups, scholars have been continuously exploring the growth of startups. Scholars have focused more on the financing issues of startups (Ye et al., 2012), corporate performance (Yong & Jia, 2013), innovation performance (Tao & Yu, 2012), and value issues (Guang et al., 2004), and through social networks of entrepreneurs, government talent policies Research on the growth performance of startups is conducted based on factors such as entrepreneurial networks and entrepreneurial learning (Jun et al., 2013). In the past, scholars have not considered the characteristics of entrepreneurs in their research on improving the growth performance of startups. The characteristics of entrepreneurs, as a key issue in the field of entrepreneurship, have not received widespread attention from scholars. This article will start from the characteristics of entrepreneurs themselves and explore the path that entrepreneurs' characteristics affect the growth of new enterprises. Specifically, this article studies the relationship between entrepreneurship and startup growth, and

exploring the impact of entrepreneurship self-efficacy on startup growth is a new research field.

Entrepreneurship is a long and complex activity, which requires certain personality traits of entrepreneurs. Entrepreneurs need to be resilient to great pain. "Resilience" is a key trait factor in the personality traits of entrepreneurs. In research in the field of entrepreneurship, research on resilience has only gradually expanded in recent years (Brandstätter, 2011). It is believed that this trait can be used to explain why it can expand profitability and improve the viability of companies, and it has begun to attach importance to the important role of resilience for entrepreneurs (Leutner et al., 2014). However, there are currently few empirical studies on entrepreneurial resilience in China, and the relationship between entrepreneurial resilience and new enterprise growth is also rare. The mechanism of its action also needs to be further explored. This article proposes that entrepreneurial resilience may play a mediating role between entrepreneurial self-efficacy and new enterprise growth, that is, entrepreneurial self-efficacy indirectly affects new enterprise growth by influencing entrepreneurial resilience, broadening the mechanism of the impact of entrepreneurial self-efficacy on new enterprise growth.

In the research on the growth of Chinese startups, founder's self-passion has not received much attention (Chun & Zhuo, 2016). This article uses entrepreneurial passion as a moderator variable to explore its role in the relationship between entrepreneurial self-efficacy, entrepreneurial resilience, and new enterprise growth, which is conducive to enriching empirical results of research on the characteristics of entrepreneurs.

1.3 Research Questions

The following three research questions are proposed.

Question 1: Does entrepreneurial self-efficacy influence Chinese lithium battery new venture growth?

Question 2: Whether entrepreneurial resilience mediate entrepreneurial self-efficacy and Chinese lithium battery new venture growth?

Question 3: Whether entrepreneurial passion change the relationship between entrepreneurial resilience and Chinese lithium battery new venture growth?

1.4 Research Objectives

This study will answer the three research questions mentioned above from an empirical perspective. Therefore, in response to the three research questions mentioned above, a total of three research objectives are proposed, and the relationship between the research objectives and the research questions is one-to-one correspondence.

Objective 1: To empirically investigate and conduct a document-based synthesis of entrepreneurial self-efficacy, entrepreneurial resilience, entrepreneurial passion, and their impact on new venture growth.

Objective 2: To explore the direct influence on new venture growth and indirect influence of entrepreneurial self-efficacy on Chinese lithium battery new venture growth, through entrepreneurial resilience.

Objective 3: To explore the moderation effect of entrepreneurial passion between entrepreneurial resilience and Chinese lithium battery new venture growth.

1.5 Research Hypotheses

Using empirical analysis methods to explore the relationship between variables, statistical methods can be used to validate research hypotheses. Based on existing research and relevant theoretical derivation, this dissertation proposes a total of five research hypotheses:

H1: The entrepreneurial self-efficacy directly influences Chinese lithium battery new venture growth.

H2: The entrepreneurial resilience plays a mediation effect between entrepreneurial self-efficacy and Chinese lithium battery new venture growth.

H3: Entrepreneurial resilience's influence of entrepreneurial resilience on the growth of Chinese lithium battery new ventures will vary depending on the level of entrepreneurial passion.

1.6 Conceptual Framework of the Study

The conceptual framework of current study is shown as follows:

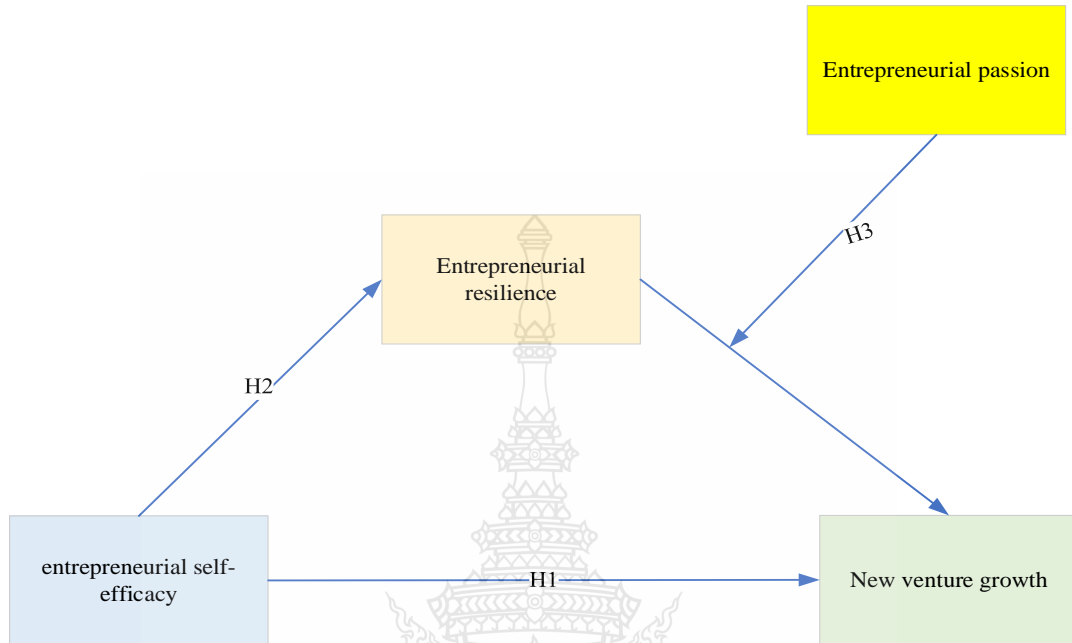


Figure 1.1 Conceptual framework

The conceptual framework of this study shows that there is an independent variable (entrepreneurial self-efficacy), a dependent variable (new venture growth), a mediator variable (entrepreneurial resilience), and a moderator variable (entrepreneurial passion). From this model, it can be seen that entrepreneurial self-efficacy not only has a direct effect on new venture growth, but also has an indirect effect through entrepreneurial resilience. Moreover, entrepreneurial passion will moderate the relationship between entrepreneurial resilience and new venture growth.

1.7 Scope of the Study

Scope of Population

This study will limit the overall picture to CEOs of new ventures within the Chinese lithium battery industry. Based on the previous definition of new venture, this article selects CEOs of Chinese lithium-ion battery enterprises established within 8 years as the target population.

Scope of Contents

The focus of this study is to explore the direct and indirect influence of introductory self-efficacy on Chinese new venture growth by considering entrepreneurial resilience; And explore the moderation role of entrepreneurial passion among the three variables mentioned above.

Scope of Time

Data needed for this study will be collected in 2023.

1.8 Definition of Terms

1.8.1 Enterprise Growth and New Venture Growth

Enterprise Growth

Scholars at home and abroad generally believe that corporate growth is a continuous phenomenon and process that is dynamic and evolving. It is influenced by various internal and external factors, presenting a degree of development of "quantitative change" and "qualitative change", and is a dynamic process of quantitative and qualitative change (Jian et al., 2006). The growth of a company is manifested by the expansion of its scale and functionality (Coase, 1974; Chandler, 1992). Geroski et al. (1997) believes that a good performance in market share is the main manifestation of corporate growth. Enterprise growth includes two forms: incremental growth and sudden growth (Jian, 2008). Corporate growth is the continuous enhancement of a company's ability to meet stakeholders (Hai & Fang, 2004). Kruger (2005) defines corporate growth as generating revenue, increasing value, and expanding business scale, which can also be measured using qualitative indicators such as market position, product quality, and customer goodwill. Koryak et al. (2015) used the Ansoff growth matrix to illustrate the four basic types of enterprise growth based on two dimensions of product and market novelty, indirectly reflecting the strategic process of enterprise growth. Among them, market penetration combined with existing products/markets is a kind of enterprise growth. The growth of introducing new products or services to existing markets means the development of new products. The other kind of growth is the internationalization of existing products or the development of new domestic markets. The fourth kind is to achieve growth by developing new markets through new products or services. This type

of growth indicates a shift away from the knowledge of existing products and markets, and a diversification of organizational activities. Based on scholars' different interpretations of the connotation of corporate growth and the fruitful results of existing research on corporate growth, it can be seen that the essence of corporate growth is a heterogeneous, complex, and dynamic process that involves economic, social, and cultural factors (Delmar et al., 2003). The process of new enterprise growth can be reflected in four levels of continuous deepening of boundaries, structure, behavior, and performance. Boundary growth is reflected in the expansion of scale and scope. From the perspective of knowledge, boundary growth is the change of knowledge stock, specifically manifested in product functional upgrading, diversification, and production process innovation. Structural growth refers to the changes in the internal and external structure of an organization, while behavioral growth is the evolution of corporate strategy. The dynamic growth of structure and behavior ultimately reflects the growth of corporate performance. The reason for this is the excess value created by innovative activities based on knowledge and dynamic capabilities, which is reflected in the qualitative changes in knowledge innovation and the quantitative changes in financial indicators (Ji, 2006). The essence of enterprise growth is the process in which entrepreneurs recombine productive activities and available resources to achieve profits. It is also the process in which enterprises create income, increase value, and expand business scale.

New Venture Growth

Start-ups refer to various types of enterprises that have just been established and do not have sufficient funds and resources, often facing problems such as funding shortages, talent shortages (usually only founders and a few core employees), and difficult business development. According to Batjargal et al. (2013)'s chronological classification of startups, this study identifies startups that have been established for less than 8 years as the research object.

The growth of new enterprises is the process of generating revenue, adding value, and expanding business scale. New enterprises have some different characteristics from established mature enterprises, and scholars have different understandings of the characteristics of new enterprises. These characteristics also bring convenience and

obstacles to the development of new enterprises. Compared to mature enterprises, new enterprises typically exhibit different abilities, including the ability to identify relevant external knowledge, integrate it into internal innovation processes, and subsequently utilize it in the market. Firstly, new businesses typically benefit more from organizational flexibility, as better flexibility helps to capitalize on opportunities in the company's growth (Austin, 2000). Secondly, new enterprises face significant resource constraints and a limited available resource base (Brush et al., 2001). Both of these aspects result in many differences in the way new enterprises utilize external knowledge compared to mature enterprises. Good organizational flexibility and opportunity recognition ability enable new enterprises to perform better in the process of inward oriented open innovation. For example, Daou et al. (2013) pointed out that due to the limited financial capital of new enterprises, knowledge capital in emerging markets has a greater positive impact on the performance of new enterprises compared to mature enterprises. The scale of new enterprises is relatively small and close to customers, so they have the ability to quickly respond to changes and adapt to various opportunities or challenges. In addition, better flexibility is also beneficial for new enterprises to adapt to the market and surpass large enterprises in research and development. Skokic (2015) found that new businesses typically lack relevant embeddedness in social networks, which is insufficient to establish connections with other companies and will have a significant impact on the performance of new businesses. New enterprises also lack industry market position, which may further affect their potential connections with more mature enterprises. It can be seen that flexibility, organizational flexibility, and adaptability are commonly considered advantages of new enterprises, while aspects such as enterprise size, resource endowment, and relationship status are weak links in the innovation process of new enterprises. Grimaldi et al. (2013) found that new enterprises are more likely to form an interconnected, agile, and flexible regional enterprise network due to their specialization and localization in business strategy and spatial aspects. In addition, due to the lack of resources and capabilities in new enterprises, it is not conducive to searching for the resources needed for sustained innovation and open innovation development.

New enterprises are an important source of innovation and wealth creation, so they have become an important field of innovation management research. Focusing on

growth issues has more profound implications for new businesses. Most new businesses fail due to a lack of resources, legitimacy, and coordination, a phenomenon known as new entry defects. Although growth is very scarce for new businesses, it is by no means unimportant. A large enterprise scale has many benefits for organizations, and many companies start from a smaller scale and growth is their desired goal. Schoonhoven & Eisenhardt (1990) analyzed the market environment faced by new startups, as well as the differences in opportunities and resources for new startups in emerging markets, growth markets, and mature markets. They pointed out that emerging markets, due to factors such as low product recognition, market instability, lack of supply channels and resources, have led to new startups being constrained by technology, resources, and other factors, unable to predict market changes in a timely manner and missing development opportunities; Growth oriented markets can provide huge demand to promote the growth of new startups, while mature markets are too stable and demand development is slow, which can only provide limited opportunities and is not conducive to the growth of new startups.

1.8.2 Entrepreneurial Self-Efficacy

At present, self-efficacy has been confirmed to have a certain impact on individual behavior choices and results in different fields. In recent years, research in entrepreneurship research has found that entrepreneurship self-efficacy is an important prerequisite for potential entrepreneurs to start entrepreneurship. Scherer et al. (1989) argue that entrepreneurial efficacy refers to the level of belief an individual possesses to successfully play and complete the role of an entrepreneur. Chen & Greene (1998), through research, have shown that self-efficacy can enable individuals to best predict their entrepreneurial behavior in entrepreneurship, a high-risk and challenging field, and is very suitable for introducing entrepreneurship. Boyd & Vozikis (1994) defined self-efficacy and entrepreneurial behavior, and believed that entrepreneurial self-efficacy is an individual's belief and confidence in completing entrepreneurial activities or playing a good entrepreneurial role. Luthans & Ibrayeva (2006) believe that entrepreneurial self-efficacy is an evaluation of entrepreneurs' self-confidence and belief, that is, whether entrepreneurs can complete entrepreneurial tasks in their own environment. Domestic scholars Wen & Gui (2006) pointed out through research that entrepreneurial self-efficacy is directly related

to specific tasks, showing entrepreneurs' self-belief in predetermined tasks; Entrepreneurial self-efficacy is closely related to entrepreneurial behavior, constantly changing and consistent with the environment in which entrepreneurial activities occur, both of which have high risks and uncertainties. Li & Hong (2009) believed that entrepreneurship self-efficacy does not refer to entrepreneurial behavior itself, but refers to the confidence and result evaluation of individuals who comprehensively consider the ability to complete entrepreneurial behavior. Ming (2009) also pointed out that entrepreneurial self-efficacy is not only different from ability itself, but also different from personality traits. It is the evaluation of potential entrepreneurial individuals on whether they can complete entrepreneurial tasks.

Scherer et al. (1989) believed that entrepreneurship self-efficacy is the degree of confidence that individuals identify themselves as entrepreneurs and believe that they can succeed in entrepreneurship. Chen et al. (1998), after a series of studies, believes that in the process of entrepreneurship, the belief that individuals have clear entrepreneurial goals, are able to complete entrepreneurial tasks, and will persist in entrepreneurial success even when faced with difficulties is entrepreneurial self-efficacy. Luthans & Ibrayeva (2006) proposed that entrepreneurship self-efficacy is a standard for individual self-evaluation, that is, an individual's belief that he can successfully start a business by measuring his innovation ability. Ming (2009) believes that entrepreneurship self-efficacy is a belief, that is, individuals consider entrepreneurial activities and evaluate whether they can successfully complete their tasks, which includes two aspects: one is related to entrepreneurial content, and the other is related to entrepreneurial behavior. Li & Hong (2009) believes that entrepreneurship self-efficacy is the confidence of individuals, that is, individuals recognize their abilities when starting businesses, and believe that they will create brilliance on the entrepreneurial path and successfully complete their goals.

To sum up, there is consensus on the definition of entrepreneurial self-efficacy at present: entrepreneurial self-efficacy is defined according to the concept of self-efficacy and the characteristics of entrepreneurial behavior. Whether it is defined as the confidence of entrepreneurs to complete entrepreneurial behavior and success, or the confidence that they can be competent for the role of entrepreneurs and complete various tasks, it emphasizes the degree of confidence that individuals have in their entrepreneurial activities.

1.8.3 Entrepreneurial Resilience

Ayala & Manzano (2014) defined entrepreneurial resilience as the ability of entrepreneurs to maintain mental health and normal emotions after experiencing hardships and challenges; Fisher et al. (2016) pointed out that entrepreneurial resilience not only emphasizes adaptability, but also highlights growth. It is the ability of entrepreneurs to withstand shocks, rebound, recover, and even counter improve. Welsh (2014) defines entrepreneurial resilience as the experience of individuals, teams, and the ecosystem and subsystems of the enterprise recovering or rebounding after experiencing difficulties and adversity. This experience is relatively unique and can be an "unforgettable" memory for entrepreneurial individuals, playing a crucial role in the success of entrepreneurship.

Entrepreneurial resilience combines entrepreneurs with resilience, reflecting specific qualities of specific populations. Entrepreneurial resilience is a dynamic development, so it can be seen as the ability of entrepreneurs to develop in their entrepreneurial activities (De Vries & Shields, 2006). From a psychological perspective, entrepreneurial resilience is a psychological structure composed of qualities such as flexibility, motivation, perseverance, optimism, self-efficacy, and hope. In terms of management, entrepreneurial resilience describes the ability of entrepreneurs to overcome negative impacts, face challenges, and continue entrepreneurship even in the face of adverse environments and unexpected situations (Awotoye & Singh, 2017). At the same time, entrepreneurial resilience is also reflected in the ability of entrepreneurs to remain optimistic in difficult market conditions and unpredictable environments and challenges (Larsson et al., 2016).

Entrepreneurial resilience can be described as the individual and market conditions that make it difficult for entrepreneurs to manage, as well as their ability to face unstable events and the future (Denz-Penhey & Murdoch, 2008). Entrepreneurial resilience is a dynamic adaptation process that allows business owners to remain forward-looking in the face of harsh market conditions and unstable events they always face in the market. Resilient entrepreneurs welcome change rather than resist it, and strive to achieve goals and meet challenges. In addition, resilient entrepreneurs have a high tolerance for ambiguity. Resilient entrepreneurs' approach difficult situations with a positive attitude,

rather than fear, indifference, or despair. The characteristics of entrepreneurial resilience include resilience, wit, and optimism. Resilience refers to the ability of entrepreneurs to exercise personal control rather than waiting for the support of others. Resourcefulness refers to the skills, abilities, and resources possessed by entrepreneurs to manage unfavorable conditions. Optimism is the ability of entrepreneurs to maintain a positive attitude in difficult situations. Optimism helps entrepreneurs learn from past mistakes and view mistakes as opportunities rather than failures.

Theoretically, entrepreneurial resilience can be linked with the psychological characteristics based on entrepreneurial personality characteristics and attribution theory (Buang, 2012). The trait theory suggests that entrepreneurs possess certain specific traits or personal characteristics. These include creative and innovative skills, a tendency to take risks, the ability to establish and effectively manage organizations, perseverance, resilience, and predictability. Entrepreneurial resilience can also be linked to the attribution theory. Attribution theory is a kind of motivation theory, which focuses on how individuals construct the meaning of events according to his/her motivation to find reasons and his/her understanding of the environment. The concept of resilience plays a central role in entrepreneurship research: entrepreneurs may remain optimistic in the face of adversity and setbacks (Baron & Markman, 2000). For example, those who start businesses during times of war and terror may find ways to circumvent or change restrictions through their own actions, while those with poor resilience are easily frustrated by obstacles and challenges. If another business opportunity arises, those who are more resilient among failed entrepreneurs may start anew. On the basis of reviewing and integrating relevant literature, this article believes that entrepreneurial resilience is highly correlated with self-identity and is an essential personal trait for entrepreneurs in the entrepreneurial process. Strong resilience can enable entrepreneurs to respond optimistically and actively think about changes in the face of complex business environments, helping them overcome difficulties, achieve beneficial changes for the enterprise, and help it grow.

1.8.4 Entrepreneurial Passion

Some scholars define entrepreneurial passion from the characteristics, motivations, emotions, and other aspects of entrepreneurs. For example, Baum et al. (2001) pointed out that as an entrepreneur, entrepreneurial passion is a characteristic inherent in him, which enables him to actively and persistently strive for the development of the enterprise. However, due to the static nature of traits and personalities, it is not understandable from this perspective why entrepreneurs are initially full of energy but gradually lose their passion later on. Therefore, scholars have begun to consider issues from the perspective of dynamically controllable emotional states. Cardon et al. (2009) defined entrepreneurial passion as "a strong positive feeling consciously gained by entrepreneurs through participating in meaningful and important entrepreneurial activities", and constructed a scientific and reasonable theoretical framework between entrepreneurial success and entrepreneurial passion. In addition, they believe that entrepreneurial passion is not fixed, it will undergo different changes over time. Fang & An (2017) believe that entrepreneurial passion is a manifestation of positive emotions, and entrepreneurs or team members can feel self-worth and identity under the influence of this strong emotion. Karimi (2020), based on the motivation theory, describes entrepreneurial passion as "positive feedback from activities that individuals consider important, willing, and enjoy spending time and experience.

Obschonka et al. (2019) argue that a person's basic personality traits contribute to the formation of their entrepreneurial passion, emphasizing the important impact of personality traits on entrepreneurial passion. From an emotional perspective, entrepreneurial passion is a positive emotion exhibited by entrepreneurs in entrepreneurial activities, which often motivates individual entrepreneurial behavior and generates enormous energy. Cardon et al. (2009) emphasized the importance of entrepreneurial role identification in entrepreneurial passion, as this specific identity of role identification can enable entrepreneurs to experience self-actualized social value. Ho & Pollack (2014) divided entrepreneurial passion into two types based on the different ways in which motivation is internalized into activities: harmonious and compulsive. Harmonious entrepreneurial passion mainly emphasizes individuals' autonomous internalization of entrepreneurial identity, active participation in entrepreneurial

interaction, and pursuit of goal achievement, while compulsive entrepreneurial passion emphasizes being forced to participate in entrepreneurial activities due to external pressure. Entrepreneurship passion is often triggered by emotional goals, which control and guide people's thoughts and behaviors, and last for a long time. From the perspective of motivation theory, people's enthusiasm for work is an internal force that can motivate them to continuously think and work to achieve success (Chen et al., 2015).

The above related research shows that scholars have a relatively consistent definition of entrepreneurial passion. Based on these studies, this article argues that 'entrepreneurial passion is a strong emotion that can induce positive behavior orientation'.

1.9 Summary

The current chapter included the background of the study, elaborated on the problem raised, offered brief information about entrepreneurial self-efficacy (independent variable), Chinese new venture growth (dependent variables), entrepreneurial resilience (mediator) and entrepreneurial passion (moderator). It also offered brief information about research questions, objectives as well as hypotheses. Scope and the term definition of the study were discussed. Also, conceptual framework of study was presented.

CHAPTER 2

REVIEW OF THE LITERATURE

2.1 Theoretical Basis

2.1.1 Upper Echelons Theory

Traditional corporate strategy theory often believes that people make corresponding decisions based on economic rationality, and the strategic decisions made by companies are often an economic and technological behavior made by managers. Traditional theory holds that people can maintain absolute rationality in any situation and make decisions to maximize benefits for the company. However, due to the considerable complexity of the internal and external environment, executives are unable to grasp all information, and even if the information is within their field of view, they can only observe it after making a choice. In this way, executives' own cognition and values determine their ability to understand information. That is to say, the demographic characteristics of executives can affect a company's strategic choices. On this basis, Hambrick & Mason (1984) first proposed the theory of high-level echelons and proposed corresponding analytical models. The high-level echelon theory points out that the psychological structure of executive teams is closely related to the decision-making process and corresponding performance. However, the psychological structure of executive teams is difficult to accurately measure, while objectively measurable demographic characteristics such as age, tenure, occupation, and education level are closely related to psychological structure. Therefore, the high-level echelon theory selects these easily measurable demographic characteristic variables as alternative variables for the psychological structure of the senior management team, such as cognitive ability, perception ability, and values, and explores the relationship between the characteristics of the senior management team and the company's strategic decision-making and performance level based on this.

Plöckinger et al. (2016) proposed that the impact of past experiences and personality preferences of top management personnel on individuals will continue to exist, which in turn will affect their decision-making and management behavior. Waldman et al. (2004) studied the demographic characteristics, personality traits, social

identity, and past experiences of CEOs and CFOs as research subjects, and found that the individual basic characteristics of executives determine their job preferences, which in turn affect the strategic choices and growth of the company.

For management, the impact of irrational factors will be reflected in the behavioral decisions of the enterprise. The high-level echelon theory believes that due to the complexity of the internal and external environment of a company, it is impossible for management to have a comprehensive understanding of all aspects. Factors such as the cognitive structure and values of management determine their level of cognition and understanding of relevant information. The company's strategic choices will reflect the personalized color of management (Hambrick & Mason, 1982). This theory provides a theoretical basis for the view that management characteristics affect company behavior decisions from the perspective of cognitive differences. Therefore, many scholars have started to use this theory as a theoretical basis to study the impact of factors such as gender, age, past experience, and personality traits of management on company operations. Rijsenbilt & Commandeur (2013) found that the narcissistic personality of CEOs and CFOs significantly affects a company's financial information disclosure, with narcissistic management disclosing lower quality accounting information and a higher likelihood of involvement in accounting fraud. Hegde & Mishra's (2019) study showed that the CEO's marital status and child rearing status affect individual sense of responsibility, thereby changing the corporate social responsibility of the CEO's company. Friedman & Lewis (2014) found that the educational background and tenure of CEOs can affect the likelihood of companies voluntarily disclosing environmental information. The research by Nian & Zhe (2016) shows that CEOs born in poorer regions or those who have experienced poverty in their early years have more compassion, and their companies make more charitable donations to give back to society. Wei & Qi (2010) found that executive team characteristics, including age and gender, significantly affect a company's financial restatement behavior.

Based on the above research, it is not difficult to find that factors such as the character traits, personality traits, personal experiences, and functional backgrounds of management influence their strategic choices, thereby affecting the behavioral decisions of enterprises. These studies cannot be explained by traditional principal-agent theory and

information asymmetry theory, and the emergence of high-level echelon theory effectively fills the theoretical gap of agency conflict in explaining corporate behavior decisions, which helps to understand the idiosyncratic differences in corporate behavior decisions caused by the personal characteristics of management. Therefore, based on this theory, this article attempts to explore the impact of entrepreneurs' psychological characteristics on the growth of new enterprises.

2.1.2 Self-Efficacy Theory

The concept of self-efficacy was first proposed by the renowned American psychologist Bandura (1977) to describe "people's assessment and judgment of their ability to complete a certain behavior". The formation of self-efficacy is closely related to an individual's self-evaluation of their ability to interact with the environment. Self-efficacy, as an important psychological concept, has become an important conceptual tool for studying multiple topics and has been applied to various disciplines such as education, medicine, and management. The mechanism by which self-efficacy affects individual behavior can be summarized as follows:

2.1.2.1 Self-efficacy affects an individual's choice of behavior. When facing tasks, self-efficacy makes individuals tend to choose tasks that are comparable to their own abilities. One of the criteria for task selection is confidence in completing the goals they will face. On the contrary, self-efficacy makes people afraid of tasks they cannot complete and lacks the motivation to change their environment, transforming self-efficacy into specific behaviors. Therefore, misjudgment of self-efficacy can have many negative effects on the completion of task goals. If one overestimates self-efficacy, which means taking on tasks beyond one's own abilities, it can lead to unnecessary failures and sometimes even serious losses. If self-efficacy is underestimated, many opportunities will be missed and individual abilities will not be improved.

2.1.2.2 Self-efficacy affects people's level and duration of effort. Individuals with a stronger sense of self-efficacy will have a higher level of effort and a longer duration of effort. If people start to doubt their abilities, they will relax their efforts and even give up the tasks they face. Without high self-efficacy, the development of knowledge and abilities is also difficult, so people who achieve high achievements often have a strong sense of self-efficacy. Individuals with strong self-efficacy will have a

strong willingness to support their continued efforts, especially in situations where the external environment is not very suitable. Self-ineffectiveness can become a hindrance to people's learning efforts. The existing empirical evidence also mostly supports the difference between self-efficacy and the persistence of effort.

2.1.2.3 Self-efficacy affects people's way of thinking and attribution. People with poor self-efficacy may first consider their own shortcomings and shortcomings, as well as the difficulty level of the situation when encountering it. They may consider the difficulty of the situation to be greater than in reality, and may not first think about ways to overcome difficulties and succeed. This creates a certain level of pressure on oneself, resulting in the inability to fully utilize one's abilities. On the contrary, people with a strong sense of self-efficacy first think about their abilities when facing tasks, how to solve difficulties, and do their best to complete tasks. Self-efficacy also affects people's attribution patterns. If something fails, people with a strong sense of self-efficacy will attribute the reason for the failure to insufficient effort or inadequate consideration, while those with weaker self-efficacy will tend to attribute the failure to insufficient abilities.

2.1.2.4 Self-efficacy affects people's attitudes towards difficulties. People with a strong sense of self-efficacy are more willing to have fun overcoming difficulties, face them bravely, and overcome them. When the goal cannot be achieved, one will focus on analyzing difficulties, finding exits, and doing their best to complete the task. On the contrary, individuals with a sense of self ineffectiveness often fear difficulties, relax their efforts, think about their own shortcomings, and even retreat when faced with difficulties. This diverts their attention from solving difficulties and increases the difficulty of completing tasks. It also puts them under more pressure and anxiety, which further increases the difficulty of completing tasks. Numerous studies have shown that people with high self-efficacy tend to create the future through their own actions rather than simply predicting the future.

Entrepreneurship self-efficacy can affect specific entrepreneurial behavior. Bandura (1977) proposed that the impact of entrepreneurial self-efficacy on entrepreneurial behavior is specifically manifested as: (1) influencing the scope and behavior of entrepreneurial choices. Entrepreneurship self-efficacy can directly or

indirectly affect the scope of entrepreneurial choices and entrepreneurial attitudes. People with a strong sense of self-efficacy in entrepreneurship are more proactive in exploring entrepreneurial paths, learning more entrepreneurial knowledge, and thus expanding their range of entrepreneurial choices. At the same time, when encountering difficulties, they will also work harder to overcome setbacks and win more entrepreneurial success opportunities for themselves. Based on the above discussion, there is even a viewpoint that entrepreneurial self-efficacy has a greater impact than entrepreneurial ability during the entrepreneurial process. (2) High entrepreneurial self-efficacy is more conducive to dynamic adjustment of entrepreneurial strategies. High self-efficacy entrepreneurs have a larger range of entrepreneurial choices, so after entrepreneurial failure, entrepreneurs with strong self-efficacy can quickly switch their entrepreneurial choices and find new entrepreneurial opportunities (Bandura, 1977). In a complex entrepreneurial environment, entrepreneurial self-efficacy helps entrepreneurs overcome stress, self-blame, and frustration, and can improve their perception of success opportunities.

2.2 Related Research

2.2.1 Related Research on the New Venture Growth

What factors determine a company's growth has always been a controversial topic of extensive research, spanning different academic fields, including entrepreneurship (McKelvie & Wiklund, 2010), strategic management (Stam, 2010), and industrial organization. The growth of new enterprises is a multifaceted, multidimensional, complex, and heterogeneous phenomenon (Delmar et al., 2003). The growth of new businesses is often portrayed as the essence of entrepreneurship (Sexton & Smilor, 1997) and proof of business success. This perspective has received special attention from entrepreneurship and strategic research literature (Wood & Davidson, 2011). On the contrary, in industrial organization literature, analysts view the growth of new enterprises as a necessary condition for their survival, innovation, and technological change (Yazdanfar, 2013), and the growth of new enterprises is also seen as path dependent and persistent.

In terms of theoretical research, the early theoretical contributions of Meyer et al. (2005) and Penrose (2009) still occupy this field. Gibrat (1931)'s stochastic process of

enterprise growth reflects the complexity and unpredictability of enterprise growth. Penrose's (2009) resource-based theory on enterprise growth states that growth mainly depends on the allocation of internal resources. Internal resources and capabilities determine strategic choices, which are unique to enterprises and difficult for competitors to imitate (Combs & Ketchen, 1999). These internal resources and capabilities include business models, market orientation, management practices and organizational processes, enterprise dynamic capabilities, enterprise decision-making processes (Mu et al., 2022), innovation orientation (Jones & Rowley, 2011), organizational knowledge and management skills (Merigó et al., 2013), corporate culture (Lee et al., 2011), and more. In industrial organization literature, the growth of new enterprises is based on a stochastic model. The growth of enterprises reflects random shocks, and the size and history of enterprises cannot determine their future development trends. Enterprises are endowed with initial resource endowments, which determine their capabilities, technology, and social financial capital (Helfat & Liberman, 2002). These resources accumulate or deplete over time, forming a composite degree of enterprise size and growth. Some studies have also found a large amount of heterogeneity between industries and enterprises. The heterogeneity of enterprise growth is manifested in terms of scale, profitability, research and development intensity, capital institutions, social capital, and other enterprise characteristics, which is inconsistent with the statement that enterprise growth follows a random and unstable process.

Considering the emerging theoretical and empirical evidence on the essence of corporate growth and development, although resource-based theory focuses on unique, scarce, and valuable resources that are difficult to imitate, it no longer appears to be the best theoretical method for evaluating how to best allocate corporate resources (Eisenhardt & Martin, 2000). At the same time, there are many shortcomings in the division of enterprise growth stages, such as rigid stage models, lack of empirical data support, and overly vague and general measurement indicators, which need to be carefully examined in future research on enterprise growth (Kraatz & Zajac, 2001).

In terms of research objects, some scholars have proposed that research on corporate growth mainly focuses on the manufacturing industry (Fotopoulos & Giotopoulos, 2010), with only a small portion considering the service industry

(Giotopoulos & Fotopoulos, 2010), financial industry (Hardwick & Adams, 2002), and real estate industry. In terms of research process, the discourse of classical schools such as Adam Smith is regarded as the origin of corporate growth thinking, and Penrose is often regarded as the founder of corporate growth theory. Starting from the resource-based theory, I have gone through research on the theory of enterprise capability. Subsequently, the academic community used the form of life cycle to describe the process of enterprise growth and divided it into several growth stages according to certain standards, focusing on analyzing the essence and characteristics of different stages of enterprise growth.

Audretsch et al. (2014) also classified empirical research on the types of corporate growth into three categories: the first category is based on research starting from Gibrat (1931), which has resulted in a large number of empirical studies from countries and industries. The second type tends to view corporate growth as a process that depends on the internal (strategic) characteristics of the enterprise, rather than just an unstable process or a process driven entirely by structural characteristics. The focus of this type of literature is on determining the factors that distinguish between growing and non-growing enterprises (Arrighetti & Ninni, 2009). The third type analyzes the impact of external factors and measures the impact of external spillovers on the decision of enterprise R&D investment. For example, the proximity of a company leads to a positive impact of knowledge spillovers on the company, mainly in terms of performance and efficiency (Audretsch & Feldman, 2003). In terms of research methods, although the theme of corporate growth has received a lot of attention, research in this field has not produced cumulative results. One explanation is that researchers have explored different methods of measuring corporate growth from different perspectives. Although the academic community has made many beneficial attempts to develop specific methods for measuring corporate growth. For example, Holcomb et al. (2009) argue that the RCM model needs to be introduced to better handle vertical data growth models, but there is a significant amount of heterogeneity in the research, which has also led to confusion and controversy in existing theories and research results. The growth measures used in previous studies were diverse, and it was difficult to compare them within the same framework, with different growth indicators and formulas. Heterogeneity also occurs in

the effectiveness and reliability of different measurement methods for corporate growth. Previous studies have shown that different growth measurement methods may not necessarily be interrelated, and consistency in variable measurement is crucial for comparability in research. For example, the number of employees is one of the widely used metrics for measuring the growth of new businesses in economic and management literature (Stam & Wennberg, 2009). It can be seen that in the measurement of enterprise growth, it is necessary to further develop a multi-dimensional measurement index system for different types of enterprises, growth models, and growth processes, in order to truly compare and summarize the research results in this field, and summarize relatively effective cumulative results. In summary, the research results of scholars on the growth of new enterprises in different periods reflect the development process of the theory of new enterprise growth from a lateral perspective. Through the research on the above aspects, we can further understand the essence of enterprise growth and its role in economic development.

2.2.2 Related Research on the Entrepreneurial Self-Efficacy

The antecedents of entrepreneurial self-efficacy mainly include family factors, entrepreneurial environment, personal personality traits and entrepreneurial education.

Family Factors

Some scholars have studied the impact of family factors on entrepreneurial self-efficacy. In the process of entrepreneurship, entrepreneurs will face various problems such as complex scenarios and risks, and their families will provide them with the greatest material and spiritual support. When educating children, every family not only values their academic performance and physical and mental development, but also cultivates their ability to innovate and correctly view uncertain events, which will have a significant impact on their future growth. Pollack et al. (2019) discussed the importance of family for entrepreneurial self-efficacy. Scherer et al. (1989) found that children's entrepreneurial self-efficacy would be affected by parents' entrepreneurial performance when studying individuals' career choice tendencies. Santos & Liguori (2020) studied college students and found that whether parents founded a business did not affect children's self-efficacy. Elnadi & Gheith (2021) studied the entrepreneurial self-efficacy of vocational college students and found that family support would have a positive impact

on them, that is, if the family supports enough when starting a business, entrepreneurs will have more confidence and determination, and entrepreneurial self-efficacy will be stronger.

Entrepreneurship Environment

Some scholars have studied the impact of entrepreneurship environment on entrepreneurial self-efficacy. Chen et al. (1998) considered environmental factors when studying entrepreneurial self-efficacy. He believed that creating a good entrepreneurial atmosphere would help entrepreneurs to a certain extent. The research results indicate that when the environment supports individual entrepreneurship, they can better utilize their work skills and solve problems more efficiently. Pihie & Bagheri (2013) studied the entrepreneurial self-efficacy of technology entrepreneurs and found that environmental support would have a positive impact on them. In the start-up technology enterprises, if the government or other external environment (financial environment, etc.) gives them support, including the introduction of corresponding entrepreneurial support policies, investment funds from third-party venture capital institutions, etc., entrepreneurs' entrepreneurial self-efficacy will be significantly improved. Newman et al. (2019) found that the support of family and friends can affect individual self-efficacy.

Personal Personality Traits

Some scholars have studied the impact of personal personality traits on entrepreneurial self-efficacy. Scholars generally study entrepreneurship self-efficacy from two aspects. Timothy et al. (2007) studied employees and found that conscientiousness, extraversion and emotional stability positively affect self-efficacy. McGee et al. (2009) believes that innovation and initiative have a positive impact on entrepreneurial self-efficacy. When an individual starts a business, identifying with their entrepreneurial identity and being able to propose innovative ideas can greatly enhance their confidence. Chen et al. (1998) proposed that the personality traits of achievement motivation, risk taking and innovation are positively related to entrepreneurial self-efficacy.

Entrepreneurship Education

Some scholars have studied the impact of entrepreneurship education on entrepreneurial self-efficacy. Arbaugh et al. (2009) took college students as the research

object, and asked them to attend entrepreneurship lectures, receive entrepreneurship training, and take entrepreneurship courses for entrepreneurship education. The results showed that students' entrepreneurial self-efficacy was improved. Wilson et al. (2007) proposed that good entrepreneurship education can increase practice opportunities, improve entrepreneurial ability and skills of entrepreneurs, and improve college students' entrepreneurial self-efficacy. Basu & Virick (2008) conducted curriculum and practical education on college students, and found that both would positively affect the individual's entrepreneurial self-efficacy.

At present, the research on the outcome variables of entrepreneurial self-efficacy includes entrepreneurial intention and entrepreneurial performance.

Entrepreneurship Intention

Some scholars have studied the impact of entrepreneurial self-efficacy on entrepreneurship intention. Boyd & Vozikis (1994) found that entrepreneurial self-efficacy has a significant impact on entrepreneurial willingness and is an important measurement index. Jung et al. (2001), in order to study the relationship between the two under different social backgrounds, took graduate students from business schools in the United States and South Korea as the survey objects, and the results showed that entrepreneurial self-efficacy would positively affect the entrepreneurial intention of individuals. Hong & Jeong (2006) studied the influencing factors of entrepreneurship, and the results showed that the higher the self-efficacy of individual entrepreneurship, the more likely they were to choose entrepreneurship.

Díaz-García & Jiménez-Moreno (2010) believed that entrepreneurial self-efficacy was positively correlated with entrepreneurial intention. Entrepreneurial self-efficacy is an individual's assessment of self-ability based on past experience. The more confident an individual is about his or her own ability, the more it will help him or her to improve his or her confidence in entrepreneurial success and be able to complete entrepreneurial tasks well, so he or she has a high entrepreneurial propensity. Moriano et al. (2012) introduced the variable of behavioral control and conducted research in the context of localization. They found that entrepreneurial self-efficacy would affect entrepreneurial intention. Ferreira et al. (2012) proposed that individual entrepreneurial self-efficacy positively affects entrepreneurial intention. After subjectively evaluating

their own abilities, individuals are more likely to start a business when they believe they have entrepreneurial abilities, while they may not choose to start a business when they lack confidence and believe that their abilities are insufficient to succeed.

Entrepreneurial Performance

Some scholars have studied the impact of entrepreneurial self-efficacy on entrepreneurial performance. Forbes (2005) took 95 start-ups as research objects to explore the mechanism of entrepreneurial self-efficacy on entrepreneurial performance. Empirical research shows that the two are positively correlated. Hmieleski & Baron (2008) expanded the scope of research, selected 159 start-ups for empirical research, and found that entrepreneurial self-efficacy has a positive impact on entrepreneurial performance.

Shane & Nicolaou (2013) believes that entrepreneurial self-efficacy affects entrepreneurial performance through opportunity identification. When starting a business, individuals participate in activities with an optimistic attitude, believing that their abilities can solve work problems, better identify opportunities, complete tasks, and achieve high performance. Individuals with a high sense of entrepreneurial self-efficacy will recognize their own abilities and strive to achieve the set goals to achieve better entrepreneurial performance. Batjargal (2003) took technology entrepreneurs as the research object, and found that there was a positive correlation between the two, that is, the higher the entrepreneurial self-efficacy of an individual, the more he could not be afraid of difficulties and dangers when starting a business, and he could still remain calm in uncertain situations, make the most favorable decisions, and bring higher performance. Subsequently, Tseng (2013) studied the relationship between transformational leadership and entrepreneurial performance. He believed that transformational leadership attaches great importance to employees, deeply understands each employee, formulates reasonable rules and regulations, encourages employees to propose entrepreneurial ideas, enhances employees' confidence, and thus positively affects entrepreneurial performance.

2.2.3 Related Research on the Entrepreneurial Resilience

In recent years, entrepreneurial resilience has been recognized as a core element in explaining entrepreneurial behavior, including overcoming adversity, adapting to uncertainty, and learning from previous failures. The existing research topics on

entrepreneurial resilience can be generally divided into the antecedent variables and outcome variables of entrepreneurial resilience. Among them, the antecedent variables of entrepreneurial resilience mainly refer to the sources and influencing factors of entrepreneurial resilience; The research on the outcome variables of entrepreneurial resilience mainly includes aspects such as entrepreneurial willingness, entrepreneurial activity behavior, and entrepreneurial performance, or the impact on some other factors, including stakeholders.

2.2.3.1 The Antecedent Variable of Entrepreneurial Resilience

The adversity experienced by entrepreneurs is different from the traumatic events experienced by participants in traditional resilience studies. Not to mention the financial impact and general sense of loss, entrepreneurs may also experience limited social contact, even physiological effects, such as insomnia or panic due to business failure. Therefore, comprehensive consideration should be given to the factors that affect entrepreneurial resilience. Under this approach, this article categorizes the multiple factors identified in multiple empirical studies into two categories: personal factors and external situational factors.

Xiu & Meng (2020) pointed out that personal factors and corresponding personal characteristics can have an impact on the formation of resilience, such as personal entrepreneurial experience. At the same time, this study also found that self-efficacy is one of the driving factors of entrepreneurial resilience. Among the inherent characteristics of entrepreneurs, self-efficacy (or confidence) is the most common factor determining the success or failure of entrepreneurship. Self-efficacy makes entrepreneurs believe in their own advantages; Therefore, highly confident entrepreneurs do not fear the risk of failure, expect positive results, and achieve business growth (Holienska et al., 2016). Self-efficacy has a chain reaction to entrepreneurs and their enterprises. When entrepreneurs lose self-efficacy, they often lose their social identity, which will eventually affect their social relations and networks.

In terms of external situational factors, supportive families are the basic source of initial entrepreneurial funds and motivation, and also a very important psychological pillar. Especially, the commitment and encouragement of spouses are the key to successful entrepreneurship (Yang & Danes, 2015). Another informal support

relationship is the alumni network, which, like families, can also provide emotional and material support and serve as a bridge to a wider interpersonal network. However, relationships with family and friends may cause damage and increase the likelihood of business failure. Yang and Danes (2015)'s research suggests a curvilinear relationship between business challenges and success. The spouse or family who initially provided support may change their attitude after the company reaches a breakeven point. Because an entrepreneur has been striving to start a business, he or she may not pay too much attention to their family. Therefore, over time, families may become less supportive. In addition, excessive parental or family involvement may interfere with daily business operations. In addition, relying solely or heavily on the advice of family and friends to fill gaps in personal professional knowledge may jeopardize business success. Establishing a business requires a large amount of material resources and high-level professional knowledge. In addition, the support of stakeholders such as venture capitalists (VCs) is the most important influencing factor during the establishment stage or when facing risks of a company (Bocken, 2015). Venture capital firms are not only a source of financial support, but also provide business advice based on their experience and expertise in the industry, and connect entrepreneurs with other social networks.

2.2.3.2 Outcome Variables of Entrepreneurial Resilience

Resilience can have a corresponding positive impact on individuals, including attitudes, behaviors, and performance. For example, entrepreneurial resilience can have an impact on creativity. Resilient entrepreneurs can quickly recover from setbacks and failures, accept the current situation, and face everything in the future with confidence. Therefore, in his research, he stated that high levels of entrepreneurial resilience allow entrepreneurs to quickly and effectively recover or even surpass their initial state even if they encounter adversity due to entrepreneurial failure, this stimulates the willingness of entrepreneurial failures to reinvent themselves (Fu et al., 2021). Some scholars have also started from resilience related theories and pointed out that the results of resilience may affect happiness and success, thus studying the relationship between entrepreneurial resilience and entrepreneurial success (Xiu & Meng, 2020). With the outbreak of the COVID-19, the discussion about resilience has become more and more popular, not only in personality, but also in the organizational level. Organizational

resilience, organizational agility and organizational resilience and other words have been constantly imprinted in the academic world, while entrepreneurial resilience focused on the personal level of entrepreneurs, focusing on the relevant impact of entrepreneurial resilience on entrepreneurial process and results. At present, there is relatively little empirical research on entrepreneurial resilience in China, which is in a nascent stage, with only a few relevant empirical articles available for reference. This study will help expand the research on resilience in the field of entrepreneurship.

2.2.4 Related Research on the Entrepreneurial Passion

At present, scholars have conducted extensive research on entrepreneurial passion at the individual level from three aspects: individual traits, emotions, and motivation.

Individual Traits

Baum et al. (2001) believed that the personal traits of entrepreneurs include persistence and initiative. Based on this, they explored the relationship between personality traits and enterprise development, and found that entrepreneurial passion is a relatively stable trait of entrepreneurs. According to trait theory, entrepreneurial passion is a relatively stable personality trait that does not change with changes in the environment, but it is not the case in actual entrepreneurship. Entrepreneurs are full of entrepreneurial passion and fighting spirit in the early stages of entrepreneurship, but as the enterprise develops, their entrepreneurial passion gradually fades. Some entrepreneurs can always maintain their entrepreneurial passion. These entrepreneurial phenomena cannot be explained by trait theory, so this theory has not been recognized by most scholars.

Emotion

Most scholars study entrepreneurial passion from a cognitive perspective. In 2009, Cardon et al. attempted to explore entrepreneurial passion from an emotional perspective. He believed that entrepreneurial passion is when individuals engage in entrepreneurial tasks with positive emotions and identify with their entrepreneurial identity. Based on the different stages of entrepreneurship that entrepreneurs are in, entrepreneurial passion can be divided into discovery passion, creation passion, and development passion from a dynamic perspective. Entrepreneurs have three different

roles in the entrepreneurial process: inventor, founder, and developer. Different entrepreneurial roles correspond to different types of entrepreneurial passions and also determine whether the passion can remain stable. This theory to some extent compensates for the shortcomings of trait theory and has been unanimously recognized by scholars both domestically and internationally.

Motivation

Chen et al. (2009) believe that entrepreneurial passion is a motivation that enables entrepreneurs to propose innovative ideas and implement entrepreneurial behavior. Vallerand et al. (2003) believe that individuals tend to invest time and energy in activities they enjoy, which is called entrepreneurial passion. He divides entrepreneurial passion into harmonious passion and forced passion.

Research on the Related Variables of Entrepreneurship Passion

The pre variables of entrepreneurial passion mainly include entrepreneurial education, entrepreneurial identity and entrepreneurial self-efficacy.

Entrepreneurship Education

Wincent et al. (2008) believes that entrepreneurship education can significantly stimulate individuals' entrepreneurial passion. Donnellon et al. (2014) found through a survey of entrepreneurship courses that individuals who study the course tend to identify more with the identity of entrepreneurs, empathize with entrepreneurial issues, and stimulate entrepreneurial passion. Pittaway & Cope (2007) believe that entrepreneurship education has a positive impact on entrepreneurial passion. Entrepreneurs receive entrepreneurship education, take entrepreneurship courses, master relevant knowledge, possess the corresponding skills for entrepreneurship, and are more likely to choose entrepreneurship. Von Graevenitz et al. (2010) studied the impact of training types on entrepreneurial passion and found a positive correlation between the two.

Entrepreneurial Identity

Cardon et al. (2012) argue that identity positively affects entrepreneurial passion. In subsequent studies, scholars continued to study the impact of identity theory's two dimensions of identity centrality and identity saliency on entrepreneurial passion. Murnieks et al. (2014) believe that the passion of entrepreneurs is positively correlated with their entrepreneurial identity centrality. Entrepreneurs may have multiple identities,

but compared to other identities, the relative importance of an individual's entrepreneurial identity is the centrality of entrepreneurial identity, meaning that a higher centrality of identity implies a higher importance of identity. Activities that are important to individuals often have positive emotions. Murnieks et al. (2014) surveyed a group of entrepreneurs in a metropolitan area in the Midwest of the United States, and the results showed that the centrality of entrepreneurial identity among entrepreneurs can enhance their entrepreneurial passion. Warnick et al. (2018) further studied the impact of entrepreneurial identity centrality on harmonious passion. If an activity is considered important and autonomous by individuals, it will lead to a higher level of harmonious entrepreneurial passion. Warnick et al. (2018) studied 166 entrepreneurs and found a positive correlation between entrepreneurial identity centrality and harmonious entrepreneurial passion.

Entrepreneurship Self-Efficacy

The identity theory of Vignoles et al. (2006) shows that individuals are more likely to identify with what they are confident to do and enhance their self-efficacy. Therefore, when entrepreneurs have more confidence in tasks related to their entrepreneurial identity, they are more likely to identify with that role. And this identification is an important dimension of entrepreneurial passion, which will encourage individuals to develop entrepreneurial passion. Cardon et al. (2012) took entrepreneurs as the research object to study the mechanism of entrepreneurial self-efficacy on entrepreneurial passion. The results showed that individuals with higher entrepreneurial self-efficacy were more confident in completing entrepreneurial tasks, would face difficulties with an optimistic attitude, identify with their own identity, and then affect entrepreneurial passion.

At present, research on the outcome variables of entrepreneurial passion mainly includes entrepreneurial willingness, entrepreneurial behavior, and entrepreneurial performance.

Entrepreneurship Willingness

Hmieleski & Baron (2008) believe that entrepreneurial passion is significantly positively correlated with entrepreneurial willingness. For individuals, entrepreneurial activities are an important and meaningful activity that can stimulate positive emotions,

which can enhance creativity. Chen et al. (2009) believe that entrepreneurial passion is a strong and positive emotion among entrepreneurs. When entrepreneurial ideas arise, individuals take action to translate them into practice. Davidsson (1989) studied the relationship between entrepreneurial passion and entrepreneurial willingness, and found that entrepreneurial passion has a positive impact on entrepreneurial willingness.

Entrepreneurial Behavior

Schindehutte et al. (2006) believe that entrepreneurs with high entrepreneurial passion will strive towards established goals throughout the entrepreneurial process, and can persist in entrepreneurship even when facing difficulties until they complete the entrepreneurial task. Mueller et al. (2017) believe that entrepreneurs participate in activities with an optimistic mindset and will not give up easily in the face of setbacks, and will persist in achieving entrepreneurial goals for the long term.

Entrepreneurial Performance

Ho et al. (2014) applied the binary model of passion (harmonious passion and forced passion) to the entrepreneurial environment and found that the harmonious passion of entrepreneurs can enable them to occupy the center of social networks and improve entrepreneurial performance. Chen et al. (2007) believe that moderate entrepreneurial passion will positively affect entrepreneurial performance. Individuals with entrepreneurial passion will have more innovative ways to solve problems when facing various challenges in entrepreneurship, which helps the development of the enterprise. However, when the entrepreneurial passion is too high, it can make entrepreneurs overconfident and unable to carefully examine their relevant decisions, which can have a negative impact on the enterprise. When the entrepreneurial passion is too low, entrepreneurs often lack confidence and cannot be certain of their own judgments, which is also detrimental to the development of the enterprise.

2.3 Hypotheses Development

2.3.1 The Influence of Entrepreneurial Self-Efficacy on New Venture Growth in China.

In the constantly changing and complex market competition, compared to entrepreneurs with low entrepreneurial efficiency, entrepreneurs with high

entrepreneurial efficiency are more able to quickly identify entrepreneurial opportunities, develop entrepreneurial opportunities, and more keenly identify problems in entrepreneurial activities, thereby promoting the growth of new enterprises. Hallak et al. (2011) found through research that entrepreneurs' self-efficacy can directly affect the performance of new enterprises. Luthans et al. (2006) found that entrepreneurs' self-efficacy has a positive effect on enterprise growth. Wei & Zhao (2012) pointed out that entrepreneurs who have confidence in their entrepreneurial abilities are more likely to achieve entrepreneurial success and achieve better business growth results.

Entrepreneurs with a high sense of entrepreneurial efficiency tend to choose challenging jobs, are more willing to take risks during the entrepreneurial process, and are more likely to discover and utilize market opportunities, thereby contributing to the success of entrepreneurship. In addition, entrepreneurs with a high sense of entrepreneurial efficacy have positive attribution, can correctly handle the success or failure and gains and losses in the entrepreneurial process, have good resilience in the face of adversity, can actively overcome difficulties and quickly recover. Entrepreneurial self-efficacy plays a positive and stable role in the entrepreneurial process, and has a good predictive function on entrepreneurial performance (Drnovšek et al., 2010).

Entrepreneurship researchers have found in their research on the relationship between the perception of self-confidence and self-efficacy of entrepreneurial talents and their performance that entrepreneurial self-efficacy has a positive impact on entrepreneurial behavior, providing effective reference for predicting entrepreneurial performance. There are significant differences between entrepreneurs and non-entrepreneurs in the innovation and risk-taking dimensions of entrepreneurial efficacy. Having a high sense of entrepreneurial efficacy can improve entrepreneurs' decision-making ability in entrepreneurial behavior, and this psychological trait can help achieve technological innovation. Therefore, entrepreneurs with a high sense of entrepreneurial efficacy often achieve better entrepreneurial performance during the entrepreneurial process (Forbes, 2005). Chen et al. believe that compared to the general population, entrepreneurial talents with high entrepreneurial efficacy are often more likely to overcome the challenges encountered in entrepreneurship and seek opportunities in the face of risks. Therefore, they tend to invest more effort in entrepreneurial activities (Chen et al., 1998). In the same

complex and uncertain entrepreneurial environment, people with a high sense of entrepreneurial efficiency often have more active thinking and performance in entrepreneurial activities, and are more likely to seize opportunities and achieve success in complex environments. The impact of entrepreneurial efficacy on entrepreneurial performance is also reflected in various aspects. Hallak et al. (2014) believe that the positive impact of entrepreneurial efficacy on entrepreneurial performance outcomes includes profit returns, corporate growth, and goal achievement. Chen et al. (1998) and Forbes (2005)' research clearly points out that people with high entrepreneurial efficacy often have higher innovation abilities, which are often manifested as high-tech innovation performance among technology entrepreneurship talents; A more confident and optimistic mindset makes entrepreneurial talents more resistant to risks, so they are more inclined to continue working hard rather than giving up in the face of entrepreneurial difficulties, and entrepreneurial enterprises often exhibit sustained growth ability.

According to the theory of behavioral choice, the choice of individual behavior is limited by one's own abilities, and the choice of entrepreneurial behavior by entrepreneurs is influenced by their own ability judgments. Entrepreneurs with a high level of entrepreneurial efficacy tend to show sustained attention to their organization or entrepreneurial activities. Even if faced with difficulties and obstacles, they can still firmly believe and move forward, and their entrepreneurial ability is highly likely to improve accordingly. On the contrary, the entrepreneurial ability of entrepreneurs decreases (Stock & Cervone, 1990). The research results show that if entrepreneurs have a high sense of entrepreneurial self-efficacy, they can more easily cope with complex situations and deal with complex problems in the entrepreneurial process (Chen et al., 1998). In addition, entrepreneurs with a high degree of belief will invest more energy to overcome entrepreneurial difficulties when dealing with various problems in the entrepreneurial process, thus improving entrepreneurial ability. Glas & Drnovsek (2017) further tested Chen's entrepreneurial efficacy theoretical framework, believing that entrepreneurs' entrepreneurial ability is positively influenced by their entrepreneurial efficacy. Locke found a significant positive correlation between entrepreneurial self-efficacy and entrepreneurial ability. Entrepreneurs with a high level of entrepreneurial self-efficacy will set higher goals for the enterprise and lead their subordinates to strive towards achieving

higher goals, thereby improving entrepreneurial ability. BarNir et al. (2011) took technology entrepreneurs as research objects, and through structural equation model analysis of data, they believed that the stronger the entrepreneurs' self-efficacy, the stronger their entrepreneurial ability.

Based on the above analysis, this study proposes the following assumptions:

H1: The entrepreneurial self-efficacy directly influences Chinese lithium battery new venture growth.

2.3.2 The Mediation Effect of Entrepreneurial Resilience Between Entrepreneurial Self-Efficacy and New Venture Growth in China

2.3.2.1 The influence of Entrepreneurial Self-Efficacy on Entrepreneurial Resilience

Self-efficacy, as an individual's overall confidence in his own ability, has a significant impact on the development of individual social adaptation (Miles et al., 2016). As a protective mechanism when individuals encounter difficulties, psychological resilience is a protective factor for individual social adaptation. High level psychological resilience can reduce the impact of individuals in difficult situations as much as possible, and recover from difficult situations as soon as possible. Psychological resilience is a dynamic process in which individuals adapt well to dangerous situations. Individuals adapt to those bad situations in the process of continuous interaction with the social environment to maintain a good psychological state. The research of Warner et al. (2013) shows that individuals with high self-efficacy tend to adopt positive coping styles in stressful environments and make forward-looking preparations for possible difficulties in the future, which are conducive to individuals' recovery from difficulties. self-efficacy has a positive role in promoting psychological resilience.

Self-efficacy is the basis of individual initiative, which affects individual thinking and behavior choices and can change with the changes of specific tasks, problems and situations (Ben & Fei, 2008). This important psychological resource has a positive impact on entrepreneurs to solve work problems, that is, self-efficacy can not only enable entrepreneurs to adjust themselves in time when facing work problems, set reasonable goals, but also believe that they can overcome and solve the work problems they encounter. Entrepreneurs' employees can quickly adapt to tasks, problems and changes in work.

An entrepreneur's belief in his/her ability to effectively influence entrepreneurial processes and manage the effects of challenges and stressors can also impact his/her resilience to those very stressors. These abilities are pivotal for the development of entrepreneurial aspirations. A strong belief in their abilities makes it possible for entrepreneurial individuals to have the confidence to overcome adversities that stem from debilitating economic downturns and business stagnation and to pursue new business opportunities.

2.3.2.2 The influence of Entrepreneurial Resilience on New Venture Growth in China.

The high-order echelon theory suggests that entrepreneurs are not completely rational individuals, and their final decisions may be influenced by subjective thoughts, which in turn have an impact on performance (Fatoki, 2018). For the resilience of entrepreneurs, emphasis is placed on their psychological state, indicating that they have not been depressed due to negative effects such as dissatisfaction or setbacks, and are able to recover and surpass themselves from difficulties, adversity, conflicts, and failures, thereby achieving success (Lafuente et al., 2019). Entrepreneurial resilience is a decisive condition and necessary trait for entrepreneurs to overcome difficulties and achieve success and good performance, as well as the most critical factor in promoting sustainable growth of enterprises.

The higher the resilience of entrepreneurs, the more they can calmly cope with and overcome adversity to help companies resist internal and external shocks. Ingram et al. (2015) found through the bankruptcy of the Bitcoin Exchange that in order for a company to survive for the long term, it must always be prepared to face sudden extreme events and respond through entrepreneurial resilience. Liu et al (2019) conducted a comparative case study using in-depth interviews between entrepreneurs from returning enterprises and local enterprises. The results showed that entrepreneurs who were influenced by Western or Eastern cultures were resilient enough to bear corporate risks. High resilience entrepreneurs can view difficulties more positively, rather than fear, indifference, or despair. The advantage of this psychology is more helpful for entrepreneurs to adapt to the constantly changing business environment.

High resilience entrepreneurs have better adjustment abilities (Ayala & Manzano, 2014), able to adjust to external market changes, choose appropriate business strategies, and quickly carry out business around them to improve enterprise competitiveness. When a company faces a crisis, it can stimulate the resilience of entrepreneurs, enabling them to quickly adjust and take action (Bullough & Renko, 2013). High resilience entrepreneurs can quickly emerge from difficulties, better learn and reflect from failed crises, and help companies quickly adjust to environmental changes (Ingram et al., 2015). Therefore, the higher the resilience of entrepreneurs, the better their entrepreneurial adaptability. High resilience entrepreneurs are also more inclined to develop and mobilize resources to cope with difficulties and maintain their competitiveness.

High resilience entrepreneurs have stronger cohesion towards the organization (Hallak et al., 2018). The stronger the resilience of entrepreneurs, the stronger their sense of belonging to the organization. In small and medium-sized enterprises, the resilience of entrepreneurs can affect the resilience and organizational resilience of subordinates, help enterprise members actively cope with work pressure, setbacks, and disappointments, and help promote the growth performance of small and medium-sized enterprises. Especially when small and medium-sized enterprises are in various unfavorable environments such as imperfect internal management systems and high external business risks (Ayala & Manzano, 2014), the higher the resilience of entrepreneurs, the more conducive it is to the improvement of enterprise performance.

The entrepreneurial resilience of entrepreneurs has a significant impact on entrepreneurial performance. The entrepreneurial process is a very long and arduous process, and in today's high probability of entrepreneurial failure, it is important to understand how entrepreneurs survive in uncertainty. Entrepreneurial decisions are often accompanied by errors and misjudgments, as existing information is either ambiguous or incomplete. Entrepreneurs must constantly keep up with constantly changing emergencies by adjusting their goals and strategies. As Lei Jun said, they need to have a certain level of resilience in order to lead their team forward in the process of overcoming difficulties and pain (Campbell-Sills & Stein, 2007). Therefore, in the process of constantly adapting and dealing with challenging tasks, entrepreneurs can continuously

improve their own abilities and serve as core members of the entrepreneur or entrepreneurial team, thereby promoting the improvement of entrepreneurial performance.

Resilience is a crucial personality trait that can help individuals overcome hardships and continue to face challenges. However, some scholars view resilience as a resource (Hobfoll, 2002). For example, resilient entrepreneurs can actively mobilize the resources of corporate stakeholders such as funds and networks in difficult situations, and bring new business concepts to the enterprise. The value obtained from external sources can be applied to the enterprise. On the other hand, entrepreneurs can also influence the production and operation of the company from an internal perspective. In recent years, Huawei Chairman Ren Zhengfei has demonstrated strong resilience in the process of international pressure on Huawei, delivering important speeches within the company, inspiring and affecting employee morale. On the contrary, in complex situations, he has enhanced team cohesion and twisted the originally scattered hemp rope back together, Confronting changes in the external environment. Therefore, both within and within the enterprise, resilience can help entrepreneurs better manage the enterprise, restore confidence, and promote the improvement of entrepreneurial performance.

Entrepreneurial resilience means strong identity recognition, which directly affects the behavior and corresponding entrepreneurial output of entrepreneurs (Rutter, 1985). Role identification can make entrepreneurs more immersed in the entrepreneurial process and strive to think about the development of the enterprise at all times. Of course, this sometimes does not mean it is a good thing, as there may also be a lack of care for their families. However, from the development of affairs related to the production and operation of enterprises, such as product optimization and customer satisfaction, it can be learned that this sense of identity promotes entrepreneurs to continuously learn new technologies and methods. The application of these new technologies and methods is also a key factor in obtaining market competitive advantages. The business process of enterprises is often not smooth sailing, and entrepreneurs need to identify and invest in this cause from the depths of their hearts, only then can true success be achieved, thereby improving entrepreneurial performance.

Based on the above analysis, this study suggests that entrepreneurial self-efficacy indirectly affects new venture growth in China by influencing entrepreneurial resilience, meaning that entrepreneurial resilience may play a mediating role between the two. Therefore, this study proposes the following hypothesis:

H2: The entrepreneurial resilience plays a mediation effect between entrepreneurial self-efficacy and Chinese lithium battery new venture growth.

2.3.3 The Moderation Effect of Entrepreneurial Passion

Entrepreneurial passion is a fundamental emotional meta-experience for entrepreneurs. Entrepreneurial passion is a gestalt expression constructed by the entrepreneur to provide a coherent and integrative narrative to an emotional experience of intense pleasantness, arousal and energy mobilization involving the entrepreneur and the venture. Moreover, entrepreneurial passion is characterized by a discrete emotion that is quite intense. We see evidence of this in entrepreneurship research, where for example passion has been described as “the underlying force that fuels our strongest emotions. It is the intensity we feel when we engage in activities that interests us deeply. It fills us with energy and enables us to perform at our peak” (Chang, 2001). Bierly et al. (2000) describe passion as “great warmth and intensity”, and “strong and enthusiastic devotion”, again indicating that a central component of passion is the strength or depth (Suchy, 2000) of feelings.

When entrepreneurs possess entrepreneurial passion, it strengthens their beliefs and promotes the creation and growth of new businesses (Murnieks et al., 2014). New startups require various resources in the process of establishment and development. When investing, venture capital companies' value not only the project itself, but also the characteristics and passion of the representative figures of the project. No matter how good the project itself is, it will always encounter thorny problems. At this time, individuals with entrepreneurial passion encourage them to no longer fear difficult situations and firmly believe, which is more attractive to investors (Chen et al., 2009). Previous studies have shown that entrepreneurial passion can effectively promote the individual's self-efficacy, and the desire for activities can cultivate the individual's love for this activity. Under this emotion, not only the efficiency and quality of their work can be improved, but also their self-efficacy can be improved (Cardon et al., 2013).

Entrepreneurship passion carries the positive emotional feedback experience of entrepreneurs, which can gain self-confidence and maintain faith even in the face of setbacks (Yong et al., 2022).

Individuals with a positive and enthusiastic attitude towards a certain project can help them enhance their confidence and sense of identification in completing the project (Bandura & Wood, 1989). Positive emotions have a positive impact on personal confidence and abilities. For entrepreneurs, a strong entrepreneurial passion makes them strongly aware of their role as entrepreneurs in entrepreneurial activities, making it easier to generate positive emotions in entrepreneurial activities (Vallerand et al., 2003). In a positive mood, entrepreneurs maintain an optimistic attitude towards entrepreneurial activities, set entrepreneurial goals, and have greater control and confidence in their overall entrepreneurial activities. This strong control and confidence can help strengthen entrepreneurs' entrepreneurial beliefs. Entrepreneurship passion is a positive desire for self-recognition from the heart, which has a positive role in promoting entrepreneurs' self-efficacy (Cardon et al., 2005).

Research has repeatedly demonstrated that the experience of passion in the face of adversity is one of the important processes involved in resilience (e.g., Cohn et al., 2009; Fredrickson et al., 2003). Passion momentarily broadens thought-action tendencies (e.g., flexible attention; Fredrickson & Branigan, 2005). This broadened awareness helps individuals build enduring personal resources such as mindfulness (Catalino & Fredrickson, 2011) and adaptive coping strategies (Fredrickson & Joiner, 2002), that individuals can rely on when facing adversity. In addition, passion also has an undoing effect (Fredrickson, 1998): they counteract the deleterious aftereffects of negative emotions and stress when facing adversity (Fredrickson et al., 2003). Indeed, a longitudinal study (Cohn et al., 2009) has shown that, over a one-month period, daily passion buffered against the effect of negative emotions and were related to growth in resilience. Findings have also shown that higher levels of passion and lower levels of negative emotions prior to exposure to a stressor were associated with resilience during the stressful situation (Galatzer-Levy et al., 2013). Moreover, studies have shown that passion helped highly resilient individuals be more resistant to stress, recover more effectively from it, and thrive through adversity, as shown by less negative emotions the

day following a stressful event (Ong et al., 2006), and fewer depressive symptoms as well as growth in psychological resources in the aftermath of a crisis (Fredrickson et al., 2003). In sum, people experiencing passion were not only more resistant to stress, they bounced back stronger than before: they displayed resilience.

Entrepreneurial passion has been linked to the resilience of individual entrepreneurs (Cardon and Kirk, 2015). Passion for one's venture contributes to both risk and protective factors that in turn contribute to strengthening an individual's resilience, and thus to successful outcomes.

From the above analysis, it can be inferred that entrepreneurial passion may play a positive moderation role between entrepreneurial resilience and new venture growth in China. Therefore, this article proposes the following hypothesis:

H3: Entrepreneurial resilience's influence of entrepreneurial resilience on the growth of Chinese lithium battery new ventures will vary depending on the level of entrepreneurial passion.

2.4 Summary

This chapter was distributed into three major sections. The first part first discusses the theoretical basis of this article, Upper Echelons Theory. The Upper Echelons Theory effectively fills the theoretical gap of agency conflict in explaining corporate behavior decisions, which helps to understand the idiosyncratic differences in corporate behavior decisions caused by the personal characteristics of management. The second part is related to research on the four research variables in this article. The third part is the proposal of hypotheses. Based on previous relevant research, this article proposes a total of three research hypotheses, which constitute the main thread of this article.

CAPTER 3

RESEARCH METHODOLOGY

3.1 Research Design

Flanagan (2013) claims that the scientific method is the most powerful tool for discovering truths about the world, exploring new theories, and performing their empirical validation. Therefore, scientific research is the process of performing systematic and intensive inquiries that aim to discover and interpret the facts that are inserted into a certain reality. Scientific research is essentially like any other research, only more rigorous and carefully made. The goal of any science is to acquire knowledge, and the choice of the most appropriate method that allows us to know reality is a fundamental point in the process. Regarding research methods, these are closely related to the data collection instruments. Among social scientists, there is a trade-off between using quantitative or qualitative methods (Cadena-Iñiguez et al., 2017).

Simply put, the terms 'qualitative' and 'quantitative' should refer to the type of data generated in the research process. Quantitative research produces data in the form of numbers while qualitative research tends to produce data that are stated in prose or textual forms. Pita Fernández & Pértegas Díaz (2002) indicates that qualitative research seeks to identify the profound nature of reality, their relationships and their dynamic structure, on the other hand quantitative research attempts to determine the strength of association or correlation between variables, generalization and objectification the results through a sample for inference in a population.

The meaning of the term quantitative is fairly self-evident and refers to the tradition of research dominant in science since the 17th century, with its emphasis on the measurement and quantification of phenomena as essential steps in the process of inquiry. Draper (2004) suggests that this emphasis on measurement is connected to a specific set of philosophical assumptions about the nature of the world, how it operates, and our understanding of it. The quantitative tradition of research encompasses the traditional public health disciplines of epidemiology and statistics, medicine, and biology, as well as nutrition itself. Qualitative research is generally presented as an opposing category to quantitative research, but the term itself, however, is rarely explained. If quantitative

research is about quantities, what qualities is qualitative research concerned with? Qualitative research is concerned with the quality or nature of human experiences, as well as what these phenomena mean to individuals. Qualitative research thus tends to start with ‘what’, ‘how’, and ‘why’ type questions rather than ‘how much’ or ‘how many’ questions. It is also concerned with examining these questions in relation to everyday life and each individual's meanings and explanations (Draper, 2004). The differences between these two research methods are shown in Table 3.1.

Table 3.1 Contrasting aspects of qualitative and quantitative research strategies

	Qualitative	Quantitative
Philosophical basis & research aims	Naturalism and interpretivism. To understand social phenomena in their natural settings to produce ‘thick description’	Materialism and positivism. To test hypotheses and to establish universal laws of cause and effect
Analytical process	Analytical induction	Hypothetico-deductive
Research design	Observational, holistic and flexible	Experimental, reductionist and closed, with variables of interest predefined
Methods and data	Mainly interviews and observations of various kinds yielding textual data	Huge range of specific data collection techniques, but emphasis is on measurement yielding numeric data
Approach to analysis	Codes are derived from the data themselves	Coding frames usually predefined

The focus of this study is to explore the direct and indirect influence of introductory self-efficacy on Chinese new venture growth by considering entrepreneurial resilience and exploring the moderation role of entrepreneurial passion among the three variables mentioned above. Based on the research objectives and previous scholars' research, this article proposes five research hypotheses and will use empirical analysis methods to verify these hypotheses.

In order to answer the research questions, the current study employed a mixed-methods research design, which involved a series of questionnaires and interviews.

A mixed-methods research design can be defined as a research process for gathering, analyzing, and combining both quantitative and qualitative data at a specific phase of the research procedure within the same study to get a deeper insight into the research problem (Berg, 2001).

PART 1: Quantitative Phase

3.2 The Target Population of This Study

The population is the study's target population that it intends to study or treat. In any research study, the best strategy is to investigate the problem in the whole population. But practically, it is always not possible to study the entire population. Alternatively, we study a "sample" which is sufficiently large and representative of the entire population. A sample is a subset of the population, selected so as to be representative of the larger population (Dawson & Trapp, 2001). By taking a representative sample, we can reduce the costs incurred, the time taken to do the research and also the manpower needed to conduct the study (Acharya et al., 2013).

In this study, the population is all in new ventures in China. In order to further refine the overall picture and facilitate data collection, this study will limit the overall picture to CEOs of new ventures within the Chinese lithium battery industry. Based on the previous definition of new venture, this article selects CEOs of Chinese lithium battery enterprises established within 8 years as the target population.

According to China Statistical Yearbook (2022), there are currently 3466 lithium battery companies in China (see Table 3.2).

Table 3.2 Regional distribution of chinese lithium battery enterprises

Region	Number of Chinese Lithium-Ion Battery Enterprises
Guangdong Province	1067
Jiangsu Province	313
Shandong Province	200
Anhui Province	263
Zhejiang Province	209
Hunan Province	310
Henan Province	148
Hebei Province	45
Hubei province	153
Jiangxi Province	223
Xinjiang Uygur Autonomous Region	12
Qinghai Province	9
Gansu Province	14
Inner Mongolia Autonomous Region	19
Ningxia Hui Autonomous Region	9
Beijing	14
Tianjin City	14
Liaoning Province	28
Jilin Province	24
Heilongjiang Province	9
Shaanxi Province	40
Shanxi Province	38
Guangxi Zhuang Autonomous Region	24
Yunnan Province	12
Guizhou Province	45
Shanghai City	31
Chongqing City	40
Hainan	7
Fujian Province	148
Total	3,466

3.3 Sampling Method

Sampling is the process of selecting a statistically representative sample of individuals from the population of interest (Kamangar & Islami, 2013). Sampling is an important tool for research studies because the population of interest usually consists of too many individuals for any research project to include as participants. A good sample is a statistical representation of the population of interest and is large enough to answer the research question (Browner et al., 1988). Broadly, sampling methods are classified as 1) Probability sample and 2) Non-probability sample. Probability samples are the gold standard in sampling methodology and also for ensuring generalizability of the study results to the target population (Acharya et al., 2013). By probability sampling, we mean each individual in the population has an equal chance of being selected in the study. Probability sampling is further classified as: simple random sampling, systematic random sampling, stratified random sampling, cluster sampling, multiphase sampling and multistage sampling. Non-probability samples are those in which the probability that a subject is selected is unknown and results in selection bias in the study. They include the most commonly used convenience/purposive sampling, quota sampling, snowball sampling, etc (Kothari, 2004).

This study adopts the stratified sampling method. Stratified sampling is a method of randomly selecting samples (enterprise) from a population that can be divided into different subpopulations (or layers) in a specified proportion from different layers. The advantage of this method is that the representation of the samples is relatively good, and the sampling error is relatively small. The characteristic of stratified sampling is that it increases the commonality between units in various types through classification and stratification, making it easy to extract representative survey samples. Stratified sampling is suitable for populations with large scales, complex internal structures, and distinct categories (Kamangar & Islami, 2013).

The stratified random sampling method is generally divided into three steps: the first step is to divide the sample into different layers according to the requirements, and the individuals in each layer must have the same characteristics and the number of samples in each layer needs to be recorded; The second step is to divide the number of samples to be extracted by the total sample population to obtain the proportion of samples

to be extracted. Multiply this ratio by the number of samples in each layer to obtain the number of samples that should be extracted from each layer; Finally, perform a simple random sampling in each layer based on the quantity calculated in the second step. After the sampling is completed, stratified sampling is completed.

3.4 Sample Size

The sample size of a research study should have adequate power and significance (Majid & Ennis, 2018), allowing the investigators to be confident that the study findings cannot be attributed to random variations in the population of interest. In this way, computing the sample size becomes an important step in quantitative studies. The following formula 3-1 is a very common formula for calculating the sample size, which is proposed by Taherdoost (2016):

$$n = P(1 - P) \frac{Z^2}{E^2} \quad (\text{Formula 3-1})$$

Where:

n is the required sample size

P is the percentage occurrence of a state or condition

E is the percentage maximum error required

Z is the value corresponding to level of confidence required

This formula relies on two key factors (Kotrlík et al., 2001). First, there are considerations relating to the researcher's willingness to accept the estimation of the levels of precision and risk:

E is the margin of error (the level of precision) or the risk the researcher is willing to accept (for example, the plus or minus figure reported in newspaper poll results). The smaller the value of E, the greater the sample size required, as technically speaking, sample error is inversely proportional to the square root of n; however, a large sample cannot guarantee precision (Bell & Bryman, 2007). Z concerns the level of confidence that the results revealed by the survey findings are accurate. This indicates how accurately the characteristics of the population have been estimated by the sample survey.

Under the normal curve for the confidence level of 95%, $Z = 1.96$, If the estimate should be within 5% of the true value, $E = 0.05$. Use 50% as an estimate of P ; the minimum sample size needed for this study is 384.

This study adopts the standardized sampling method. Step 1: According to Table 3.2, divide the target population into a total of 29 layers based on regional distribution, with a total number of 3466. The second step is to calculate a sample size of 384 based on Formula 3.1, which can result in an extraction ratio of 11.08% for each layer (sample size/the number of target population). Step 3: Randomly select corresponding samples in each layer according to the extraction ratio (see Table 3.3).

Table 3.3 Sampling choose

Region	Number of Chinese Lithium-Ion Battery Enterprises	Sample Size
Guangdong Province	1067	118
Jiangsu Province	313	35
Shandong Province	200	22
Anhui Province	263	29
Zhejiang Province	209	23
Hunan Province	310	34
Henan Province	148	16
Hebei Province	45	5
Hubei province	153	17
Jiangxi Province	223	25
Xinjiang Uygur Autonomous Region	12	1
Qinghai Province	9	1
Gansu Province	14	2
Inner Mongolia Autonomous Region	19	2
Ningxia Hui Autonomous Region	9	1

Table 3.3 Sampling choose (Cont.)

Region	Number of Chinese Lithium-Ion Battery Enterprises	Sample Size
Beijing	14	2
Tianjin City	14	2
Liaoning Province	28	3
Jilin Province	24	3
Heilongjiang Province	9	1
Shaanxi Province	40	4
Shanxi Province	38	4
Guangxi Zhuang Autonomous Region	24	3
Yunnan Province	12	1
Guizhou Province	45	5
Shanghai City	31	3
Chongqing City	40	4
Hainan	7	1
Fujian Province	148	16
Total	3466	384

3.5 Data Collection Method

Data collection methods are important because how the information collected is used and what explanations it can generate are determined by the methodology and analytical approach applied by the researcher (Wright et al., 2016). Researchers collect data to investigate further.

While deciding about the method of data collection to be used for the study, the researcher should keep in mind two types of data, viz., primary and secondary. The primary data are those that are collected afresh and for the first time and thus happen to be original in character. The secondary data, on the other hand, are those that have already

been collected by someone else and that have already been passed through the statistical process (Kothari, 2004).

In order to explore the direct and indirect influence of introductory self-efficacy on Chinese new venture growth, this study will collect primary data to analyze the influence of individual psychological characteristics of entrepreneurs on Chinese new venture growth in China.

There are several methods of collecting primary data, particularly in surveys and descriptive research. Important ones are: (i) observation method; (ii) interview method; (iii) through questionnaires; (iv) through schedules; and (v) other methods, which include (a) warranty cards; (b) distributor audits; (c) pantry audits; (d) consumer panels; (e) using mechanical devices; (f) through projective techniques; (g) depth interviews; and (h) content analysis. In addition, in the research design phase, this study intends to use quantitative research. In quantitative research, commonly used data collection methods include experiments, simulations, and surveys (Queirós et al., 2017).

Surveys offer several benefits. Two of the most important benefits include the high representativeness of the entire population and the low cost of the method when compared to other alternatives. On the other side, the reliability of survey data is very dependent on the survey structure and the accuracy of the answers provided by the respondents. Based on the advantages of surveys in collecting first-hand data, this study adopts this method to collect relevant data, specifically using a survey questionnaire method. The respondent is required to answer a list of questions related to the study's objectives and hypotheses, which the respondent is required to answer. In other words, a written questionnaire (also referred to as a self-administered questionnaire) is a data collection tool in which written questions are presented that are to be answered by the respondents in a written form (Cln & Iro, 2013). The merits claimed for this method are as follows (Kothari, 2004):

- There is low cost even when the universe is large and widely spread geographically.
- It is free from the bias of the interviewer; answers are in the respondents' own words. Respondents have adequate time to give well-thought-out answers.
- It is also convenient to reach respondents who are not easily approachable.

- Large samples can be made use of, and thus the results can be more dependable.

This study will select executives from sample companies and collect first-hand data through online questionnaires. This study uses the Questionnaire Star platform (<https://www.wjx.cn/>) to conduct a survey by providing QR codes and links to the respondents.

3.6 Questionnaire Instruments

The conceptual framework model constructed in this article consists of a total of four research variables (see Figure 111): entrepreneurial self-efficacy, new venture growth, entrepreneurial resilience and entrepreneurial passion. In the research design, quantitative analysis methods were used to validate the hypotheses proposed in this article, and first-hand data was collected using a questionnaire method. Therefore, this study designed corresponding scale questions for the four research variables mentioned above, collected data through a survey questionnaire, and conducted quantitative research.

Entrepreneurial Self-Efficacy Instrument

The entrepreneurial self-efficacy was measured using four items developed by Zhao et al. (2005). Respondents were asked to rate their level of confidence in successfully ‘identifying new business opportunities, creating new products or services, thinking creatively, and commercializing an idea’. Entrepreneurial Self-Efficiency is divided into four dimensions (see Table 3.4). The items were operationalized on a five-point scale anchored by 1 ‘not very confident’ to 5 ‘very confident’. Table 3.1 displays the scale of entrepreneurial passion used in this study.

Table 3.4 Entrepreneurial self-efficacy instrument

Dimension	N	Item
Management Self-Efficacy	ESE1	I don't like to stick to conventions, I like to break through existing things.
	ESE2	I enjoy thinking from multiple perspectives and solving problems flexibly.
	ESE3	I often come up with new suggestions.
	ESE4	I am easy to accept new things.
	ESE5	I have strong creativity myself.
	ESE6	I am able to handle the challenges in new tasks with ease.
	ESE7	I am usually able to cope with stress and impulses with ease.
Risk tolerance		
Self-Efficacy	ESE8	I won't worry that the outcome of things won't be as expected.
	ESE9	I enjoy adventure.
Opportunity Recognition	ESE10	I always dislike dealing with problems in the existing way.
	ESE11	I am good at identifying niche markets.
	ESE12	I am good at analyzing the external environment to identify opportunities and potential problems.
	ESE13	I am able to identify the potential value of an idea.
	ESE14	I can accurately perceive the unmet needs of consumers.
Self-Efficacy	ESE15	I often take the initiative to communicate with others.
	ESE16	I can effectively persuade people with different opinions.
Relationship Processing		
Self-Efficacy	ESE17	I think collaborating with others is a very enjoyable thing.
	ESE18	When encountering obstacles in interacting with others, I have the confidence to solve them through my own efforts.

New Venture Growth Instrument

Ling (2015) found through research that corporate growth performance is an important evaluation indicator for measuring the degree of achievement of corporate

growth goals. A large number of scholars at home and abroad have explored the evaluation of corporate growth performance. Chandler & Hanks (1994) found that the growth performance of a company can be measured by its size growth, competitiveness, and performance growth. Wei & Xiao (2007) conducted empirical research on the Chinese market, indicating that corporate growth performance includes three dimensions: competitive performance, innovation performance, and financial performance. Due to the lack of products, funds, and markets, the financial performance of startups is often not significant enough, so the weight of competition and innovation performance dimensions should be higher than that of financial performance dimensions. This study draws inspiration from Wei & Xiao's (2007) research and measures the new venture growth from the perspectives of competitiveness and technological innovation ability. Table 3.5 displays the scale of new venture growth used in this study. The items were operationalized on a five-point scale anchored by 1 'strongly disagree' to 5 'strongly agree'.

Table 3.5 New venture growth instrument

N	Item
NVG1	Rapid growth of enterprise market share
NVG2	Fast growth rate of enterprise customers
NVG3	Rapid growth in corporate profitability
NVG4	Rapid growth of enterprise sales revenue
NVG5	Strong awareness of technological innovation in enterprises
NVG6	Excessive R&D personnel and funding investment in enterprises
NVG7	High success rate of enterprise technological innovation
NVG8	High sales of new products (services) for enterprises

Entrepreneurial Resilience Instrument

There are many scales used to measure resilience. These include the Connor–Davidson Resilience Scale (CD-RISC), the Connor–Davidson Resilience Scale 10 (CD-RISC 10), the Resilience Scale for Adults (RSA), and the Brief Resilience Scale (BRS). The CD-RISC and CD-RISC 10 scales are the most dominant scales in measuring

resilience because they have the best psychometric properties (Fatoki, 2018). The Connor–Davidson Resilience Scale (revised) ten-item scale was used to measure entrepreneurial resilience in current study. Table 3.6 displays the scale of entrepreneurial resilience used in this study. The items were operationalized on a five-point scale anchored by 1 ‘strongly disagree’ to 5 ‘strongly agree’.

Table 3.6 Entrepreneurial resilience instrument

N	Item
ER1	Able to adapt to change
ER2	Can deal with whatever comes my way
ER3	Tries to see humorous side of problems
ER4	Coping with stress can strengthen me
ER5	Tends to bounce back after illness or hardship
ER6	Can achieve goals despite obstacles
ER7	Can stay focused under pressure
ER8	Not easily discouraged by failure
ER9	Thinks of self as strong person
ER10	Can handle unpleasant feelings

Entrepreneurial Passion Instrument

In line with the conceptualization of entrepreneurial passion in this study, only the founding role identity of entrepreneurial passion was used to measure the passion construct. This is in line with the argument by Biraglia & Kadile (2017) who elucidated that when the focus is exclusively on individual who intend to start a business (but have not yet started), the founding role identity is the only entrepreneurial passion dimension that captures the desire to start a new venture. The 4-item scale developed by Cardon et al. (2013) was used to measure entrepreneurial passion. The entrepreneurial passion instrument is divided into three dimensions. Table 3.7 displays the scale of entrepreneurial passion used in this study. The items were operationalized on a five-point scale anchored by 1 ‘strongly disagree’ to 5 ‘strongly agree’.

Table 3.7 Entrepreneurial passion instrument

Dimension	N	Item
Innovation Passion	EP1	I am very excited to find unmet market demands and commercialize them.
	EP2	Finding new ideas related to products or services is very enjoyable for me.
	EP3	I have the motivation to find ways to improve existing products or services.
	EP4	I am very happy to find new opportunities in the market environment.
Creating Passion	EP5	Having my own business gives me the motivation to strive.
	EP6	Cultivating a new enterprise to succeed is very exciting.
	EP7	The founder of a business is an important part of my identity.
Development Passion	EP8	I am very interested in finding employees who can expand product production or service provision.
	EP9	It is very important to have employees who contribute to the development of the enterprise.
	EP10	Improving the quality of employees and myself to ensure the development of the enterprise effectively motivates me.
	EP11	Cultivating and developing a business is one of the important parts for me to demonstrate my identity.

The raw questionnaire design of this study is shown in appendix I.

3.7 Item-Objective Congruence (IOC) Analysis

To ensure the validity of the questionnaire by calculating the Item-Objective Congruence (IOC) index, the test was given to five experts to examine and rate each item so that the content met the objectives of the study. The IOC scoring table can be found in appendix II. The information of five experts can be found in the appendix III.

The IOC was calculated by assigning scores to three types of answers: congruent = 1, uncertain = 0, incongruent = -1. The index was computed using the item congruence index to measure the agreement among the experts. The item was considered valid if the results were at least 0.6 (Ismail & Zubairi, 2022). The item-objective congruence (IOC) index was calculated by the following formula:

$$IOC = \frac{\sum R}{N}$$

where $\sum R$ = sum of scores from the experts and N = number of experts.

The item IOC result of entrepreneurial self-efficacy scale is shown in table 3-8. According to table 3.8, all items should be retained.

Table 3.8 The item IOC result of entrepreneurial self-efficacy scale

Item	Expert A	Expert B	Expert C	Expert D	Expert E	IOC of item	Result
ESE1	-1	1	1	1	1	0.6	Retained
ESE2	0	1	1	1	1	0.8	Retained
ESE3	1	1	1	1	0	0.8	Retained
ESE4	1	-1	1	1	1	0.6	Retained
ESE5	1	1	1	1	1	1.0	Retained
ESE6	1	1	1	0	0	0.6	Retained
ESE7	1	0	0	1	1	0.6	Retained
ESE8	1	1	1	0	1	0.8	Retained
ESE9	1	1	0	1	1	0.8	Retained
ESE10	1	1	1	-1	1	0.6	Retained
ESE11	0	1	1	1	0	0.6	Retained
ESE12	1	0	1	1	1	0.8	Retained
ESE13	1	1	1	1	0	0.8	Retained
ESE14	1	-1	1	1	1	0.6	Retained
ESE15	0	1	1	1	1	0.8	Retained
ESE16	0	1	1	1	1	0.8	Retained
ESE17	1	1	1	1	1	1.0	Retained
ESE18	-1	1	1	1	1	0.6	Retained

The item IOC result of entrepreneurial resilience scale is shown in table 3-9. According to table 3.9, all items should be retained.

Table 3.9 The item IOC result of entrepreneurial resilience scale

Item	Expert A	Expert B	Expert C	Expert D	Expert E	IOC of item	Result
ER1	1	1	1	1	1	1.0	Retained
ER2	1	1	0	1	1	0.8	Retained
ER3	1	0	1	1	1	0.8	Retained
ER4	1	1	1	1	0	0.8	Retained
ER5	1	-1	1	1	1	0.6	Retained
ER6	0	1	1	1	1	0.8	Retained
ER7	0	1	1	1	1	0.8	Retained
ER8	1	1	1	1	1	1.0	Retained
ER9	1	1	1	1	1	1.0	Retained
ER10	1	1	1	1	1	1	Retained

The item IOC result of entrepreneurial passion scale is shown in table 3.10. According to table 3.10, all items should be retained.

Table 3.10 The item IOC result of entrepreneurial passion scale

Item	Expert A	Expert B	Expert C	Expert D	Expert E	IOC of item	Result
EP1	1	0	1	1	1	0.8	Retained
EP2	1	1	1	1	0	0.8	Retained
EP3	1	-1	1	1	1	0.6	Retained
EP4	0	1	1	1	1	0.8	Retained
EP5	0	1	1	1	1	0.8	Retained
EP6	1	1	1	1	0	0.8	Retained
EP7	1	-1	1	1	1	0.6	Retained
EP8	0	1	1	1	1	0.8	Retained
EP9	1	1	1	1	0	0.8	Retained
EP10	1	1	1	0	1	0.8	Retained
EP11	1	-1	1	1	1	0.6	Retained

The item IOC result of new venture growth scale is shown in table 3.11. According to table 3.11, all items should be retained.

Table 3.11 The item IOC result of new venture growth scale

Item	Expert A	Expert B	Expert C	Expert D	Expert E	IOC of item	Result
NVG1	1	1	1	1	1	1.0	Retained
NVG2	1	1	0	1	1	0.8	Retained
NVG3	1	0	1	1	1	0.8	Retained
NVG4	1	1	1	1	0	0.8	Retained
NVG5	0	1	1	1	1	0.8	Retained
NVG6	0	1	1	1	1	0.8	Retained
NVG7	0	1	1	1	1	0.8	Retained
NVG8	1	1	0	1	1	0.8	Retained

Based on the IOC result, no measurement items of the initial questionnaire designed in this study need to be deleted. Next, 30 respondents will be selected for the pilot survey.

3.8 Data Analysis

3.8.1 Reliability and Validity Analysis

This study plans to use a structural equation model to validate the hypotheses proposed in the paper. Before conducting structural model testing, it is customary to test the reliability and validity of the measurement model to ensure that the structural equation model has good practical significance. The testing of measurement models includes three parts: reliability, convergence validity, and discriminant validity. Reliability and validity are ways of demonstrating and communicating the rigor of research processes and the trustworthiness of research findings. If research is to be helpful, it should avoid misleading those who use it.

Reliability

Reliability describes how far a particular test, procedure, or tool, such as a questionnaire, will produce similar results in different circumstances, assuming nothing else has changed. Reliability refers to the stability and consistency of the results measured by a test or scale tool. The greater the reliability of a scale, the smaller its measurement standard error. Usually created by L.J. Cronbach α Coefficients are used to represent. The alpha coefficient between 0.70 and 0.80 indicates that the reliability is quite good; the alpha coefficient between 0.80 and 0.90 indicates very good reliability (Bruton et al., 2000). The Cronbach's alpha value when deleting the item indicates the internal consistency of the scale after deleting the item. α is the magnitude of the coefficient change value. Generally speaking, after deleting a certain question, the internal consistency of the scale α the coefficient will relatively decrease, and if it increases on the contrary, it indicates that the item is unreasonable.

Convergence Validity & Discriminant Validity

According to Ming (2010), the measurement model demonstrates good convergence efficiency when each measurement indicator has a factor load between 0.50 and 0.95, combined reliability exceeds 0.60, and the average variance extracted (AVE) is above 0.50. If the factor load of individual items is less than 0.50, it is necessary to delete the item and modify the measurement model. Fornell & Larcker (1981) also pointed out that the standard for the discriminant validity test is that the square of the correlation coefficient between two latent variables is less than the square root of the latent variable's AVE.

3.8.2 Structural Equation Model

Structural equation modeling is a statistical method that uses the covariance matrix of variables to analyze the relationships between variables. The structural equation model is a multivariate statistical analysis method used to test the hypothetical relationship between observation items and latent variables, as well as between latent variables. Joreskog et al. developed it from the confirmatory factor analysis model proposed by Bock and Bargmann. Researchers use structural equation modeling as a statistical method to test the rationality of theoretical models (Ullman & Bentler, 2012). This method is widely used in social disciplines such as psychology and management and

has the following advantages: (1) Overcoming the problem of traditional methods not being able to accurately handle latent variables. This method can simultaneously analyze the complex relationship between latent variables and observation items. Allowing measurement errors in independent and dependent variables improves overall measurement accuracy; the model can calculate the relationship between multiple dependent variables simultaneously. In the past, regression models could only explain one dependent variable at a time, while SEM could estimate multiple dependent variables simultaneously. Therefore, this study uses SEM as a method to test the relationship between commitments and outputs.

Measurement models in the structural equation model include the confirmatory factor analysis model, used to analyze the measurement of latent variables by items, and the causal relationship model of latent variables, used to analyze the relationship between latent variables. The five main steps of applying structural equation model analysis (Yuan & Bentler, 2006) are: (1) Model Specification, which proposes a theoretical model for research based on theoretical discussions and relevant research results. Variables are categorized as exogenous observational, exogenous latent, endogenous observational, and endogenous latent. Theoretical models set the interrelationships between external observation variables and external latent variables, between internal observation variables and internal latent variables, and between external latent variables and internal latent variables. (2) Through model identification, it can be determined whether the set research model has a unique solution for parameter estimation. Researchers commonly use model estimation, fitting the covariance matrix to obtain corresponding estimates of each parameter in the model, as the maximum likelihood estimation method for parameter estimation. (4) Model evaluation evaluates the degree of fitting of structural equation models based on multiple fitting indicators. (5) Model Modification: If the model fitting data is not good, model correction is required. In this step, researchers must modify the structural equation model based on the improvement prompts and revalidate it. Through the above five steps, it is possible to effectively validate the structural equation model for the set model.

Determination of Fitness of Structural Equation Model

The fitting index is usually used as an important basis for determining the fit of structural equation models. However, due to the large number of fitting indices, the academic community has not yet reached a consensus on which fitting indices should be used for judgment. This study mainly draws on the approach of Marsh et al. (2004) and selects the chi square degree of freedom ratio (χ^2/df), Comparative Fit Index (CFI), Non Normal Fit Index (NNFI), and Root Mean Square of Approximation Error (RMSEA) are used to determine the fitting validity of the structural equation model. The RMSEA value is an important absolute fitting indicator. A RMSEA value less than 0.08 indicates a good fit of the model, while a value less than 0.05 indicates a very good fit of the model. CFI and NNFI are the main relative fitting indicators, and their numerical judgment criteria should be above 0.90. Chi square degree of freedom ratio (χ^2/df) is the main simplified fitting index, and its value is generally required to be between 1 and 3. The more stringent requirement is that the value is less than 2, indicating that the fit between the assumed model and the data sample is acceptable.

3.8.3 Moderation Effect Analysis

This study uses SPSS 23.0 software to conduct hierarchical regression models to validate the moderating effects of hypotheses. Because the structural equation model is not yet perfect in terms of verifying regulatory effects, the regression model can perform analysis well, thus completing the research ideas of this study.

In the moderating effect test, it is necessary to artificially construct the interaction term between the independent variable and the moderating variable, i.e., the product of the independent variable and the moderating variable, and then construct a moderating regression model with the independent variable and the moderating variable. Before starting the moderating effect test, it is necessary to centralize the independent and moderating variables to eliminate multicollinearity.

3.9 Pilot Study

Before using questionnaire method, it is always advisable to conduct 'pilot study' (Pilot Survey) for testing the questionnaires. In a big enquiry the significance of pilot survey is felt very much. Pilot survey is in fact the replica and rehearsal of the main survey. Such a survey, being conducted by experts, brings to the light the weaknesses (if any) of the questionnaires and also of the survey techniques. From the experience gained

in this way, improvement can be affected (Kothari, 2004). To obtain high-quality outcomes, a good research study with relevant experimental design and accurate performance is required. Analyzing its feasibility prior to performing the main study (also known as the full study or large-scale main trial) can be very beneficial for this purpose. A pilot study is the first step of the entire research protocol and is often a smaller-sized study assisting in planning and modification of the main study (Arnold et al., 2009). A pilot study is performed reflecting all the procedures of the main study and validates the feasibility of the study by assessing the inclusion and exclusion criteria of the participants, preparation of the drugs and intervention, storage and testing of the instruments used for measurements in the study, as well as training of researchers and research assistants (Benger et al., 2016).

The primary purpose of pilot studies is not hypothesis testing and therefore sample size is often not calculated. Some studies recommend over 30 samples per group (Browne, 1995). An appropriate sample size needs to be determined, not for providing appropriate power for hypothesis testing, but to understand the feasibility of participant recruitment or study design. This study will hire 30 samples per group to carry out the pilot study.

Reliability Testing of the Pilot Study

The reliability test results of this pre survey are shown in Tables 3.8 below. From Tables 3.8, the ESE scale contains 18 measurement questions, and its Cronbach's Alpha coefficient is greater than 0.7, indicating that the ESE scale has good reliability results. Similarly, it can be concluded that the scales for the other three variables all have good reliability results. Values ranging from 0.517 to 0.864 were revealed through professional computation of the item-total correlation during this phase. These results exceed the 0.30 threshold and meet the pass criteria.

Table 3.12 Reliability testing results of the pilot study

Variable	Number of Items	Corrected Item-Total Correlation	Cronbach's Alpha
ESE	18	0.517-0.775	0.921
EP	11	0.578-0.726	0.850
NVG	8	0.758-0.864	0.955
ER	10	0.701-0.849	0.966

PART 2: Qualitative Phase

3.10 Qualitative Sampling

The qualitative objective of this current study is to dig deeper into the influence of entrepreneurial self-efficacy on new venture growth in China, by considering the impacts of entrepreneurial resistance and entrepreneurial passion.

In the quantitative analysis section, this study limited the target population to new startups in the lithium-ion battery industry. In order to maintain overall consistency, the qualitative analysis section also selected samples from new startups in the lithium-ion battery industry.

For the sake of targeting this objective, this current study followed Creswell's (2012) guidelines of employing homogeneous purposeful sampling. Creswell (2002) argues that homogeneous purposeful sampling is the most suitable for studies conducted on characteristically similar samples after marking their characteristics. In this current research, three main characteristics are sought, as shown in Table 3.9.

Table 3.13 Qualitative sampling

N	Name	Gender	Age	Position in the company
1	S1	Male	45-55	CEO
2	S2	Male	45-55	CEO
3	S3	Male	45-55	CEO
4	S4	Male	45-55	CEO
5	S5	Male	45-55	CEO
6	S6	Male	45-55	CEO
7	S7	Male	45-55	CEO
8	S8	Male	45-55	CEO

3.11 Interview Instrument

Researchers adopt the interview method as the qualitative research instrument. A qualitative interview is a type of framework in which practices and standards are not only recorded but also achieved, challenged, and reinforced (Oakley, 1998). The value of interviewing is not only because it builds a holistic snapshot, analyzes words, and reports detailed views of informants, but also because it enables interviewees to “speak in their own voice and express their own thoughts and feelings” (Berg, 2001). Moreover, interviewing, as well as other qualitative approaches to social science research, differs from quantitative methods in the sense of its ability to analyze the resulting data, making an allowance for participants' social lives. The questions in the interview guide comprise the core question and many associated questions related to the central question.

3.12 Interview Outline

The interview outline designed for this study includes five questions:

Q1: How do you think entrepreneurial self-efficacy affects new venture growth in China?

Q2: What role, in your opinion, does entrepreneurial resilience play in the relationship between entrepreneurial self-efficacy and new venture growth in China?

Q3: What role, in your opinion, does entrepreneurial passion play in the

relationship between entrepreneurial self-efficacy and entrepreneurial resilience?

Q4: What role, in your opinion, does entrepreneurial passion play in the relationship between entrepreneurial self-efficacy and new venture growth in China?

Q5: What role, in your opinion, does entrepreneurial passion play in the relationship between entrepreneurial resilience and new venture growth in China?

3.13 Ethical Aspects

A respondent should understand the general purpose of a survey. This criterion can often be satisfied by a simple explanation at the outset. Sometimes, the nature of the survey precludes this. Some suggest informing respondents that the survey's purpose will be revealed at the end of the questionnaire, but this may result in an unacceptably low response rate. How to make a respondent aware of their position when sensitive questions are asked is a related problem.

The respondent should be told how the data will be used and who will have access to it. This criterion is becoming increasingly difficult to implement with the establishment of survey archives. It is closely linked to the first criterion but has the added difficulty that not all possible uses of data can be seen at the outset. A rigid interpretation of this criterion would require that data be destroyed after the predetermined uses have been exhausted.

3.14 Summary

This chapter has started with an explanation of research design. After that, the research presented justifications for adopting a mixed-methods research approach. Thereafter, the chapter was segregated into phases (i.e., quantitative and qualitative phases). Firstly, the quantitative phase was explained, in which a whole section was designated to the process of definition of the target population, sampling method, sample size, data collection method, questionnaire instruments, quantitative data analysis, and pilot study. Thereafter, the second phase (i.e., the qualitative phase) started, consisting of qualitative sampling, an interview instrument, and an interview outline. Finally, we discussed the ethical issues related to mixed-methods research.

CHAPTER 4

RESEARCH RESULT

In order to explore the relationship between entrepreneurial self-efficacy and Chinese lithium battery new venture growth, this article adopts both quantitative and qualitative research methods. This chapter presents the results of quantitative and qualitative data analysis.

PART 1: Quantitative Part

In the quantitative analysis section, the abbreviations for variables are as follows:

ESE: Entrepreneurial self-efficacy

EP: Entrepreneurial passion

NVG: New venture growth

ER: Entrepreneurial resilience

4.1 Questionnaire Distribution and Collection

After pre research and testing, a formal questionnaire was distributed for this study. In August 2023, a total of 400 questionnaires were distributed in this study, with 16 invalid questionnaires excluded and 384 valid questionnaires remaining. The effective response rate of the questionnaire was 96%.

4.2 Profile of Respondents

The demographic characteristics of the sample in this questionnaire survey are shown in Table 4.1.

Table 4.1 Profile of respondents

Demographic	Category	Frequency	Percentage (%)
Gender	Male	213	55.5
	Female	171	44.5
Education Background	Below undergraduate	105	27.3
	Undergraduate	114	29.7
	Master	93	24.2
	Ph.D. or above	72	18.8
Marital Status	Single	98	25.5
	Living together or married	185	48.2
	Divorced	88	22.9
	Widowed	13	3.4
Age	Below 20	6	1.6
	20-30	43	11.2
	31-40	147	38.3
	41-50	128	33.3
	Above 50	60	15.6
Years of Establishment of The Firm	Less than one year	57	14.8
	1-3 years	191	49.7
	4-7 years	136	35.4
	No employee	8	2.1
Number of employees	1-4	9	2.3
	5-9	52	13.5
	10-49	176	45.8
	50-100	114	29.7
	More than 100	25	6.5
Total		384	100.0

4.3 Data Quality Analysis

4.3.1 Reliability Analysis

Reliability refers to the reliability or consistency of measurement results, and a higher reliability indicates that the measurement results are more consistent or stable. Consistency mainly refers to whether different items of the scale measure the same content and traits. The reliability in this paper mainly refers to whether a set of measurement items are measuring the same variable. This article uses the Cronbach's Alpha coefficient for reliability testing. When the Cronbach's Alpha coefficient is greater than 0.7, it indicates that the sample data has high reliability (Rittichainuwat et al., 2001) and can be used for subsequent analysis. This article uses SPSS 23.0 software to conduct reliability tests on the four variables included in the conceptual framework model (see Figure 1.1 in Chapter 1). The reliability test results are shown in the table below.

According to Table 4.2, the Cronbach's alpha and Composite reliability of the four variable scales meet the standards, indicating that the reliability of the scale in this article is good.

Table 4.2 Reliability test results

Variable	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
EP	0.896	0.897	0.914	0.492
ER	0.945	0.947	0.953	0.671
ESE	0.918	0.920	0.930	0.486
NVG	0.947	0.949	0.956	0.730

4.3.2 Validity analysis

The confirmatory factor analysis results of the variable data in this article are shown in Table 4.3. From Table 4.3, it can be seen that the standardized factor loading of all items of the four variables (EP, ER, ESE and NVG) is greater than 0.6 Therefore, it can be concluded that all four variable scales in this article have good convergent validity.

Table 4.3 Discriminant validity by using cross loading

Item	EP	ER	ESE	NVG	EP x ER	EP x ESE
EP1	0.718					
EP10	0.669					
EP11	0.687					
EP2	0.766					
EP3	0.727					
EP4	0.752					
EP5	0.715					
EP6	0.685					
EP7	0.710					
EP8	0.635					
EP9	0.637					
ER1		0.779				
ER10		0.845				
ER2		0.802				
ER3		0.759				
ER4		0.761				
ER5		0.802				
ER6		0.817				
ER7		0.881				
ER8		0.887				
ER9		0.847				
ESE1			0.701			
ESE10			0.680			
ESE15			0.681			
ESE16			0.659			
ESE17			0.717			
ESE18			0.701			
ESE2			0.668			
ESE3			0.727			
ESE4			0.755			
ESE5			0.726			

Table 4.3 Discriminant validity by using cross loading (Cont.)

Item	EP	ER	ESE	NVG	EP x ER	EP x ESE
ESE6			0.799			
ESE7			0.637			
ESE8			0.652			
ESE9			0.640			
NVG1				0.820		
NVG2				0.811		
NVG3				0.852		
NVG4				0.835		
NVG5				0.848		
NVG6				0.876		
NVG7				0.883		
NVG8				0.903		
EP x ESE					0.477	
EP x ER						0.477

Table 4.4 shows the discriminant validity results. From Table 4.4, it can be seen that the square root of AVE for each latent variable is greater than the absolute value of the correlation coefficient between latent variables, indicating that the all variable scales have good discriminative validity.

Table 4.4 Discriminant validity by using Fonnell-Lacker criteria

	EP	ER	ESE	NVG	EP x ER	EP x ESE
EP	0.701					
ER	0.620	0.819				
ESE	0.450	0.483	0.697			
NVG	0.645	0.517	0.619	0.854		
EP x ER	0.158	0.102	0.167	0.032	0.668	
EP x ESE	0.097	0.160	0.287	0.172	0.477	0.789

Note: The bold value in the upper right corner is the square root of AVE, and other values are the correlation coefficients between latent variables.

4.3.3 Collinearity Statistics Test

Multicollinearity can mainly be detected with the help of tolerance and its reciprocal, called variance inflation factor (VIF). Values of VIF exceeding 10 are often regarded as indicating multicollinearity (Senaviratna & Cooray, 2019). Based on the results of the multicollinearity test, the VIF values of items are below 10 and the tolerance values were above .10 as illustrated in Table 4.5. Based on this, the results signified that there were not multicollinearity problems in the data of this current study.

Table 4.5 Collinearity statistics (VIF)

Item	VIF
EP1	3.514
EP10	2.458
EP11	3.802
EP2	3.932
EP3	3.447
EP4	2.527
EP5	2.595
EP6	2.554
EP7	2.781
EP8	2.422
EP9	2.320
ER1	2.294
ER10	2.990
ER2	2.417
ER3	2.128
ER4	2.103
ER5	2.410
ER6	2.517
ER7	4.004
ER8	3.807
ER9	3.374

Table 4.5 Collinearity statistics (VIF) (Cont.)

Item	VIF
ESE1	3.339
ESE10	4.115
ESE15	2.985
ESE16	2.799
ESE17	3.209
ESE18	4.252
ESE2	3.574
ESE3	3.035
ESE4	4.967
ESE5	4.051
ESE6	7.696
ESE7	2.986
ESE8	2.826
ESE9	3.162
NVG1	2.466
NVG2	2.477
NVG3	3.174
NVG4	2.872
NVG5	3.021
NVG6	3.335
NVG7	3.572
NVG8	4.592
EP x ESE	1.000
EP x ER	1.000

4.4 Mediation and Moderation Effect Analysis

After a comprehensive analysis of the data presented in Table 4.6, it is evident that entrepreneurial self-efficacy positively influences entrepreneurial resilience ($b = 0.5307, p = 0.000$). This suggests that individuals with higher levels of self-efficacy tend to exhibit greater confidence, thereby enhancing their resilience in entrepreneurial endeavors. Additionally, the findings in Table 4.7 reveal a negative association between entrepreneurial resilience and new venture growth ($b = -0.5742, p = 0.0033$). Lower levels of entrepreneurial resilience hinder the growth of new ventures.

Table 4.6 Effect of entrepreneurial self-efficacy on entrepreneurial resilience

Variable	Coefficient	Standard error	t-value	p-value	LLCI	ULCI
ESE	0.5307	0.0500	10.6117	0.0000	0.4324	0.6291
R = 0.4771, R ² = 0.2277, MSE = 0.6211, F = 112.6081, df1 = 1.000, df2 = 382, p = 0.000						

Figure 4.1 illustrates the noteworthy impact of entrepreneurial passion on entrepreneurial resilience, underscoring how fervor and dedication to one's endeavors profoundly shape an entrepreneur's perseverance and adaptability. Despite the direct influence of entrepreneurial passion on entrepreneurial resilience, its pivotal role lies in cultivating a heightened sense of psychological flexibility to navigate evolving circumstances effectively.

Table 4.7 Effect of entrepreneurial self-efficacy and entrepreneurial resilience on new venture growth and entrepreneurial passion as moderator variable between entrepreneurial resilience and new venture growth

Variable	Coefficient	Standard error	t-value	p-value	LLCI	ULCI
ESE	0.5732	0.0565	10.1418	0.0000	0.4621	0.6843
ER	-0.5742	0.1943	-2.9554	0.0033	-0.9563	-0.1922
EP	-0.1508	0.1869	-0.8066	0.4204	-0.5184	0.2168
Int_1	0.1959	0.0543	3.6100	0.0003	0.0892	0.3026
R = 0.7232, R ² = 0.3523, MSE = 0.5828, F = 103.8750, df1 = 4.000, df2 = 3790, p = 0.000						
R ² _change = 0.0164						

Note: 1. Int_1 (Interaction 1): ER x EP
 2. LLCI: lower levels for confidence interval, ULCI: upper levels for confidence interval
 3. Dependent variable is NGV

The findings from Table 4.7 reveal a noteworthy relationship between entrepreneurial self-efficacy and new venture growth ($b = 0.5732$, $p = 0.0000$), underscoring the pivotal role of self-efficacy in directing entrepreneurial efforts towards fostering growth.

Regarding to the entrepreneurial passion demonstrated a statistically significant moderating role on the relationship between entrepreneurial resilience and venture growth (Int_1) ($b=0.1959$, $t= 3.6100$, $p= 0.0003$), when entrepreneurial passion intensifies, it serves as a catalyst for enhanced entrepreneurial resilience, consequently leading to a notable increase in new venture growth. The heightened level of passion among entrepreneurs contributes to their ability to navigate challenges, persist in the face of setbacks, and adapt proactively to changing circumstances. This, in turn, has a positive cascading effect on the growth trajectory of new ventures. Moreover, the infusion of passion injects a sense of purpose and determination into the entrepreneurial journey, motivating individuals to not only overcome obstacles but also to seek innovative solutions and seize emerging opportunities. The connection between entrepreneurial passion, resilience, and new venture growth underscores the dynamic interplay between the emotional commitment of entrepreneurs and the overall success and expansion of their ventures.

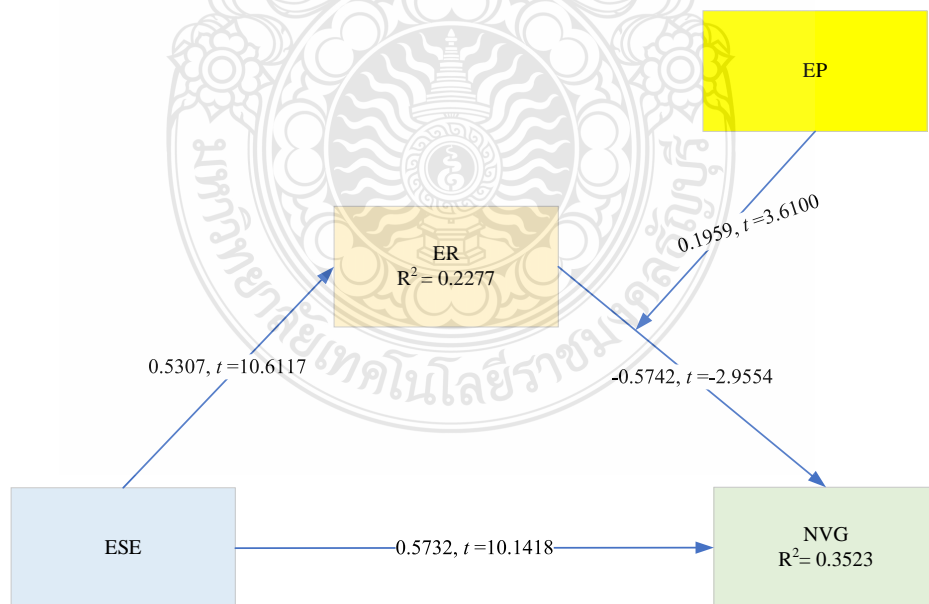


Figure 4.1 Moderating effects of entrepreneurial passion on entrepreneurial resilience, and new venture growth

After conducting an investigation into the conditional direct and indirect effects of entrepreneurial self-efficacy on the growth of new ventures, with entrepreneurial resilience serving as a mediator, the findings of the research indicate that entrepreneurial passion significantly moderates the relationship between entrepreneurial resilience and new venture growth at the 0.01 level. This analysis investigates the conditional effects of entrepreneurial resilience on the growth of new ventures, taking into consideration the moderating influence of entrepreneurial entrepreneurship. There are three different manifestations of this relationship that are described in Tables 4.8.

Entrepreneurial resilience partially mediates the relationship between entrepreneurial self-efficacy and new venture growth, with its effect being moderated by entrepreneurial passion. Entrepreneurial passion also moderates the effect of entrepreneurial resilience. To be more specific, even when there is a high level of passion for entrepreneurship, entrepreneurial self-efficacy continues to have a strong direct impact on the establishment of new organizations. Entrepreneurial self-efficacy amplifies the growth of new ventures when entrepreneurial passion is low or medium in value as shown in figure 4.2.

Being passionate about entrepreneurship does not, on its own, have a substantial impact on the expansion of new businesses. For this reason, it is absolutely necessary for entrepreneurs to establish a high level of entrepreneurial zeal in order to leverage the potential for growth offered by new ventures.

Table 4.8 Conditional effects entrepreneurial passion on entrepreneurial resilience and new venture growth

EP	Effect	BootSE	t-value	<i>p</i> -value	LLCI	ULCI
2.5100 (Low value)	-0.0825	0.0750	-1.0999	0.2721	-0.2300	0.0650
3.4500 (Medium value)	0.1017	0.0561	1.8124	.0707	-0.0086	0.2119
4.3600 (High value)	0.2799	0.0755	3,7067	0.0002	0.1314	0.4284

Entrepreneurs' confidence and belief in their ability to execute essential tasks, overcome challenges, and drive positive outcomes for their venture root the influence of entrepreneurial self-efficacy on new venture growth. The result shows underscore the foundational role of self-efficacy in entrepreneurial success. Entrepreneurs with high levels of self-efficacy tend to exhibit resilience, initiative, and a proactive approach to addressing business challenges, contributing to the overall growth of their ventures. However, the entrepreneurial landscape is multifaceted, and the presence of entrepreneurial passion introduces an additional layer of complexity to this relationship. Entrepreneurial passion, characterized by intense positive feelings and emotional attachment to the venture, serves as a moderator that can either enhance or diminish the impact of self-efficacy on new venture growth.

Entrepreneurial passion acts as a catalyst, amplifying the effects of self-efficacy. When entrepreneurs are deeply passionate about their work, their emotional commitment fuels a heightened dedication to realizing their venture goals. This passion translates self-efficacy beliefs into tangible actions, fostering a resilient mindset that enables entrepreneurs to persist in the face of adversity. Entrepreneur's passion goes beyond a simple additive effect; it synergistically interacts with self-efficacy, creating a dynamic relationship. Passionate entrepreneurs are more likely to leverage their self-efficacy in innovative problem-solving and strategic decision-making, thereby positively influencing the trajectory of new venture growth. Conversely, when entrepreneurial passion is lacking or moderate, self-efficacy may have a limited impact on new venture growth. The emotional drive and commitment that passion provides are integral to transforming self-efficacy into sustained effort and resilience. Without this moderating effect, self-efficacy alone may not fully realize its potential for driving entrepreneurial success.

In conclusion, understanding the interplay between entrepreneurial self-efficacy and passion is vital for comprehending the factors that contribute to new venture growth. Entrepreneurs should not only focus on enhancing their self-efficacy but also recognize the importance of cultivating and sustaining passion as a powerful moderator that can propel their ventures to greater heights.

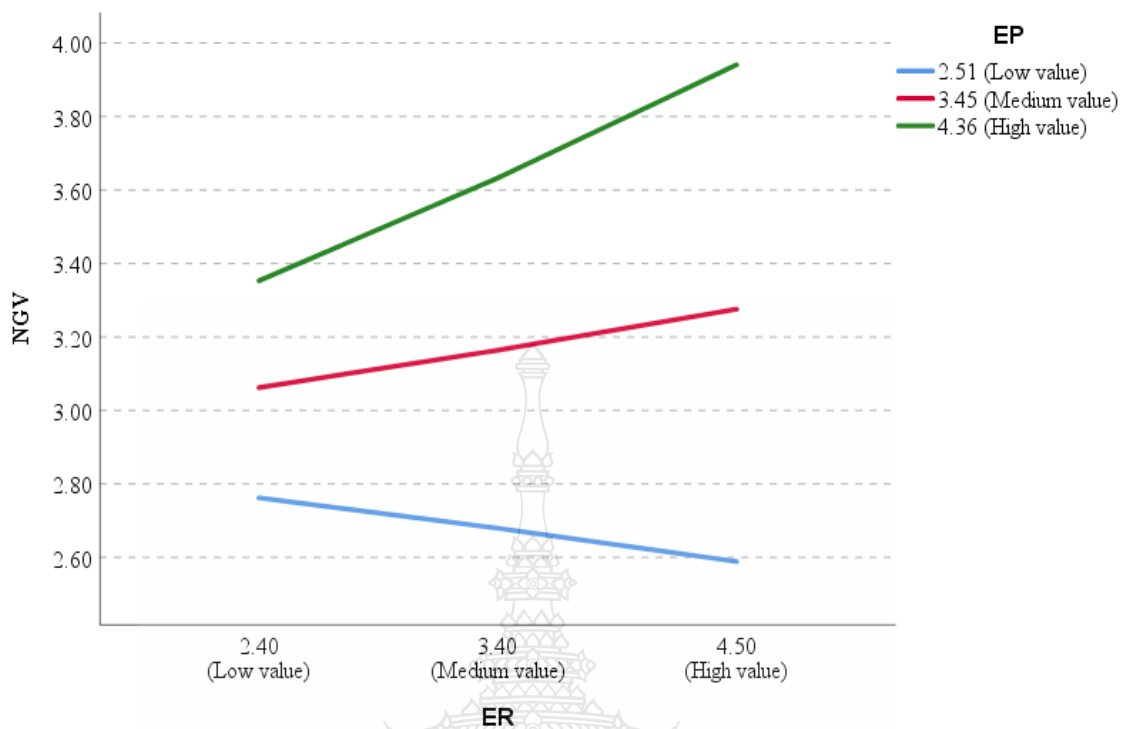


Figure 4.2 The lines present the relationship between entrepreneurial resilience and new venture growth for low, medium and high entrepreneurial passion

Moreover, Figure 4. 2 depicts distinctive slopes for the equation lines representing low, middle, and high levels of entrepreneurial passion in relation to new venture growth. The graphical representation underscores a noteworthy trend in the results. Entrepreneurs with high passion levels exhibit a significant moderation of entrepreneurial resilience, resulting in a steep slope for new venture growth, indicative of a substantial positive impact on venture growth. This aligns with the expectation that heightened passion enhances the positive influence of resilience on entrepreneurial success. Conversely, entrepreneurs with moderate passion levels display a moderated effect on entrepreneurial resilience, but the influence on new venture growth appears less pronounced compared to their high entrepreneurial passion counterparts. This nuanced finding suggests that while moderate passion contributes to the moderation of resilience, the subsequent impact on venture growth may not be as robust as observed in entrepreneurs with high passion. This nuance introduces a layer of complexity to the relationship, emphasizing the role of passion intensity in shaping the resilience-venture

growth dynamic. In contrast, entrepreneurs with low passion levels demonstrate a negative moderation of entrepreneurial resilience, leading to a negative slope in new venture growth. This intriguing result implies that low passion levels may impede the positive impact of resilience on venture growth, potentially resulting in adverse outcomes. This finding prompts further exploration into the specific mechanisms through which low passion may hinder the beneficial effects of resilience in the entrepreneurial context.

In summary, the divergent slopes in Figure 4.2 highlight the differentiated impact of passion levels on the moderation of resilience and subsequent effects on venture growth. This nuanced analysis contributes valuable insights to our understanding of how varying intensities of entrepreneurial passion shape the outcomes of resilience in the context of new venture development.

PART 2: Qualitative Part

4.5 Findings of Qualitative Data

4.5.1 Findings of the Influence of Entrepreneurial Self-Efficacy on Chinese Lithium Battery New Venture Growth

This section presents the findings related to the influence of entrepreneurial self-efficacy on Chinese lithium battery new venture growth. S1, S4 and S6 considered the role of entrepreneurial self-efficacy that they employed successfully in the past as the main cause of Chinese lithium battery new venture growth improvement.

“Entrepreneurship is a path full of thorns, and entrepreneurs need to possess strong psychological qualities. Among them, the most crucial core psychological quality is a person's belief in entrepreneurship, which is a firm belief and attitude towards overcoming various entrepreneurial difficulties and achieving entrepreneurial success. (S1, S4)”

“The growth of new startups is influenced by the psychological factors of the entrepreneurs themselves. Optimistic and confident entrepreneurs will be more actively involved in entrepreneurial activities, making positive entrepreneurial decisions, greatly promoting the growth of new startups' performance and promoting their growth. (S6)”

Lastly, S2, S3 and S8 indicated that self-efficacy played a crucial role in

improving their entrepreneurial achievements:

“Yea, when I have higher confidence in my entrepreneurial ability and success, due to my strong belief in achieving goals, I will enthusiastically accept challenging work and adopt innovative and efficient working methods to complete it. If I encounter difficulties during the process of completing my work, I will not easily retreat and will try various methods to solve them. I am also willing to bear the risks and consequences of possible failure. As a result, my company has achieved tremendous growth in the past few years. (S2, S3, S8)”

4.5.2 Findings of the Mediation Effect of Entrepreneurial Resilience between Entrepreneurial Self-Efficacy and Chinese Lithium Battery New Venture Growth.

The findings found that entrepreneurial self-efficacy indirectly affects Chinese lithium battery new venture growth through entrepreneurial resilience. S4, S6, S7 and S8 mentioned entrepreneurial self-efficacy positively affects entrepreneurial resilience, and entrepreneurial resilience positively affects Chinese lithium battery new venture growth.

“When I am particularly confident in my overall entrepreneurial ability, I have the courage to cope with various entrepreneurial challenges. Entrepreneurship resilience, as a protective mechanism when I encounter difficulties, is a protective factor in my entrepreneurial process. A high level of psychological resilience can help me minimize the impact of difficulties and recover from them as soon as possible. The biggest benefit of this is to promote the performance growth of my company and promote its overall growth potential. (S4, S6, S7 and S8)”

Some of the respondents (i.e., S1, S2 & S5) considered that the psychological resilience of entrepreneurs plays a bridging role between entrepreneurial self-efficacy and the growth of new startups.

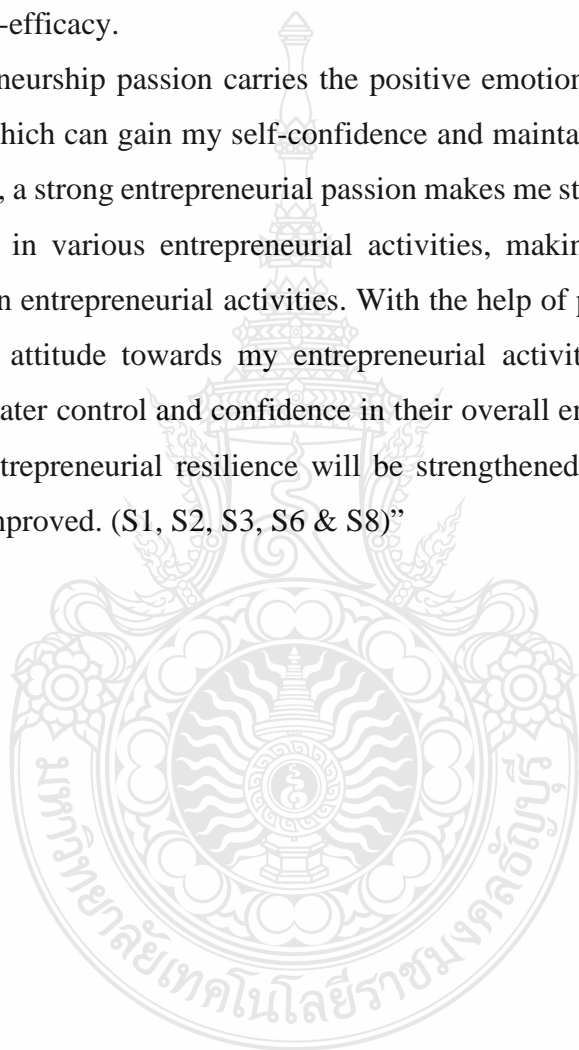
“Entrepreneurial resilience is considered a core element that explains how entrepreneurs overcome adversity, adapt to uncertainty, and learn from past failures. Self-efficacy has a significant predictive effect on entrepreneurial psychological resilience, which promotes new venture growth. (S1, S2 & S5)”

4.5.3 Findings of the Moderation Effect of Entrepreneurial Passion

This section presents the findings that entrepreneurial passion affects the strength of the relationship between variables of entrepreneurial self-efficacy, entrepreneurial resilience and new venture growth in China.

Respondents mentioned that entrepreneurial passion can improve entrepreneurial resilience and promote new venture growth in China by improving entrepreneurial self-efficacy.

“Entrepreneurship passion carries the positive emotional feedback experience of entrepreneurs, which can gain my self-confidence and maintain faith even in the face of setbacks. For me, a strong entrepreneurial passion makes me strongly aware of my role as an entrepreneur in various entrepreneurial activities, making it easier to generate positive emotions in entrepreneurial activities. With the help of positive emotions, I can hold an optimistic attitude towards my entrepreneurial activities, set entrepreneurial goals, and have greater control and confidence in their overall entrepreneurial activities. As a result, my entrepreneurial resilience will be strengthened and the growth of my company will be improved. (S1, S2, S3, S6 & S8)”



CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This dissertation investigates the relationship between self-efficacy of entrepreneurs and Chinese lithium-ion battery new venture growth and introduces the mediating variable entrepreneurial resilience and the moderating variable entrepreneurial passion. This dissertation summarizes the literature of previous scholars and deduces five hypotheses of this study at the theoretical level. In the empirical analysis section of this study, we firstly tested the internal consistency reliability, convergence validity, discriminant validity, and normality of 384 valid sample data collected through formal research. After verifying that the reliability and validity of the scale reached a high level, this study uses SPSS 23.0 and Macro Process 4.00 software to conduct hierarchical regression models to validate the moderating effects of hypotheses. Since the structural equation model is not yet perfect for verifying moderation effects, we used the regression model to effectively analyze and complete the research ideas of this study. In the moderating effect test, it is necessary to artificially construct the interaction term between the independent variable and the moderating variable, that is, the product of the independent variable and the moderating variable, and then construct a moderating regression model together with the independent variable and the moderating variable. To eliminate multicollinearity, it is necessary to centralize the independent and moderating variables before starting the moderating effect test.

The research findings indicate that entrepreneurial self-efficacy has a notably positive impact on the growth of Chinese lithium battery new ventures. Additionally, entrepreneurial resilience partially mediates the relationship between entrepreneurial self-efficacy and venture growth. Furthermore, entrepreneurship passion has a positive influence on the relationship between entrepreneurship resilience and the growth of Chinese lithium battery new ventures.

In the qualitative analysis, this dissertation uses the interview method to conduct face-to-face interviews. By answering the questions in the interview outline, it is found that the results of the qualitative analysis are consistent with the hypotheses put forward in this paper.

5.2 Discussion

5.2.1 The Entrepreneurial Self-Efficacy Directly Influences Chinese Lithium Battery New Venture Growth

The results of quantitative and qualitative analysis show that entrepreneurial self-efficacy has a significant positive influence on the new venture growth of Chinese lithium-ion battery enterprises, which is consistent with research hypothesis H1. In other words, the higher the sense of entrepreneurial self-efficacy, the better the growth potential of a new Chinese lithium-ion battery new venture. The research results are consistent with those of Lindsley et al. (1995) and Trevelyan (2011). They argued entrepreneurial self-efficacy could promote new venture growth.

Based on the fundamental principles of social cognitive theory, entrepreneurial self-efficacy can trigger specific task effects. Specifically, entrepreneurs have a high level of entrepreneurial self-efficacy, which means they have strong confidence in their ability to complete corresponding tasks in the entrepreneurial field (Lindsley et al., 1995), set challenging goals, and motivate themselves to invest more effort in entrepreneurial tasks, demonstrate more persistence and perseverance, and be able to recover faster from failures to achieve these goals (Trevelyan, 2011). Entrepreneurs' efforts will also manifest in the growth of the enterprise (Wood & Bandura, 1989), as entrepreneurial self-efficacy motivates them to translate their belief in achieving entrepreneurial success into actions, thereby boosting the enterprise's growth potential. Empirical research has also consistently found that there is a positive relationship between entrepreneurial self-efficacy and entrepreneurial willingness, entrepreneurial initiation, and the growth of new startups, which is the most significant factor affecting the sustainable development of enterprises (Miao et al., 2017). McGee and Peterson (2019) found that higher entrepreneurial self-efficacy among founders helps improve the performance of new startups, but this positive effect diminishes over time; Chen et al. (1998), based on social cognitive theory, pointed out that entrepreneurial self-efficacy of entrepreneurs has a significant positive effect on the performance improvement of technology-based small and micro enterprises with weaker resource endowments; Hallak et al. (2011) found that the positive impact of entrepreneurial self-efficacy on entrepreneurial performance needs to be conveyed through the important mechanism of entrepreneurial decision-making

logic; Liu et al. (2019) based on the resource-based theory, believe that farmers with high self-efficacy in entrepreneurship will take more measures to promote enterprise growth and improve entrepreneurial performance. Miao et al. (2017) also confirmed a positive relationship between entrepreneurial self-efficacy and corporate performance.

Entrepreneurs with high entrepreneurial self-efficacy often have a strong belief in their own risk control ability, believing that they already have or can have everything necessary to control entrepreneurial risks. In the process of risk control, they will not panic due to difficulties, can still focus on controlling risks, and maintain the efficiency of risk control in their thinking. Show perseverance and perseverance in the face of insurmountable obstacles, and choose effective means to effectively control entrepreneurial risks, thereby reducing risk losses for new startups and promoting their growth (Bandura, 2000); on the contrary, entrepreneurs with low self-efficacy tend to be self-directed in the process of entrepreneurial risk control (Bandura, 1988), focusing more on and exaggerating their own shortcomings, potential difficulties, failures, and adverse consequences, rather than effectively using their own abilities to achieve risk control goals, thereby hindering the achievement of risk control goals and hindering the growth of new startups.

For entrepreneurs of Chinese lithium-ion battery startups, in order to achieve predetermined results or goals in their operations, entrepreneurial self-efficacy will encourage them to show a proactive attitude when facing difficulties and obstacles, constantly mastering new knowledge and skills to improve their abilities, and solving the problems faced by startups with greater confidence (Naktiyok et al., 2010). Even if new startups are in a state of relatively scarce resources and weak market competition, entrepreneurial self-efficacy will enable young entrepreneurs to seek survival in the "cracks," seek development opportunities in uncertain environments, and, under strong internal motivation, strive to improve the performance of new startups as much as possible to help them gain an advantageous position in the fierce market competition and achieve rapid growth (McGee & Peterson, 2019).

5.2.2 The Entrepreneurial Resilience Plays a Mediation Influence between Entrepreneurial Self-Efficacy and Chinese Lithium Battery new Venture Growth

The results of quantitative and qualitative analysis show that entrepreneurial resilience plays a mediation role between entrepreneurial self-efficacy and new venture growth in Chinese lithium-ion battery enterprises, which is consistent with research hypothesis H2. The research results are consistent with those of Vizcaíno et al. (2021) and Timmons (1978). They argued entrepreneurial self-efficacy could promote new venture growth.

Self-efficacy is an overall state of confidence in an individual's own abilities. Individuals with higher levels of self-efficacy feel more confident in others and have more courage to deal with adversity. Psychological resilience, as a protective mechanism for individuals in the face of adversity, can prevent them from gaining more failure experiences. Research on self-efficacy and psychological resilience by Türk-Kurtça & Kocatürk (2020) found that self-efficacy can positively predict the level of psychological resilience. In their 2023 study, Mao et al. (2023) found a significant positive correlation between self-efficacy and the total score as well as various dimensions of psychological resilience, with self-efficacy playing a partial mediating role in understanding the relationship between social support and psychological resilience. Martínez-Martí & Ruch's (2017) study found that self-efficacy can positively predict the level of psychological resilience, and social support plays a partial mediating role in the relationship between self-efficacy and psychological resilience. Enhancing an individual's self-efficacy and social support can promote the development of individual psychological resilience.

Razmjoo & Ayoobian (2019) explored the interaction between employees' psychological resilience and self-efficacy, and the research results showed that self-efficacy has a significant predictive effect on employees' psychological resilience. High psychological resilience enables individuals to effectively handle and solve problems despite external force majeure factors, often correlating with the self-efficacy needed for success. Individuals with high psychological resilience are also individuals with high self-efficacy (Gu & Day, 2007). When an individual encounters obstacles and falls into a stalemate in the process of handling tasks, their belief in their own abilities becomes the driving force that motivates them to move forward and drives them to achieve their goals.

The findings of this study have revealed a surprising negative correlation between entrepreneurial resilience and new venture growth. Despite the common perception that resilience is a crucial trait for entrepreneurial success, our results indicate that high levels of resilience may, in fact, hinder the growth prospects of new ventures. One possible explanation for this unexpected finding is that overly resilient entrepreneurs may become entrenched in their strategies, persisting with suboptimal approaches despite changing market conditions. This lack of adaptability could prevent entrepreneurs from seizing new opportunities or adjusting their business models to better align with market demands (Bullough et al., 2014). Furthermore, resilient entrepreneurs may allocate resources inefficiently, investing time and effort into ventures or projects with limited growth potential rather than reallocating resources to more promising opportunities (Cucculelli & Bettinelli, 2015). Furthermore, environmental factors, such as regulatory challenges or industry disruptions, may interact with entrepreneurial resilience to impede venture growth, highlighting the complex interplay between individual traits and external circumstances (Chen et al., 1998).

These findings have significant implications for entrepreneurs, investors, and policymakers. Entrepreneurs should strive to strike a balance between resilience and adaptability, recognizing when to persevere and when to pivot in response to changing market dynamics. Investors may need to consider not only the resilience of entrepreneurs but also their ability to innovate and adapt to uncertainty when evaluating investment opportunities. Policymakers could design support programs and policies that encourage a more nuanced understanding of resilience, promoting strategies that foster both perseverance and adaptability among entrepreneurs (Stam & Elfring, 2008). Going forward, more research should be done to figure out what causes the negative relationship between entrepreneurial resilience and venture growth. This could include looking into how decisions are made, how resources are allocated, and how the environment affects the outcomes of entrepreneurs.

The above research conclusions further confirm that entrepreneurial self-efficacy has an indirect impact on new venture growth through entrepreneurial resilience, which plays a mediating role between entrepreneurial self-efficacy and new venture growth.

5.2.3 Entrepreneurial Resilience's Influence of Entrepreneurial Resilience on the Growth of Chinese Lithium Battery New Ventures Will Vary Depending on the Level of Entrepreneurial Passion

Entrepreneurial passion can influence the behavioral outcomes of entrepreneurs in a variety of ways. However, different categories of entrepreneurial passion may have different impact outcomes. Feng and Chen (2020) pointed that according to the internalization of passion activity in individual identity, passion is divided into harmonious passion and obsessive passion. For the harmonious passion is that individuals independently choose the activities they like which the most relationship to the entrepreneurial passion, generate positive emotions, and get a fuller experience. And obsessive passion refers to the negative emotions caused by the passive pressure of individuals when they participate in their favorite activities. The differences between the two are as follows. First, harmonious passion is more flexible and harmonious than obsessive passion and tends to produce more positive emotions. Second, harmonious passion is more effective than obsessive passion in making people stick to an activity (Zheng and Liu, 2020). When people find that they can benefit from the activity, they will stick to the activity.

The findings of this study demonstrate the impact of entrepreneurial passion on both entrepreneurial resilience and new venture growth, which is consistent with research hypothesis 3. Furthermore, the research identifies three distinct scenarios of entrepreneurial passion and reveals that high levels of passion in entrepreneurship correspond to heightened levels of entrepreneurial resilience and new venture growth. In addition, entrepreneurial passion also influences entrepreneurial behavior through certain intermediations, such as cognitive processes and intrinsic motivation. Studies have shown that emotions influence entrepreneurs' behavior by affecting cognitive processes. When entrepreneurs with high entrepreneurial passion are confronted with adverse market information, their sensitivity is reduced and they stick to their previous behavior (Feng and Chen, 2020).

Cardon and Kirk (2015) pointed out that entrepreneurial enthusiasm is an important contributing factor in the study of entrepreneurial resilience. If researchers do not consider passion or other emotions in entrepreneurial resilience research, they may

miss a full understanding of the driving factors of entrepreneurship and other important outcomes. When the entrepreneurial passion of entrepreneurs is high, they possess a strong positive emotion that stimulates their entrepreneurial motivation (Pradhan et al., 2017), making them passionate and able to overcome the inherent challenges of entrepreneurship and management and enhancing their entrepreneurial resilience (Ranfagni & Runfola, 2018). In a fiercely competitive market environment, high entrepreneurial passion makes entrepreneurs unwaveringly pursue challenging goals (Smilor, 1997), which are to improve the performance of new startups, enhance their competitiveness, and promote their continuous growth. A high entrepreneurial passion promotes the development of entrepreneurs' abilities, skills, and knowledge, thereby improving their innovation level (Martin & Schouten, 2014). The improvement of entrepreneurs' innovation makes them more likely to allocate their time and resources to their businesses, making new startups more likely to survive and have good profits and performance (Drnovsek et al., 2016). Entrepreneurial performance is an important indicator of corporate growth, and researchers have pointed out that entrepreneurial passion can have an impact on entrepreneurial performance, which is a process of resource transfer from low productivity to high productivity. Entrepreneurship passion is a means for entrepreneurs to achieve high performance and overcome obstacles to change (Ismail & Yunan, 2016). Fang & An (2017) proposed that entrepreneurial passion does indeed affect entrepreneurial performance. People with high entrepreneurial passion demonstrate a sense of responsibility, diligence, positivity, courage to face challenges, and strong leadership, which can create higher value for the enterprise and thereby improve its performance. Entrepreneurship passion enables entrepreneurs to persevere and be willing to invest more time and energy in their work, thereby promoting the growth of the enterprise (Murnieks et al., 2014).

5.3 Implications

5.3.1 Theoretical Implications

Firstly, entrepreneurs' personal characteristics and behavior are currently a hot topic of research. Therefore, this article explores the direct role of entrepreneurial self-efficacy in entrepreneurial behavior from the perspective of actions triggered by

entrepreneurial personal characteristics and introduces entrepreneurial resilience as an intermediary variable and entrepreneurial passion as a moderating variable. The three variables of entrepreneurial self-efficacy, entrepreneurial resilience, and entrepreneurial passion are systematically combined, considering comprehensively how the three factors affect individual entrepreneurial behavior and activities (the growth of new startups). This study provides a new perspective for entrepreneurs to engage in entrepreneurial behavior and activities, adding a pathway between entrepreneurial self-efficacy and behavior and enriching theoretical research on self-efficacy, entrepreneurial resilience, and entrepreneurial passion.

Secondly, there is a lack of literature on exploring the impact of personal traits on the growth of new startups. At present, there is relatively little research on the antecedents of the growth of new startups, and there is not much research on the impact of the self-efficacy of entrepreneurs as an independent variable on the post variable. Therefore, this study uses entrepreneurial self-efficacy as an explanatory variable and confirms through data analysis that entrepreneurial self-efficacy can significantly and positively affect the growth of new startups, which adds to the research on the theory of entrepreneurial self-efficacy.

Thirdly, this study gradually analyzed and validated the internal role of entrepreneurial resilience and entrepreneurial passion in the impact of entrepreneurial self-efficacy on the growth of new startups. There have been studies demonstrating the relationship between entrepreneurial self-efficacy and entrepreneurial resilience, as well as entrepreneurial passion and the growth of new startups, but they are rare. However, this article not only verifies the relationship between the two variables but also proposes and tests the mediating role of entrepreneurial resilience in the impact of entrepreneurial self-efficacy on the growth of new startups: the moderating effect of entrepreneurial passion among variables. This study deeply integrates the two independent theories of entrepreneurial passion and entrepreneurial resilience into the internal mechanisms of self-efficacy and entrepreneurial behavior, constructing a complete theoretical framework. This increases the impact of entrepreneurial self-efficacy on the growth of new startups, enriches relevant entrepreneurial theories, and provides inspiration for future research by scholars.

5.3.2 Practical Implications

Firstly, enhancing entrepreneurial self-efficacy is of great value to entrepreneurs of Chinese literacy in new ventures. Research has shown that a high sense of entrepreneurial self-efficacy can actively promote the growth of new startups. Entrepreneurs should actively learn and acquire corresponding entrepreneurial knowledge and skills and improve their decision-making ability for entrepreneurial activities. In a difficult entrepreneurial environment, it is necessary to have ideals and beliefs, as well as a resilient heart, firmly believing that one can break through the tight encirclement, handle things rationally, and be willing to face the challenges of emergency situations, increasing the probability of successful entrepreneurship. Entrepreneurs should fully utilize their imagination, innovation, and observation abilities in the process of doing things; actively participate in industry practice activities; exercise themselves; accumulate entrepreneurial practice experience; cultivate comprehensive abilities such as organization, management, and coordination; share entrepreneurial experience; inspire thinking; and enhance entrepreneurial trust.

At the same time, it is also important to note that the improvement of entrepreneurial self-efficacy by entrepreneurs is not only limited to the level of ideological awareness but also requires the majority of entrepreneurs to transform this confidence into ability and practice, including analysis of the market environment, identification of entrepreneurial opportunities, acquisition of entrepreneurial resources, utilization of network relationships, and other aspects ultimately reflected in the high-speed and high-quality development of new startups.

Secondly, enhancing one's entrepreneurial resilience is of great value to entrepreneurs of Chinese literacy in new ventures. Entrepreneurs should have the characteristic of "resistance to twists and turns." First and foremost, entrepreneurs' motivation and goals are very clear. Their self-positioning is not that of entrepreneurs, but rather that of successful entrepreneurs. When faced with high-intensity, difficult, and meticulous work tasks during the entrepreneurial process, they show high confidence. When they encounter bottlenecks, they usually attribute the cause to their own behavior and take timely and proactive remedial measures. Secondly, entrepreneurs exhibit a high tolerance for entrepreneurial risks. Faced with challenges such as a lack of venture capital

and market competition pressure, they are still able to make investment decisions despite huge risks and persist in finding ways for the enterprise's survival and growth. Most entrepreneurs succeed after two or even three startups but face failure. They demonstrate a problem-solving ability to ignore negative impacts and actively seek solutions. According to Gardner (2007), 'mind' is considered a meta category that represents a series of cognitive subskills necessary for entrepreneurial success and may provide a foundation for entrepreneurial education. Entrepreneurial resilience is not only a positive psychological trait of an individual but also a positive psychological state that can be developed and cultivated in the future.

In order to cultivate entrepreneurs' entrepreneurial resilience, entrepreneurs and aspiring entrepreneurs need to take the following three actions: (1) participate in business development training to establish a belief in their entrepreneurial ability; (2) find online activities, special lectures, and guidance opportunities to enhance the entrepreneurial resilience of entrepreneurs through "role models" learning; (3) actively engage in entrepreneurial activities, enhance practical business acumen, and seek feedback from those who are objective, critical, and inspiring. In the face of numerous uncertain events and crises, entrepreneurs should actively develop, cultivate, and enhance their psychological resilience. At the same time, the government and society should provide relevant entrepreneurial policies, measures, and atmosphere support so as to face difficulties and sail against the current and actively strive for success.

Thirdly, for entrepreneurs of Chinese literature on batty new ventures, enhancing their entrepreneurial passion is of great value. Entrepreneurs with entrepreneurial passion will have a high sense of opportunity identification, risk-taking, management, and relationship efficiency. They will be able to identify potential business opportunities in the industry, actively take on potential and known risks, form and manage their own entrepreneurial team, and actively obtain resources through the resource channels formed by their own life experiences to create and develop entrepreneurial opportunities. When the entrepreneurial passion of entrepreneurs directly affects their entrepreneurial behavior, they will discover and utilize entrepreneurial opportunities in a positive mood when their entrepreneurial passion directly affects their entrepreneurial behavior. When entrepreneurs are passionate about their work, their organization will

prosper, and once the entrepreneurial passion strengthens throughout the organization, it will quickly spread throughout the organization. Entrepreneurial passion can drive the behavior of entrepreneurs through the characteristics of entrepreneurs. By changing their cognition and strengthening their grasp of the objective environment, entrepreneurs can obtain more resources while maintaining focus, persistence, and continuous innovation, as well as find new growth points in the process of entrepreneurship.

5.4 Research Limitations

Despite achieving certain results in exploring and analyzing this study, some issues remain inadequately addressed with specific limitations. This study identifies the shortcomings in the discussion process and suggests topics for further exploration in depth in the future, aiming to inspire and assist scholars.

First, because entrepreneurial self-efficacy, entrepreneurial resilience, entrepreneurial passion, and the growth of new startups involve many dimensions, this study only explores them from a holistic perspective and does not consider whether the relationship between each dimension is consistent with the original results, resulting in a certain limitation. Future research should further refine how the various dimensions of entrepreneurial self-efficacy impact the growth of new startups through entrepreneurial resilience and passion.

Secondly, this article investigates the relationship between entrepreneurial self-efficacy, entrepreneurial resilience, entrepreneurial passion, and the growth of new startups and reveals the transmission mechanism between variables. Multiple scenarios may regulate this relationship differently depending on the situation. Under the influence of other variables, the original research path may be strengthened or weakened. In the future, other variables can be included in the research model.

Thirdly, this study only considers the positive effects of entrepreneurial self-efficacy and resilience on the growth of new startups; excessive entrepreneurial self-efficacy and resilience may negatively affect the growth potential of new startups. Future research needs to comprehensively explore this impact relationship.

List of Bibliography

- Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it. *Indian Journal of Medical Specialties*, *4*(2), 330-333.
- Arbaugh, J. B., Cox, L. W., & Camp, S. M. (2009). Is entrepreneurial orientation a global construct? A multi-country study of entrepreneurial orientation, growth strategy, and performance. *The Journal of Business Inquiry*, *8*(1), 12-25.
- Arnold, D. M., Burns, K. E., Adhikari, N. K., Kho, M. E., Meade, M. O., & Cook, D. J. (2009). The design and interpretation of pilot trials in clinical research in critical care. *Critical care medicine*, *37*(1), S69-S74.
- Arrighetti, A., & Ninni, A. (2009). *Firm size and growth opportunities: a survey* (No. 2009-EP05). Department of Economics, Parma University (Italy).
- Audretsch, D. B., Coad, A., & Segarra, A. (2014). Firm growth and innovation. *Small business economics*, *43*, 743-749.
- Audretsch, D., & Feldman, M. (2003). Small-firm strategic research partnerships: The case of biotechnology. *Technology analysis & strategic management*, *15*(2), 273-288.
- Austin, J. E. (2000). Strategic collaboration between nonprofits and businesses. *Nonprofit and voluntary sector quarterly*, *29*(1_suppl), 69-97.
- Awotoye, Y., & Singh, R. P. (2017). Entrepreneurial resilience, high impact challenges, and firm performance. *Journal of Management Policy and Practice*, *18*(2), 28-37.
- Ayala, J. C., & Manzano, G. (2014). The resilience of the entrepreneur. Influence on the success of the business. A longitudinal analysis. *Journal of economic psychology*, *42*, 126-135.
- Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative science quarterly*, *50*(3), 329-366.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, *84*(2), 191.

- Bandura, A. (1988). Self-regulation of motivation and action through goal systems. In *Cognitive perspectives on emotion and motivation* (pp. 37-61). Dordrecht: Springer Netherlands.
- Bandura, A. (2000). Self-efficacy: The foundation of agency. *Control of human behavior, mental processes, and consciousness: Essays in honor of the 60th birthday of August Flammer, 16*.
- BarNir, A., Watson, W. E., & Hutchins, H. M. (2011). Mediation and moderated mediation in the relationship among role models, self-efficacy, entrepreneurial career intention, and gender. *Journal of applied social psychology, 41*(2), 270-297.
- Baron, R. A. (2008). The role of affect in the entrepreneurial process. *Academy of management Review, 33*(2), 328-340.
- Baron, R. A., & Markman, G. D. (2000). Beyond social capital: How social skills can enhance entrepreneurs' success. *Academy of Management Perspectives, 14*(1), 106-116.
- Basu, A., & Virick, M. (2008). Assessing entrepreneurial intentions amongst students: A comparative study. In *VentureWell. Proceedings of Open, the Annual Conference* (p. 79). National Collegiate Inventors & Innovators Alliance.
- Batjargal, B. (2003). Social capital and entrepreneurial performance in Russia: A longitudinal study. *Organization studies, 24*(4), 535-556.
- Batjargal, B. A. T., Hitt, M. A., Tsui, A. S., Arregle, J. L., Webb, J. W., & Miller, T. L. (2013). Institutional polycentrism, entrepreneurs' social networks, and new venture growth. *Academy of Management Journal, 56*(4), 1024-1049.
- Baum, J. R., Locke, E. A., & Smith, K. G. (2001). A multidimensional model of venture growth. *Academy of management journal, 44*(2), 292-303.
- Bell, E., & Bryman, A. (2007). The ethics of management research: an exploratory content analysis. *British journal of management, 18*(1), 63-77.
- Ben, G.Y., & Fei, J.Y. (2008). Self-efficacy theory and its application. Shanghai: Shanghai Education Press.

- Benger, J., Coates, D., Davies, S., Greenwood, R., Nolan, J., Rhys, M., ... & Voss, S. (2016). Randomised comparison of the effectiveness of the laryngeal mask airway supreme, i-gel and current practice in the initial airway management of out of hospital cardiac arrest: a feasibility study. *BJA: British Journal of Anaesthesia*, *116*(2), 262-268.
- Berg, B. L. (2001). *Qualitative research methods for the social sciences*. Allyn & Bacon.
- Biao, S.A., Shuang, Y.H., & Xi, L.F. (2018). Entrepreneurship Passion, Cognitive Bias, and the Speed of Technology Commercialization Scientific Research, *36*(10), 1809-1816.
- Bierly III, P. E., Kessler, E. H., & Christensen, E. W. (2000). Organizational learning, knowledge and wisdom. *Journal of organizational change management*, *13*(6), 595-618.
- Biraglia, A., & Kadile, V. (2017). The role of entrepreneurial passion and creativity in developing entrepreneurial intentions: Insights from American homebrewers. *Journal of small business management*, *55*(1), 170-188.
- Birley, S., Moss, C., & Saunders, P. (1987). Do women entrepreneurs require different training?. *American Journal of Small Business*, *12*(1), 27-36.
- Bocken, N. M. (2015). Sustainable venture capital–catalyst for sustainable start-up success?. *Journal of cleaner production*, *108*, 647-658.
- Boyd, N. G., & Vozikis, G. S. (1994). The influence of self-efficacy on the development of entrepreneurial intentions and actions. *Entrepreneurship theory and practice*, *18*(4), 63-77.
- Brandstätter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and individual differences*, *51*(3), 222-230.
- Branicki, L. J., Sullivan-Taylor, B., & Livschitz, S. R. (2017). How entrepreneurial resilience generates resilient SMEs. *International Journal of Entrepreneurial Behavior & Research*, *24*(7), 1244-1263.
- Bridgmon, K. D., & Martin, W. E. (2012). *Quantitative and statistical research methods: From hypothesis to results*. John Wiley & Sons.

- Browne, R. H. (1995). On the use of a pilot sample for sample size determination. *Statistics in medicine*, *14*(17), 1933-1940.
- Browner, W. S., Newman, T. B., Cummings, S. R., & Hulley, S. B. (1988). Getting ready to estimate sample size: hypotheses and underlying principles. *Designing clinical research*, *2*, 51-63.
- Brush, C. G., Greene, P. G., & Hart, M. M. (2001). From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. *Academy of Management Perspectives*, *15*(1), 64-78.
- Bruton, A., Conway, J. H., & Holgate, S. T. (2000). Reliability: what is it, and how is it measured?. *Physiotherapy*, *86*(2), 94-99.
- Buang, N. A. (2012). Entrepreneurs' resilience measurement. *Edited by Thierry Burger-Helmchen*, 317.
- Bullough, A., & Renko, M. (2013). Entrepreneurial resilience during challenging times. *Business Horizons*, *56*(3), 343-350.
- Bullough, A., Renko, M., & Myatt, T. (2014). Danger zone entrepreneurs: The importance of resilience and self-efficacy for entrepreneurial intentions. *Entrepreneurship Theory and Practice*, *38*(3), 473-499.
- Bulmash, B. (2016). Entrepreneurial resilience: Locus of control and well-being of entrepreneurs. *Journal of Entrepreneurship & Organization Management*, *5*(1), 171-177.
- Stam, E., & Elfring, T. (2008). Entrepreneurial orientation and new venture performance: The moderating role of intra-and extraindustry social capital. *Academy of Management Journal*, *51*(1), 97-111.
- Cadena-Iñiguez, P., Rendón-Medel, R., Aguilar-Ávila, J., Salinas-Cruz, E., Cruz-Morales, F. D. R. D. L., & Sangerman-Jarquín, D. M. (2017). Quantitative methods, qualitative methods or combination of research: an approach in the social sciences. *Revista mexicana de ciencias agrícolas*, *8*(7), 1603-1617.
- Calero, J. L. (2000). Investigación cualitativa y cuantitativa. Problemas no resueltos en los debates actuales. *Rev. Cubana Endocrinol*, *11*(3), 192-8.

- Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the Connor-Davidson Resilience Scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *20*(6), 1019-1028.
- Cardon, M. S., & Kirk, C. P. (2015). Entrepreneurial passion as mediator of the self-efficacy to persistence relationship. *Entrepreneurship theory and practice*, *39*(5), 1027-1050.
- Cardon, M. S., Foo, M. D., Shepherd, D., & Wiklund, J. (2012). Exploring the heart: Entrepreneurial emotion is a hot topic. *Entrepreneurship theory and practice*, *36*(1), 1-10.
- Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M. (2009). The nature and experience of entrepreneurial passion. *Academy of Management Review*, *34*(3), 511-532.
- Catalano, L. I., & Fredrickson, B. L. (2011). A Tuesday in the life of a flourisher: the role of positive emotional reactivity in optimal mental health. *Emotion*, *11*(4), 938.
- Chandler, A. D. (1992). Organizational capabilities and the economic history of the industrial enterprise. *Journal of Economic Perspectives*, *6*(3), 79-100.
- Chandler, G. N., & Hanks, S. H. (1994). Founder competence, the environment, and venture performance. *Entrepreneurship theory and practice*, *18*(3), 77-89.
- Chang, R. (2001). Turning into organizational performance. *T+ D*, *55*(5).
- Chen, C. C., Greene, P. G., & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers?. *Journal of Business Venturing*, *13*(4), 295-316.
- Chen, C. N., Tzeng, L. C., Ou, W. M., & Chang, K. T. (2007). The relationship among social capital, entrepreneurial orientation, organizational resources and entrepreneurial performance for new ventures. *Contemporary Management Research*, *3*(3).
- Chen, X. P., Liu, D., & He, W. (2015). Does passion fuel entrepreneurship and job creativity? A review and preview of passion research. *The Oxford handbook of creativity, innovation and entrepreneurship*, 159-175.

- Chun, W. Y., & Zhuo, T. (2016). Government Talent Policy, Talent Demand, and Growth Performance of Startups: An Empirical Study Based on Rooted Theory. *Science and Technology Progress and Countermeasures*, *33*(24), 99-103.
- Chn, L. I. S., & Iro, L. (2013). Data collection techniques a guide for researchers in humanities and education. *International Research Journal of Computer Science and Information Systems (IRJCSIS)*, *2*(3), 40-44.
- Coase, R. H. (1974). The market for goods and the market for ideas. *The American Economic Review*, *64*(2), 384-391.
- Coates, E. E., Phares, V., & Dedrick, R. F. (2013). Psychometric properties of the Connor-Davidson Resilience Scale 10 among low-income, African American men. *Psychological assessment*, *25*(4), 1349.
- Cohn, M. A., Fredrickson, B. L., Brown, S. L., Mikels, J. A., & Conway, A. M. (2009). Happiness unpacked: positive emotions increase life satisfaction by building resilience. *Emotion*, *9*(3), 361.
- Combs, J. G., & Ketchen, Jr, D. J. (1999). Explaining interfirm cooperation and performance: toward a reconciliation of predictions from the resource-based view and organizational economics. *Strategic management journal*, *20*(9), 867-888.
- Creswell, J. W. (2002). *Educational research: Planning, conducting, and evaluating quantitative*. Upper Saddle River, NJ: Prentice Hall.
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.
- Cucculelli, M., & Bettinelli, C. (2015). The impact of entrepreneurial and market orientations on firm performance: *The mediating role of innovation*. *International Small Business Journal*, *33*(8), 893-919.
- Dahl, M. S., & Reichstein, T. (2007). Are you experienced? Prior experience and the survival of new organizations. *Industry and Innovation*, *14*(5), 497-511.
- Daou, I., Tuttle, A. H., Longo, G., Wieskopf, J. S., Bonin, R. P., Ase, A. R., ... & Séguéla, P. (2013). Remote optogenetic activation and sensitization of pain pathways in freely moving mice. *Journal of Neuroscience*, *33*(47), 18631-18640.

- Davidsson, P. (1989). Entrepreneurship and after? A study of growth willingness in small firms. *Journal of business venturing*, *4*(3), 211-226.
- Dawson, B., & Trapp, R. G. (2001). Probability & related topics for making inferences about data. Basic & Clinical Biostatistics. *Lange medical Books/McGraw-Hill Medical Publishing Division*, *69*, 72.
- De Vries, H. E. R. B., & Shields, M. I. C. H. E. L. L. E. (2006). Towards a theory of entrepreneurial resilience: A case study analysis of New Zealand SME owner operators. *New Zealand Journal of Applied Business Research*, *5*(1), 33-43.
- Delmar, F., Davidsson, P., & Gartner, W. B. (2003). Arriving at the high-growth firm. *Journal of business venturing*, *18*(2), 189-216.
- Denz-Penhey, H., & Murdoch, C. (2008). Personal resiliency: Serious diagnosis and prognosis with unexpected quality outcomes. *Qualitative Health Research*, *18*(3), 391-404.
- Díaz-García, M. C., & Jiménez-Moreno, J. (2010). Entrepreneurial intention: the role of gender. *International entrepreneurship and management journal*, *6*, 261-283.
- Donnellon, A., Ollila, S., & Middleton, K. W. (2014). Constructing entrepreneurial identity in entrepreneurship education. *The International Journal of Management Education*, *12*(3), 490-499.
- Draper, A. K. (2004). Workshop on 'developing qualitative research method skills: analysing and applying your results'. The principles and application of qualitative research. *Proceedings of the Nutrition Society*, *63*, 641-646.
- Drnovsek, M., Cardon, M. S., & Patel, P. C. (2016). Direct and indirect effects of passion on growing technology ventures. *Strategic Entrepreneurship Journal*, *10*(2), 194-213.
- Drnovšek, M., Wincent, J., & Cardon, M. S. (2010). Entrepreneurial self-efficacy and business start-up: developing a multi-dimensional definition. *International journal of entrepreneurial behavior & research*, *16*(4), 329-348.
- Drucker, P. F. (1999). Knowledge-worker productivity: The biggest challenge. *California management review*, *41*(2), 79-94.
- Drucker, P. F. (2002). The discipline of innovation. *Harvard business review*, *80*(8), 95-102.

- Duchek, S. (2018). Entrepreneurial resilience: a biographical analysis of successful entrepreneurs. *International Entrepreneurship and Management Journal*, *14*(2), 429-455.
- Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they?. *Strategic management journal*, *21*(10-11), 1105-1121.
- Elnadi, M., & Gheith, M. H. (2021). Entrepreneurial ecosystem, entrepreneurial self-efficacy, and entrepreneurial intention in higher education: Evidence from Saudi Arabia. *The International Journal of Management Education*, *19*(1), 100458.
- Fang, X., & An, L. (2017). A study of effects of entrepreneurial passion and risk appetite on entrepreneurial performance. *Revista de Cercetare si Interventie Sociala*, *56*, 102-113.
- Fatoki, O. (2018). The impact of entrepreneurial resilience on the success of small and medium enterprises in South Africa. *Sustainability*, *10*(7), 2527.
- Ferreira, J. J., Raposo, M. L., Rodrigues, R. G., Dinis, A., & Do Paco, A. (2012). A model of entrepreneurial intention: An application of the psychological and behavioral approaches. *Journal of small business and enterprise development*, *19*(3), 424-440.
- Feng, B., & Chen, M. (2020). The impact of entrepreneurial passion on psychology and behavior of entrepreneurs. *Frontiers in Psychology*, *11*, 1733.
- Fisher, R., Maritz, A., & Lobo, A. (2016). Does individual resilience influence entrepreneurial success. *Academy of Entrepreneurship Journal*, *22*(2), 39-53.
- Flanagan, T. (2013). The scientific method and why it matters. *C2C Journal*, *7*(1), 4-6.
- Forbes, D. P. (2005). Are some entrepreneurs more overconfident than others?. *Journal of business venturing*, *20*(5), 623-640.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, *18*(1), 39-50.
- Fotopoulos, G., & Giotopoulos, I. (2010). Gibrat's law and persistence of growth in Greek manufacturing. *Small business economics*, *35*, 191-202.

- Fredrickson, B. L. (1998). What good are positive emotions?. *Review of general psychology*, 2(3), 300-319.
- Fredrickson, B. L., & Branigan, C. (2005). Positive emotions broaden the scope of attention and thought-action repertoires. *Cognition & emotion*, 19(3), 313-332.
- Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological science*, 13(2), 172-175.
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crisis? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of personality and social psychology*, 84(2), 365.
- Friedman, H. H., & Lewis, B. (2014). A new kind of CEO for the global information age. *Friedman, HH and Lewis, Barbara Jo (2014). A New Kind of CEO for the Global Information Age. Business Quest, October, Online.*
- Fu, Z.Q., Si, H.Y., & Yun, C. (2021). The Impact of Entrepreneurship Resilience on Recreational Desire: The Role of Dual Learning and Counterfactual Thinking. *Science Research*, 5, 1-16.
- Galatzer-Levy, I. R., Brown, A. D., Henn-Haase, C., Metzler, T. J., Neylan, T. C., & Marmar, C. R. (2013). Positive and negative emotion prospectively predict trajectories of resilience and distress among high-exposure police officers. *Emotion*, 13(3), 545.
- Geroski, P. A., Machin, S. J., & Walters, C. F. (1997). Corporate growth and profitability. *The Journal of Industrial Economics*, 45(2), 171-189.
- Gibrat, R. (1931). *Les inégalités économiques*. Sirey.
- Gilder, G. (2013). *Knowledge and power: The information theory of capitalism and how it is revolutionizing our world*. Regnery Publishing.
- Giotopoulos, I., & Fotopoulos, G. (2010). Intra-industry growth dynamics in the Greek services sector: firm-level estimates for ICT-producing, ICT-using, and non-ICT industries. *Review of Industrial Organization*, 36, 59-74.
- Gist, M. E. (1987). Self-efficacy: Implications for organizational behavior and human resource management. *Academy of management review*, 12(3), 472-485.

- Glas, M., & Drnovsek, M. (2017). Small business in Slovenia: expectations and accomplishments. In *Small Firms and Economic Development in Developed and Transition Economies: A Reader* (pp. 131-151). Routledge.
- Grimaldi, M., Quinto, I., & Rippa, P. (2013). Enabling open innovation in small and medium enterprises: A dynamic capabilities approach. *Knowledge and Process Management, 20*(4), 199-210.
- Gu, Q., & Day, C. (2007). Teachers resilience: A necessary condition for effectiveness. *Teaching and Teacher education, 23*(8), 1302-1316.
- Guang, D.J., Yong, Z., & Xiao, T.W. (2004). Real option pricing analysis of the value of emerging technology startups. *Systems Engineering, 2*, 74-81.
- Gui, S.Y. (2022). Operation status of the national lithium-ion battery industry in 2022. *Fine and Professional Chemicals, 31*(4), 32.
- Guo, Z.P., & Xian, W.J. (2014). A Study on the Mechanism of the Effect of Soft Environment on the Growth of Technological Small and Micro Enterprises: A Case Study of Chongqing Microenterprise Incubation Base. *Science and Technology Progress and Countermeasures, 9*, 106-110.
- Hai, Xl., & Fang, W.H. (2004). Enterprise Growth, Development, and Sustainable Development. *Journal of Zhongnan University of Economics and Law, 4*, 46-50.
- Hai, Z.Q. (2011). An Analysis of Psychological Resilience and Related Factors of Rural Left Behind Students. *China School Health, 32*(05), 613-614.
- Hallak, R., Assaker, G., & O'Connor, P. (2014). Are family and nonfamily tourism businesses different? An examination of the entrepreneurial self-efficacy–entrepreneurial performance relationship. *Journal of Hospitality & Tourism Research, 38*(3), 388-413.
- Hallak, R., Assaker, G., O'Connor, P., & Lee, C. (2018). Firm performance in the upscale restaurant sector: The effects of resilience, creative self-efficacy, innovation and industry experience. *Journal of Retailing and Consumer Services, 40*, 229-240.

- Hallak, R., Lindsay, N. J., & Brown, G. (2011). Examining the role of entrepreneurial experience and entrepreneurial self-efficacy on SMTE performance. *Tourism Analysis, 16*(5), 583-599.
- Hambrick, D. C., & Mason, P. A. (1982, August). The Organization as a Reflection of Its Top Managers. In *Academy of Management Proceedings* (Vol. 1982, No. 1, pp. 12-16). Briarcliff Manor, NY 10510: Academy of Management.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review, 9*(2), 193-206.
- Hayton, J. C., & Cholakova, M. (2012). The role of affect in the creation and intentional pursuit of entrepreneurial ideas. *Entrepreneurship theory and practice, 36*(1), 41-67.
- Hegde, S. P., & Mishra, D. R. (2019). Married CEOs and corporate social responsibility. *Journal of Corporate Finance, 58*, 226-246.
- Helfat, C. E., & Lieberman, M. B. (2002). The birth of capabilities: market entry and the importance of pre-history. *Industrial and corporate change, 11*(4), 725-760.
- Hmieleski, K. M., & Baron, R. A. (2008). Regulatory focus and new venture performance: A study of entrepreneurial opportunity exploitation under conditions of risk versus uncertainty. *Strategic Entrepreneurship Journal, 2*(4), 285-299.
- Ho, V. T., & Pollack, J. M. (2014). Passion isn't always a good thing: Examining entrepreneurs' network centrality and financial performance with a dualistic model of passion. *Journal of Management Studies, 51*(3), 433-459.
- Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of general psychology, 6*(4), 307-324.
- Holcomb, T. R., Ireland, R. D., Holmes Jr, R. M., & Hitt, M. A. (2009). Architecture of entrepreneurial learning: Exploring the link among heuristics, knowledge, and action. *Entrepreneurship theory and practice, 33*(1), 167-192.
- Holienka, M., Jančovičová, Z., & Kovačičová, Z. (2016). Drivers of women entrepreneurship in Visegrad countries: GEM evidence. *Procedia-Social and Behavioral Sciences, 220*, 124-133.

- Hong, L.G., & Jie, Z. (2015). Organizational Reputation and Enterprise Growth: The Mediation of Innovation Legitimacy. *Science and Technology Progress and Countermeasures*, *10*, 84-87.
- Ismail, A., & Yunan, Y. M. (2016). Service quality as a predictor of customer satisfaction and customer loyalty. *LogForum*, *12*(4), 269-283.
- Ismail, F. K. M., & Zubairi, A. M. B. (2022). Item Objective Congruence Analysis for Multidimensional Items: Content Validation of a Reading Test in Sri Lankan University. *English Language Teaching*, *15*(1), 106-117.
- Ji, J.H. (2006). A Study on Knowledge Transmission, Dynamic Capability, and the Growth of Latecomer Enterprises: A Case Study of ZTE Communications. *Research Management*, *1*, 100-106.
- Jian, G. (2007). China's Entrepreneurship Activity Becomes More Active: An Analysis from the 2006 Global Entrepreneurship Watch (GEM) China Report. *China Science and Technology Investment*, *9*, 66-67.
- Jian, Y.K., Xin, W.H., & Jia, L.X. (2006). Analysis of the Effect of Policy Design and Implementation on the Growth of High-tech Enterprises on Policy Effectiveness. *China Soft Science*, *11*, 184-192.
- Jian, Y.Z. (2006). *Research on entrepreneurial efficacy and its impact on entrepreneurial performance*. Hangzhou: Zhejiang University.
- Jing, Z., Ming, W.Y., Yue, F., & Jia, Z.L. (2022). Characteristics and interventions of general self-efficacy and psychological resilience among junior high school students: the mediating role of social support. *Journal of Educational Biology*, *10*(1), 32-39.
- Jones, R., & Rowley, J. (2011). Entrepreneurial marketing in small businesses: A conceptual exploration. *International small business journal*, *29*(1), 25-36.
- Jun, Y.P., Lu, T.Y., & Xiao, Y.Y. (2013). Entrepreneurship Network, Entrepreneurship Learning, and Startup Growth. *Management Review*, *1*, 24-33.
- Jung, D. I., Ehrlich, S. B., De Noble, A. F., & Baik, K. B. (2001). Entrepreneurial self-efficacy and its relationship to entrepreneurial action: A comparative study between the US and Korea. *Management International*, *6*(1), 41.

- Karimi, S. (2020). The role of entrepreneurial passion in the formation of students' entrepreneurial intentions. *Applied Economics*, *52*(3), 331-344.
- Koryak, O., Mole, K. F., Lockett, A., Hayton, J. C., Ucbasaran, D., & Hodgkinson, G. P. (2015). Entrepreneurial leadership, capabilities and firm growth. *International Small Business Journal*, *33*(1), 89-105.
- Kotrlik, J. W. K. J. W., & Higgins, C. C. H. C. C. (2001). Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information technology, learning, and performance journal*, *19*(1), 43.
- Kraatz, M. S., & Zajac, E. J. (2001). How organizational resources affect strategic change and performance in turbulent environments: Theory and evidence. *Organization science*, *12*(5), 632-657.
- Kruger, M. E. (2005). *Creativity in the entrepreneurship domain* (Doctoral dissertation, University of Pretoria).
- Lafuente, E., Vaillant, Y., Vendrell-Herrero, F., & Gomes, E. (2019). Bouncing back from failure: Entrepreneurial resilience and the internationalisation of subsequent ventures created by serial entrepreneurs. *Applied Psychology*, *68*(4), 658-694.
- Larsson, M., Milestad, R., Hahn, T., & Von Oelreich, J. (2016). The resilience of a sustainability entrepreneur in the Swedish food system. *Sustainability*, *8*(6), 550.
- Lee, C., Lee, K., & Pennings, J. M. (2001). Internal capabilities, external networks, and performance: a study on technology-based ventures. *Strategic management journal*, *22*(6-7), 615-640.
- Lee, J. S. H., Abood, S., Ghazoul, J., Barus, B., Obidzinski, K., & Koh, L. P. (2014). Environmental impacts of large-scale oil palm enterprises exceed that of smallholdings in Indonesia. *Conservation letters*, *7*(1), 25-33.
- Leutner, F., Ahmetoglu, G., Akhtar, R., & Chamorro-Premuzic, T. (2014). The relationship between the entrepreneurial personality and the Big Five personality traits. *Personality and individual differences*, *63*, 58-63.

- Li, H.Z. (2011). Research on the Structure of College Students' Entrepreneurship Self efficacy. Nanjing: Nanjing Normal University.
- Li, H.Z., & Hong, F. (2009). Construction of College Students' Entrepreneurship self-efficacy Scale. *Journal of Nanjing Normal University (Social Sciences Edition), 1*, 113-118.
- Liao, H. Y., Rounds, J., & Klein, A. G. (2005). A Test of Cramer's (1999) Help-Seeking Model and Acculturation Effects With Asian and Asian American College Students. *Journal of Counseling Psychology, 52*(3), 400.
- Lindsley, D. H., Brass, D. J., & Thomas, J. B. (1995). Efficacy-performing spirals: A multilevel perspective. *Academy of management review, 20*(3), 645-678.
- Ling, K.Y. (2015). Analysis of Factors Influencing the Growth Performance of Small and Medium sized Technology Enterprises from a Resource Perspective. *Journal of Jinan University: Philosophy and Social Sciences Edition, 6*, 25-41.
- Liu, X., Lin, C., Zhao, G., & Zhao, D. (2019). Research on the effects of entrepreneurial education and entrepreneurial self-efficacy on college students' entrepreneurial intention. *Frontiers in psychology, 10*, 869.
- Liu, Y., Wang, Z., & Lü, W. (2013). Resilience and affect balance as mediators between trait emotional intelligence and life satisfaction. *Personality and Individual differences, 54*(7), 850-855.
- Luthans, F., & Ibrayeva, E. S. (2006). Entrepreneurial self-efficacy in Central Asian transition economies: quantitative and qualitative analyses. *Journal of International Business Studies, 37*, 92-110.
- Luthans, F., Avey, J. B., Avolio, B. J., Norman, S. M., & Combs, G. M. (2006). Psychological capital development: toward a micro-intervention. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 27*(3), 387-393.
- Majid, U., & Ennis, J. (2018). The role of meaning in life in adjustment to a chronic medical condition: A review. *EC Psychology and Psychiatry, 7*(12), 1023-30.

- Mao, Y., Xie, M., Li, M., Gu, C., Chen, Y., Zhang, Z., & Peng, C. (2023). Promoting academic self-efficacy, positive relationships, and psychological resilience for Chinese university students' life satisfaction. *Educational Psychology, 43*(1), 78-97.
- Marsh, H. W., Hau, K. T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural equation modeling, 11*(3), 320-341.
- Martin, D. M., & Schouten, J. W. (2014). Consumption-driven market emergence. *Journal of Consumer research, 40*(5), 855-870.
- Martínez-Martí, M. L., & Ruch, W. (2017). Character strengths predict resilience over and above positive affect, self-efficacy, optimism, social support, self-esteem, and life satisfaction. *The Journal of Positive Psychology, 12*(2), 110-119.
- McGee, J. E., & Peterson, M. (2019). The long-term impact of entrepreneurial self-efficacy and entrepreneurial orientation on venture performance. *Journal of small business management, 57*(3), 720-737.
- McGee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). Entrepreneurial self-efficacy: Refining the measure. *Entrepreneurship theory and Practice, 33*(4), 965-988.
- McKelvie, A., & Wiklund, J. (2010). Advancing firm growth research: A focus on growth mode instead of growth rate. *Entrepreneurship theory and practice, 34*(2), 261-288.
- Merigó, J. M., Rocha, C., & Garcia-Agreda, S. (2013). Entrepreneurial intervention in electronic markets: the influence of customer participation. *International Entrepreneurship and Management Journal, 9*, 521-529.
- Meyer, M. H., Anzani, M., & Walsh, G. (2005). Innovation and enterprise growth. *Research-Technology Management, 48*(4), 34-44.
- Miao, C., Humphrey, R. H., & Qian, S. (2017). A meta-analysis of emotional intelligence effects on job satisfaction mediated by job resources, and a test of moderators. *Personality and Individual Differences, 116*, 281-288.

- Miles, M. P., Lewis, G. K., Hall-Phillips, A., Morrish, S. C., Gilmore, A., & Kasouf, C. J. (2016). The influence of entrepreneurial marketing processes and entrepreneurial self-efficacy on community vulnerability, risk, and resilience. *Journal of Strategic Marketing*, *24*(1), 34-46.
- Ming, Q.L. (2010). *Structural Equation Modeling - Operation and Application of AMOS*. Chongqing: Chongqing University Press.
- Ming, T. (2009). *Research on the relationship between entrepreneurial self-efficacy and entrepreneurial intention*. Changsha: Central South University.
- Moriano, J. A., Gorgievski, M., Laguna, M., Stephan, U., & Zarafshani, K. (2012). A cross-cultural approach to understanding entrepreneurial intention. *Journal of career development*, *39*(2), 162-185.
- Mu, T., Van Riel, A., & Schouteten, R. (2022). Individual ambidexterity in SMEs: Towards a typology aligning the concept, antecedents and outcomes. *Journal of Small Business Management*, *60*(2), 347-378.
- Mueller, N., Rojas-Rueda, D., Basagaña, X., Cirach, M., Cole-Hunter, T., Dadvand, P., ... & Nieuwenhuijsen, M. (2017). Health impacts related to urban and transport planning: a burden of disease assessment. *Environment international*, *107*, 243-257.
- Murnieks, C. Y., Mosakowski, E., & Cardon, M. S. (2014). Pathways of passion: Identity centrality, passion, and behavior among entrepreneurs. *Journal of management*, *40*(6), 1583-1606.
- Naktiyok, A., Nur Karabey, C., & Caglar Gulluce, A. (2010). Entrepreneurial self-efficacy and entrepreneurial intention: the Turkish case. *International entrepreneurship and management journal*, *6*, 419-435.
- Newman, A., Obschonka, M., Schwarz, S., Cohen, M., & Nielsen, I. (2019). Entrepreneurial self-efficacy: A systematic review of the literature on its theoretical foundations, measurement, antecedents, and outcomes, and an agenda for future research. *Journal of vocational behavior*, *110*, 403-419.
- Nian, X.X., & Zhe, L. (2016). Executive poverty experience and corporate charitable donations. *Economic Research*, *51*(12), 133-146.

- O’Keefe, P. A., Dweck, C. S., & Walton, G. M. (2018). Implicit theories of interest: Finding your passion or developing it?. *Psychological science*, *29*(10), 1653-1664.
- Oakley, A. (1998). Gender, methodology and people's ways of knowing: Some problems with feminism and the paradigm debate in social science. *Sociology*, *32*(4), 707-731.
- Obschonka, M., Moeller, J., & Goethner, M. (2019). Entrepreneurial passion and personality: the case of academic entrepreneurship. *Frontiers in psychology*, *9*, 2697.
- Ong, A. D., Bergeman, C. S., Bisconti, T. L., & Wallace, K. A. (2006). Psychological resilience, positive emotions, and successful adaptation to stress in later life. *Journal of personality and social psychology*, *91*(4), 730.
- Penrose, E., & Penrose, E. T. (2009). *The Theory of the Growth of the Firm*. Oxford university press.
- Penroseet & Xiao, Z. (2007). *Theory of Enterprise Growth*. Shanghai: Shanghai People Publishing House.
- Pihie, Z. A. L., & Bagheri, A. (2013). Self-efficacy and entrepreneurial intention: The mediation effect of self-regulation. *Vocations and Learning*, *6*, 385-401.
- Pita Fernández, S., & Pértegas Díaz, S. (2002). Investigación cuantitativa y cualitativa. *Cad aten primaria*, *9*(1), 76-78.
- Pittaway, L., & Cope, J. (2007). Entrepreneurship education: A systematic review of the evidence. *International small business journal*, *25*(5), 479-510.
- Plöckinger, M., Aschauer, E., Hiebl, M. R., & Rohatschek, R. (2016). The influence of individual executives on corporate financial reporting: A review and outlook from the perspective of upper echelons theory. *Journal of Accounting Literature*.
- Pollack, J. M., Carr, J. C., Michaelis, T. L., & Marshall, D. R. (2019). Hybrid entrepreneurs’ self-efficacy and persistence change: A longitudinal exploration. *Journal of Business Venturing Insights*, *12*, e00143.

- Pradhan, R. K., Panda, P., & Jena, L. K. (2017). Purpose, passion, and performance at the workplace: Exploring the nature, structure, and relationship. *The Psychologist-Manager Journal*, *20*(4), 222.
- Queirós, A., Faria, D., & Almeida, F. (2017). Strengths and limitations of qualitative and quantitative research methods. *European journal of education studies*.
- Ranfagni, S., & Runfola, A. (2018). Connecting passion: Distinctive features from emerging entrepreneurial profiles. *Journal of Business Research*, *92*, 403-411.
- Razmjoo, S. A., & Ayoobiyan, H. (2019). On the relationship between teacher resilience and self-efficacy: The case of Iranian EFL teachers. *Two Quarterly Journal of English Language Teaching and Learning University of Tabriz*, *11*(23), 277-292.
- Reivich, K., & Shatté, A. (2002). *The resilience factor: 7 essential skills for overcoming life's inevitable obstacles*. Broadway books.
- Rijsenbilt, A., & Commandeur, H. (2013). Narcissus enters the courtroom: CEO narcissism and fraud. *Journal of business ethics*, *117*, 413-429.
- Rittichainuwat, B. N., Beck, J. A., & Lalopa, J. (2001, September). Understanding motivations, inhibitors, and facilitators of association members in attending international conferences. In *Journal of Convention & Exhibition Management* (Vol. 3, No. 3, pp. 45-62). Taylor & Francis Group.
- Rostow, W. W. (1975). Kondratieff, Schumpeter, and Kuznets: trend periods revisited. *The Journal of Economic History*, *35*(4), 719-753.
- Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. *The British journal of psychiatry*, *147*(6), 598-611.
- Santos, S. C., & Liguori, E. W. (2020). Entrepreneurial self-efficacy and intentions: Outcome expectations as mediator and subjective norms as moderator. *International Journal of Entrepreneurial Behavior & Research*, *26*(3), 400-415.
- Scherer, R. F., Adams, J. S., Carley, S. S., & Wiebe, F. A. (1989). Role model performance effects on development of entrepreneurial career preference. *Entrepreneurship theory and practice*, *13*(3), 53-72.

- Schindehutte, M., Morris, M., & Allen, J. (2006). Beyond achievement: Entrepreneurship as extreme experience. *Small Business Economics*, *27*, 349-368.
- Schlaegel, C., & Koenig, M. (2014). Determinants of entrepreneurial intent: A meta-analytic test and integration of competing models. *Entrepreneurship theory and practice*, *38*(2), 291-332.
- Schoonhoven, C. B., Eisenhardt, K. M., & Lyman, K. (1990). Speeding products to market: Waiting time to first product introduction in new firms. *Administrative Science Quarterly*, 177-207.
- Senaviratna, N. A. M. R., & Cooray, T. M. J. A. (2019). Diagnosing multicollinearity of logistic regression model. *Asian Journal of Probability and Statistics*, *5*(2), 1-9.
- Sexton, D. L., & Smilor, R. W. (Eds.). (1997). *Entrepreneurship 2000*. Upstart Publishing Company.
- Shane, S., & Nicolaou, N. (2013). The genetics of entrepreneurial performance. *International Small Business Journal*, *31*(5), 473-495.
- Shu, M.W. (2011). Research on the relationship between family social capital, entrepreneurial orientation, and growth performance of start-ups. *Business Economics and Management*, *2*, 51-57.
- Shu, W.B., & Ying, X.Z. (2016). Trust, Startup Expansion, and Market Exit Risk. *Finance, Trade and Economics*, *37*(4), 58-70.
- Skokic, V. (2015). Motivations and benefits of entrepreneurial network formation. *International Journal of Business and Management*, *10*(9), 109.
- Skokic, V., Coh, M., & Torkkeli, M. (2015). Dynamic capabilities in SMEs: The integration of external competencies. *International Journal of Business Research and Management*, *6*(3), 54-70.
- Smilor, R. W. (1997). Entrepreneurship: Reflections on a subversive activity. *Journal of Business venturing*, *12*(5), 341-346.
- Sofka, W., & Grimpe, C. (2010). Specialized search and innovation performance—evidence across Europe. *R&d Management*, *40*(3), 310-323.
- Stam, E. (2010). Entrepreneurship, evolution and geography. In *The handbook of evolutionary economic geography*. Edward Elgar Publishing.

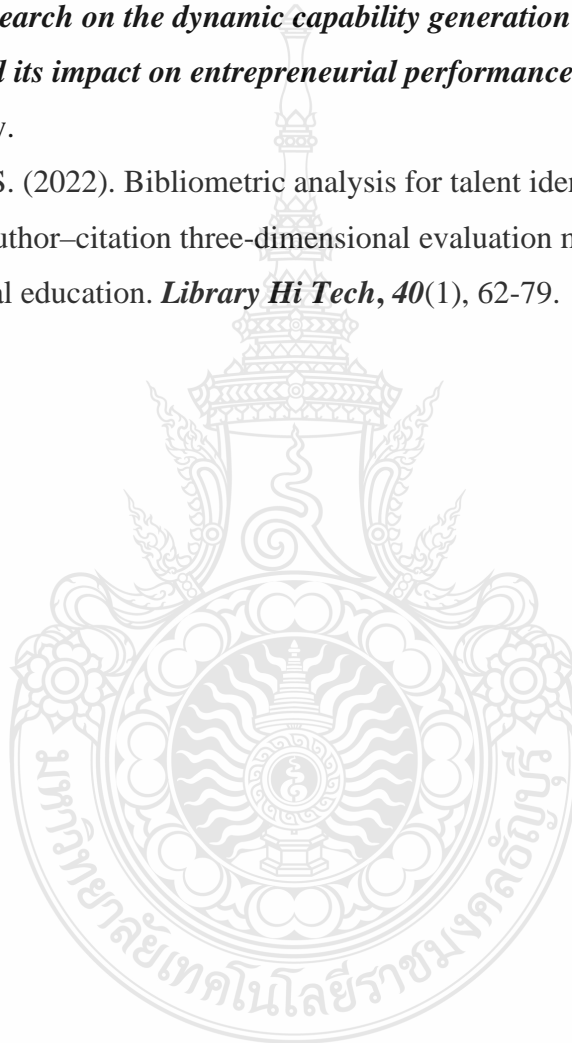
- Stam, E., & Wennberg, K. (2009). The roles of R&D in new firm growth. *Small business economics*, *33*, 77-89.
- Stam, E., & Elfring, T. (2008). Entrepreneurial orientation and new venture performance: The moderating role of intra-and extraindustry social capital. *Academy of Management Journal*, *51*(1), 97-111.
- Steininger, D. M. (2019). Linking information systems and entrepreneurship: A review and agenda for IT-associated and digital entrepreneurship research. *Information Systems Journal*, *29*(2), 363-407.
- Stock, J., & Cervone, D. (1990). Proximal goal-setting and self-regulatory processes. *Cognitive therapy and research*, *14*(5), 483-498.
- Suchy, S. (2000). Museum Directors: First with Passion. *Commentary provided by the author via email*.
- Taherdoost, H. (2016). Sampling methods in research methodology; how to choose a sampling technique for research. *How to choose a sampling technique for research (April 10, 2016)*.
- Tao, C., & Yu, S.H. (2012). Manager Relations, Knowledge Absorption, and Innovation Performance of Startups. *Nanjing Social Science*, *11*, 42-47, 52.
- Timmons, J. A. (1978). Characteristics and role demands of entrepreneurship. *American journal of small business*, *3*(1), 5-17.
- Timmons, J. A., Spinelli, S., & Tan, Y. (2004). *New venture creation: Entrepreneurship for the 21st century* (Vol. 6). New York: McGraw-Hill/Irwin.
- Timothy Coombs, W., & Holladay, S. J. (2007). The negative communication dynamic: Exploring the impact of stakeholder affect on behavioral intentions. *Journal of Communication management*, *11*(4), 300-312.
- Trevelyan, R. (2011). Self-regulation and effort in entrepreneurial tasks. *International Journal of Entrepreneurial Behavior & Research*, *17*(1), 39-63.
- Tseng, C. C. (2013). Connecting self-directed learning with entrepreneurial learning to entrepreneurial performance. *International Journal of Entrepreneurial Behavior & Research*, *19*(4), 425-446.

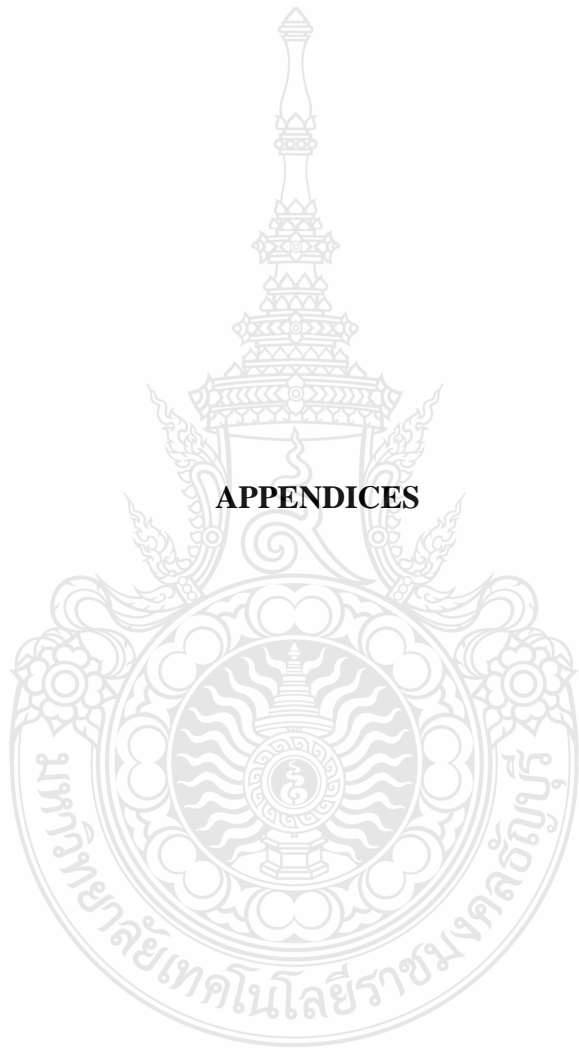
- Türk-Kurtça, T., & Kocatürk, M. (2020). The Role of Childhood Traumas, Emotional Self-Efficacy and Internal-External Locus of Control in Predicting Psychological Resilience. *International Journal of Education and Literacy Studies*, *8*(3), 105-115.
- Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C., Léonard, M., ... & Marsolais, J. (2003). Les passions de l'ame: on obsessive and harmonious passion. *Journal of personality and social psychology*, *85*(4), 756.
- Verhoef, P. C., Kannan, P. K., & Inman, J. J. (2015). From multi-channel retailing to omni-channel retailing: introduction to the special issue on multi-channel retailing. *Journal of retailing*, *91*(2), 174-181.
- Vignoles, V. L., Regalia, C., Manzi, C., Golledge, J., & Scabini, E. (2006). Beyond self-esteem: influence of multiple motives on identity construction. *Journal of personality and social psychology*, *90*(2), 308.
- Vizcaíno, F. V., Cardenas, J. J., & Cardenas, M. (2021). A look at the social entrepreneur: The effects of resilience and power distance personality traits on consumers' perceptions of corporate social sustainability. *International Entrepreneurship and Management Journal*, *17*, 83-103.
- Von Graevenitz, G., Harhoff, D., & Weber, R. (2010). The effects of entrepreneurship education. *Journal of Economic behavior & organization*, *76*(1), 90-112.
- Waldman, D. A., Javidan, M., & Varella, P. (2004). Charismatic leadership at the strategic level: A new application of upper echelons theory. *The leadership quarterly*, *15*(3), 355-380.
- Warner, L. M., Schüz, B., Aiken, L., Ziegelmann, J. P., Wurm, S., Tesch-Römer, C., & Schwarzer, R. (2013). Interactive effects of social support and social conflict on medication adherence in multimorbid older adults. *Social Science & Medicine*, *87*, 23-30.
- Warnick, B. J., Murnieks, C. Y., McMullen, J. S., & Brooks, W. T. (2018). Passion for entrepreneurship or passion for the product? A conjoint analysis of angel and VC decision-making. *Journal of Business Venturing*, *33*(3), 315-332.

- Wei, H.F., & Qi, L.L. (2010). Research on the Background Characteristics and Financial Restatement Behavior of Chinese Listed Company Executives. *Managing the World, 7*, 144-155.
- Wei, Z., & Xiao, X. (2007). A Study on the Relationship between the Incubation Environment and Growth Performance of High-tech Enterprises. *Science Research, 25*(1), 74-78.
- Wei, Z.D., & Zhao, H.X. (2012). An empirical study on the relationship between relationship strength, self-efficacy, and entrepreneurial performance of entrepreneurs. *China Science and Technology Forum, 1*, 131-137.
- Welsh, M. (2014). Resilience and responsibility: governing uncertainty in a complex world. *The geographical journal, 180*(1), 15-26.
- Wen, Z.J. (2020). Research on the Impact of Initiative Personality on Internal Entrepreneurship Behavior: *The Role of Entrepreneurship Self efficacy and Organizational Identity*. Xiamen: Xiamen University.
- Wen, Z.X., & Gui, Z.P. (2006). Self-efficacy: concept, theory and application. *Journal of Renmin University of China, 1*, 91-97.
- Wildavsky, A. B. (1988). *Searching for safety* (Vol. 10). Transaction publishers.
- Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. *Entrepreneurship theory and practice, 31*(3), 387-406.
- Wincent, J., Örtqvist, D., & Drnovsek, M. (2008). The entrepreneur's role stressors and proclivity for a venture withdrawal. *Scandinavian Journal of Management, 24*(3), 232-246.
- Wood, G. J., & Davidson, M. J. (2011). A review of male and female Australian indigenous entrepreneurs: Disadvantaged past-promising future?. *Gender in Management: An International Journal, 26*(4), 311-326.
- Wood, R., & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of management Review, 14*(3), 361-384.
- Wright, S., O'Brien, B. C., Nimmon, L., Law, M., & Mylopoulos, M. (2016). Research design considerations. *Journal of graduate medical education, 8*(1), 97-98.

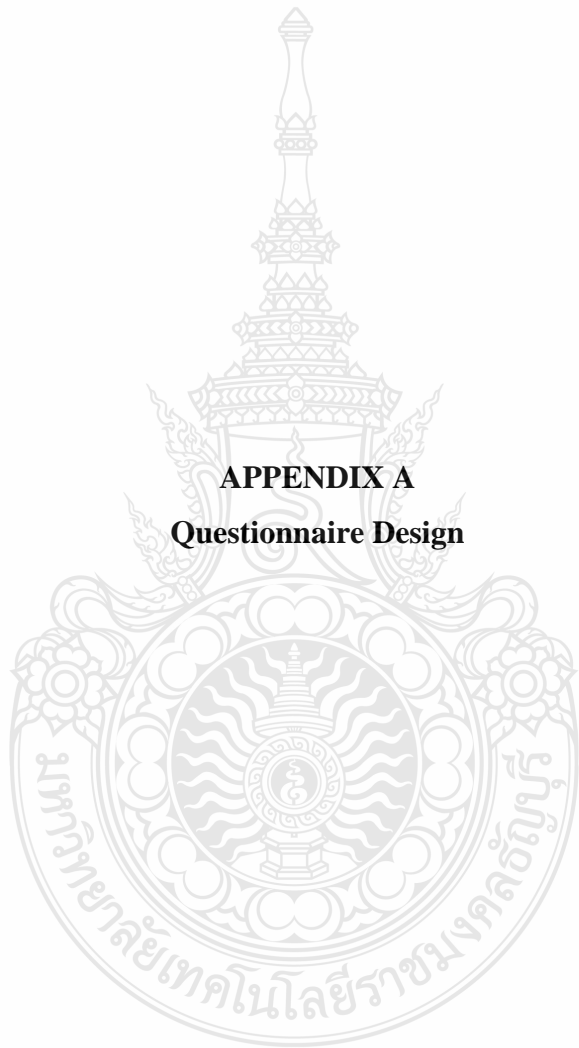
- Xiao, K. X., & Xiao, W.H. (2020). Research on the impact of organizational culture and learning ability on the growth performance of startups. *Operation and management*, **4**, 91-97.
- Xiu, Z.E., & Meng, L.Y. (2020). Research on the driving factors of entrepreneurial resilience and its impact on entrepreneurial success. *Foreign Economics and Management*, **42**(8), 96-108.
- Xue, S.M. (2004). The essence and path of the growth of small and medium-sized enterprises. *Journal of Zhengzhou University: Philosophy and Social Sciences Edition*, **37**(4): 66-69.
- Yang, Y., & Danes, S. M. (2015). Resiliency and resilience process of entrepreneurs in new venture creation. *Entrepreneurship Research Journal*, **5**(1), 1-30.
- Yazdanfar, D. (2013). Profitability determinants among micro firms: evidence from Swedish data. *International Journal of Managerial Finance*, **9**(2), 151-160.
- Ye, Q., Tu, X.S., & Kai, Z.B. (2012). Research on alleviating the financing difficulties of high-tech startups based on government supported technology guarantees. *China Science and Technology Forum*, **2**, 59-63
- Yong, S.D., Ya, L., Yu, L.X., & Wu, W. (2022). The impact mechanism of a tolerant entrepreneurial culture on the performance of re entrepreneurship. *Scientific Research*, **40**(7), 1254.
- Yong, Y.Z., & Jia, L. (2013). Empirical Study on the Relationship between Entrepreneurs' Social Networks and Startup Performance. *Science and Technology Management Research*, **4**, 175-179185
- Yuan, K. H., & Bentler, P. M. (2006). 10 Structural Equation Modeling. *Handbook of statistics*, **26**, 297-358.
- Yue, D.F. (2006). Research on the relationship between entrepreneurial organizational learning and entrepreneurial performance. Hangzhou: Zhejiang University.
- Yun, P.B. (2018). Secondary vocational nursing students understand the relationship between social support, general self-efficacy, and psychological resilience. *Chinese Journal of Health Psychology*, **26**(12): 1871-1876.

- Zeng, L. (2021). Research on the Identification of College Students Entrepreneurial Opportunity in the Era of Service Economy. *International Journal of Frontiers in Sociology*, 3(21).
- Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of applied psychology*, 90(6), 1265.
- Zhe, S. (2021). *Research on the dynamic capability generation of entrepreneurial teams and its impact on entrepreneurial performance*. Changsha: Hunan University.
- Zheng, Y., & Liu, S. (2022). Bibliometric analysis for talent identification by the subject–author–citation three-dimensional evaluation model in the discipline of physical education. *Library Hi Tech*, 40(1), 62-79.





APPENDICES



APPENDIX A
Questionnaire Design

A Questionnaire Survey on The Relationship Between Personal Traits of Entrepreneurs and The New Venture Growth

Dear entrepreneurs,

Hello, first of all, thank you very much for taking the time to fill out this questionnaire. I am a student from XX University. This questionnaire is my academic research aimed at exploring the relationship between individual personality traits of entrepreneurs and the growth of new enterprises. I hope that the research findings can provide organizational management suggestions for enterprise growth. Completing this questionnaire may take up ten minutes of your time. Thank you for your support and understanding of this project. This questionnaire is anonymous, and your answers are strictly confidential. The final collected data is only for academic research. Please rest assured to answer.

Note: If you have established multiple companies, please select the company with the best performance as a sample to fill out the questionnaire

Section I Entrepreneurial Self-Efficacy

The following items were operationalized on a five-point scale anchored by 1 'not very confident' to 5 'very confident'.

N	Item
ESE1	I don't like to stick to conventions, I like to break through existing things.
ESE2	I enjoy thinking from multiple perspectives and solving problems flexibly.
ESE3	I often come up with new suggestions.
ESE4	I am easy to accept new things.
ESE5	I have strong creativity myself.
ESE6	I am able to handle the challenges in new tasks with ease.
ESE7	I am usually able to cope with stress and impulses with ease.
ESE8	I won't worry that the outcome of things won't be as expected.
ESE9	I enjoy adventure.

ESE10	I always dislike dealing with problems in the existing way.
ESE11	I am good at identifying niche markets.
ESE12	I am good at analyzing the external environment to identify opportunities and potential problems.
ESE13	I am able to identify the potential value of an idea.
ESE14	I can accurately perceive the unmet needs of consumers.
ESE15	I often take the initiative to communicate with others.
ESE16	I can effectively persuade people with different opinions.
ESE17	I think collaborating with others is a very enjoyable thing.
ESE18	When encountering obstacles in interacting with others, I have the confidence to solve them through my own efforts.

Section II Entrepreneurial Resilience

The following items were operationalized on a five-point scale anchored by 1 'strongly disagree' to 5 'strongly agree'.

N	Item	1	2	3	4	5
ER1	Able to adapt to change					
ER2	Can deal with whatever comes my way					
ER3	Tries to see humorous side of problems					
ER4	Coping with stress can strengthen me					
ER5	Tends to bounce back after illness or hardship					
ER6	Can achieve goals despite obstacles					
ER7	Can stay focused under pressure					
ER8	Not easily discouraged by failure					
ER9	Thinks of self as strong person					
ER10	Can handle unpleasant feelings					

Section III Entrepreneurial Passion

The following items were operationalized on a five-point scale anchored by 1 ‘strongly disagree’ to 5 ‘strongly agree’.

N	Item
EP1	I am very excited to find unmet market demands and commercialize them.
EP2	Finding new ideas related to products or services is very enjoyable for me.
EP3	I have the motivation to find ways to improve existing products or services.
EP4	I am very happy to find new opportunities in the market environment.
EP5	Having my own business gives me the motivation to strive.
EP6	Cultivating a new enterprise to succeed is very exciting.
EP7	The founder of a business is an important part of my identity.
EP8	I am very interested in finding employees who can expand product production or service provision.
EP9	It is very important to have employees who contribute to the development of the enterprise.
EP10	Improving the quality of employees and myself to ensure the development of the enterprise effectively motivates me.
EP11	Cultivating and developing a business is one of the important parts for me to demonstrate my identity.

Section IV New Venture Growth

The following items were operationalized on a five-point scale anchored by 1 ‘strongly disagree’ to 5 ‘strongly agree’.

N	Item	1	2	3	4	5
NVG1	Rapid growth of enterprise market share					
NVG2	Fast growth rate of enterprise customers					
NVG3	Rapid growth in corporate profitability					
NVG4	Rapid growth of enterprise sales revenue					
NVG5	Strong awareness of technological innovation in enterprises					

NVG6	Excessive R&D personnel and funding investment in enterprises					
NVG7	High success rate of enterprise technological innovation					
NVG8	High sales of new products (services) for enterprises					

Section V Demographic Information

1. Your gender:

Male

Female

2. Your education background:

Below undergraduate

Undergraduate

Graduate student

PhD or above

3. Your marital status:

Single

Living together or married

Divorced

Widowed

4. Your age:

Below 20

20-30

31-40

41-50

Above 50

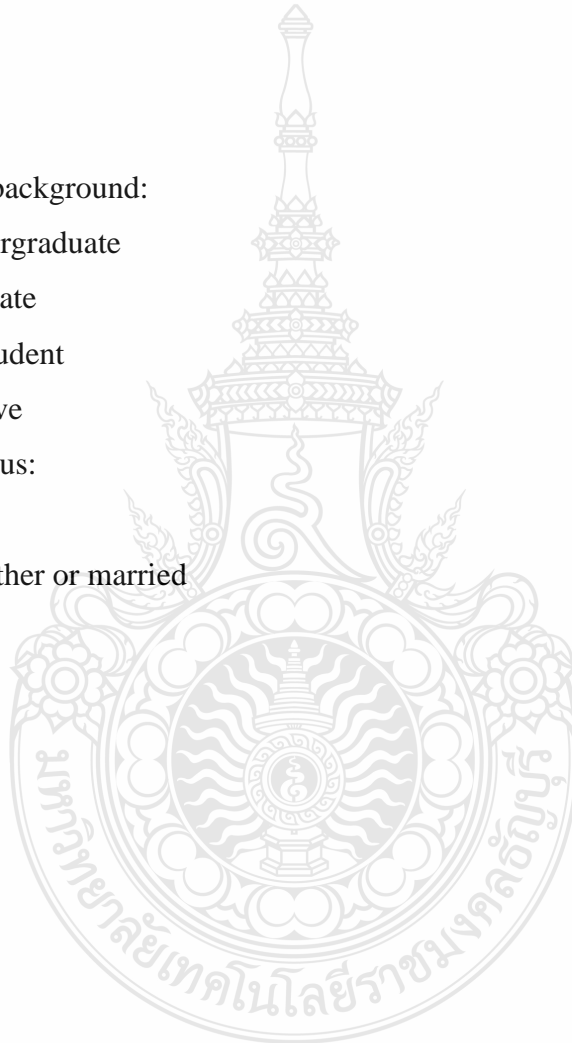
5. Years of establishment of the firm:

Less than one year

1-3 years

4-7 years

More than 8 years



6. Number of employees:

No employee

1-4

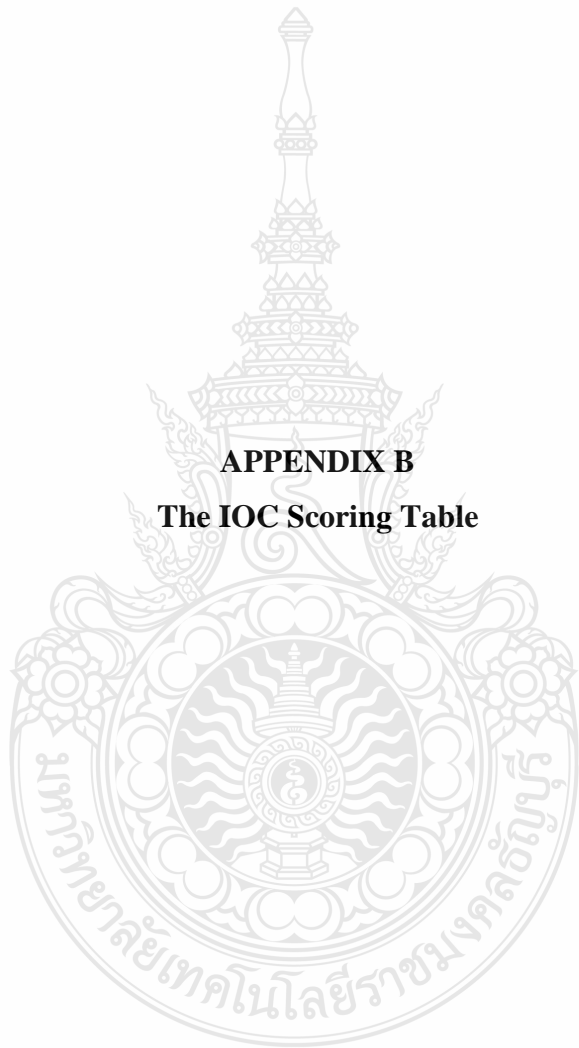
5-9

10-49

50-100

More than 100





APPENDIX B
The IOC Scoring Table

**A Questionnaire Survey on The Influence Mechanism of Chinese Lithium Battery New
Venture Growth Based on the Perspective of Entrepreneurial Characteristics**

Part I: Entrepreneurial Self-Efficacy Scale

Please rate the following items that measure entrepreneurial self-efficacy.

-1: Indicates that the measurement item does not match the entrepreneurial self-efficacy.

0: Represents uncertain.

1: It means that the measurement item is consistent with the entrepreneurial self-efficacy.

Dimension	N	Measurement items	-1	0	1
Management Self-Efficacy	ESE1	I don't like to stick to conventions, I like to break through existing things.			
	ESE2	I enjoy thinking from multiple perspectives and solving problems flexibly.			
	ESE3	I often come up with new suggestions.			
	ESE4	I am easy to accept new things.			
	ESE5	I have strong creativity myself.			
	ESE6	I am able to handle the challenges in new tasks with ease.			
Risk tolerance Self-Efficacy	ESE7	I am usually able to cope with stress and impulses with ease.			
	ESE8	I won't worry that the outcome of things won't be as expected.			
	ESE9	I enjoy adventure.			
	ESE10	I always dislike dealing with problems in the existing way.			
Opportunity Recognition Self- Efficacy	ESE11	I am good at identifying niche markets.			
	ESE12	I am good at analyzing the external environment to identify opportunities and potential problems.			
	ESE13	I am able to identify the potential value of an idea.			
	ESE14	I can accurately perceive the unmet needs of consumers.			

Relationship Processing Self- Efficacy	ESE15	I often take the initiative to communicate with others.			
	ESE16	I can effectively persuade people with different opinions.			
	ESE17	I think collaborating with others is a very enjoyable thing.			
	ESE18	When encountering obstacles in interacting with others, I have the confidence to solve them through my own efforts.			

Part II: Entrepreneurial Resilience Scale

Please rate the following items for measuring entrepreneurial resilience.

-1: Indicates that the measurement item does not match the entrepreneurial resilience.

0: Represents uncertain

1: It means that the measurement item is consistent with the entrepreneurial resilience.

N	Measurement items	-1	0	1
ER1	Able to adapt to change			
ER2	Can deal with whatever comes my way			
ER3	Tries to see humorous side of problems			
ER4	Coping with stress can strengthen me			
ER5	Tends to bounce back after illness or hardship			
ER6	Can achieve goals despite obstacles			
ER7	Can stay focused under pressure			
ER8	Not easily discouraged by failure			
ER9	Thinks of self as strong person			
ER10	Can handle unpleasant feelings			

Part III: Entrepreneurial Passion Scale

Please rate the following items that measure entrepreneurial passion.

-1: Indicates that the measurement item does not match the entrepreneurial passion.

0: Represents uncertain

1: It means that the measurement item is consistent with the entrepreneurial passion.

Dimension	N	Measurement items	-1	0	1
Innovation Passion	EP1	I am very excited to find unmet market demands and commercialize them.			
	EP2	Finding new ideas related to products or services is very enjoyable for me.			
	EP3	I have the motivation to find ways to improve existing products or services.			
	EP4	I am very happy to find new opportunities in the market environment.			
Creating Passion	EP5	Having my own business gives me the motivation to strive.			
	EP6	Cultivating a new enterprise to succeed is very exciting.			
	EP7	The founder of a business is an important part of my identity.			
Development Passion	EP8	I am very interested in finding employees who can expand product production or service provision.			
	EP9	It is very important to have employees who contribute to the development of the enterprise.			
	EP10	Improving the quality of employees and myself to ensure the development of the enterprise effectively motivates me.			
	EP11	Cultivating and developing a business is one of the important parts for me to demonstrate my identity.			

Part Four: New Venture Growth Scale

Please rate the following items that measure the new venture growth.

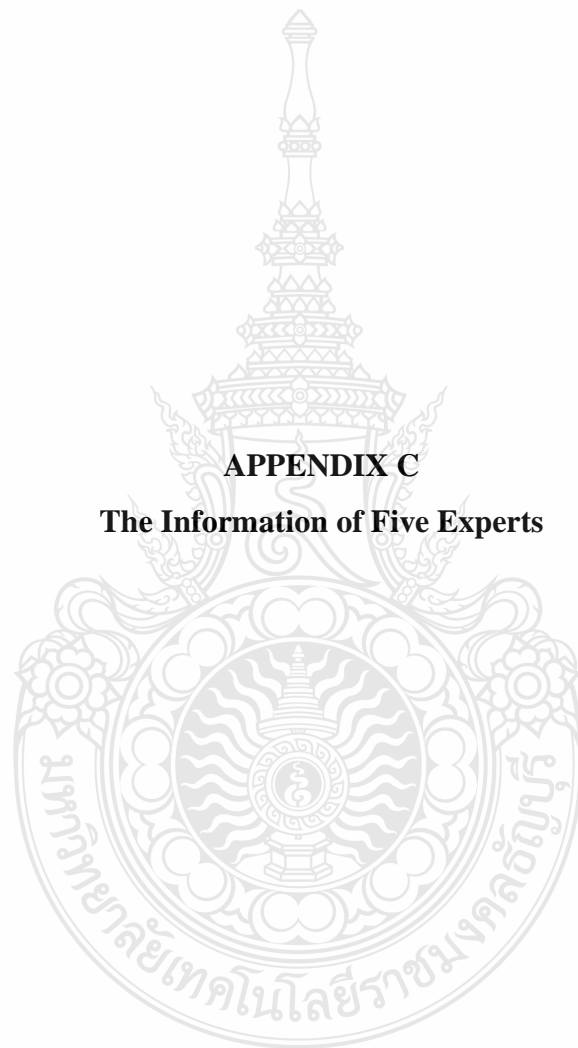
-1: It means that the measurement item does not match the new venture growth.

0: Represents uncertain

1: It means that the measurement item is consistent with the new venture growth.

N	item	-1	0	1
NVG1	Rapid growth of enterprise market share			
NVG2	Fast growth rate of enterprise customers			
NVG3	Rapid growth in corporate profitability			
NVG4	Rapid growth of enterprise sales revenue			
NVG5	Strong awareness of technological innovation in enterprises			
NVG6	Excessive R&D personnel and funding investment in enterprises			
NVG7	High success rate of enterprise technological innovation			
NVG8	High sales of new products (services) for enterprises			





APPENDIX C

The Information of Five Experts

Expert A:**Yunhui Huang**

Professor and doctoral supervisor at Huazhong University of Science and Technology. Served as an academic journal review expert in international chemistry, materials, nanotechnology, and other fields (e.g. J. Am. Chem. Soc., Chem. Mater., Appl. Phys. Lett., J. Am. Ceram. Soc., J. Nanosci. Nanotech., J. Cryst. Growth, Mater. Res. Bull., Solid State Commun., J. Alloy Compds. etc.), as well as a domestic academic journal review expert (Journal of Higher Education Chemistry, Applied Chemistry, etc.).

Professor Huang studied at the University of Texas at Austin from 2004 to 2007, under the guidance of Professor John B. Goodenough (2019 Nobel Prize winner in Chemistry). During this period, his main research interests were lithium-ion batteries and solid-state oxide fuel cells.

Expert B:**Xianping Luo**

Professor, doctoral supervisor, leading talent in China's national "Ten Thousand Talents Plan" scientific and technological innovation, candidate for the National Hundred and Ten Million Talents Project, and candidate for the "Ganpo Talent 555 Project". Professor Luo has been engaged in teaching and research in the fields of mineral processing engineering and environmental engineering for a long time.

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Experiences Work	Chairman of the Labor Union of Jiangxi Guoxuan New Energy Technology Co., Ltd. (2021 Present) Director of Jiangxi Learning Center for Continuing Medical Education at Peking University (2017-2020) Vice Dean of Jiangxi University of Science and Technology (2002-2016)
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