

Study On The Impact Of College Students' Entrepreneurial Failure Experience On Innovative Entrepreneurship -- Based On The Moderating Effect Of Entrepreneurial Education

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Abstract:

Background: Currently, with the rapid development of economic globalization and technological innovation, college student entrepreneurship has become an important force driving global economic growth and employment. Many countries and regions have implemented policies and measures to encourage college students to realize their own value and promote social progress through entrepreneurship. However, despite the increasing activity of entrepreneurial activities, the failure rate of college students in entrepreneurship is still high. According to statistics, the failure rate of college students in entrepreneurship is as high as 30% to 50%, highlighting the high risks and uncertainties in the entrepreneurial process. These failed experiences, although common and often seen as negative outcomes, actually have a profound impact on the personal psychology and behavior of entrepreneurs. Failure may not only lead to financial losses for entrepreneurs, but more importantly, it may trigger emotional fluctuations, lower self-confidence, and inhibit future entrepreneurial intentions. However, these experiences are also considered valuable learning opportunities that can help entrepreneurs reflect on past decisions, reassess business models, and lay a more solid foundation for future entrepreneurial activities.

Materials and Methods: This study aims to investigate the influence of entrepreneurial failure experiences on innovative entrepreneurship among college students and the moderating effect of entrepreneurial education. Two hypotheses are proposed: (H1) Entrepreneurial failure experiences positively impact the innovative entrepreneurial behavior of college students, and (H2) Entrepreneurial education moderates this relationship positively. Data will be collected through a questionnaire survey targeting current college students and recent alumni. Variables include entrepreneurial failure experiences, innovative entrepreneurial behavior, and entrepreneurship education. The questionnaire will assess respondents' experiences, attitudes, and education related to entrepreneurship. Variable measurement involves assessing entrepreneurial failure experiences, innovative entrepreneurial performance, and the extent of entrepreneurship education received. Through collaboration with universities and distribution via various channels, the study aims to obtain comprehensive data for analysis.

Results: After more than a month of questionnaire distribution and collection, 335 questionnaires were distributed. After screening out some questionnaires with obvious errors in answers and short response times, 298 valid questionnaires were obtained, with an actual effective response rate of 88.96%. After conducting reliability and validity analysis using SPSSAU software, the Cronbach coefficient alpha value was 0.814 and the KMO value was 0.873. The influence of the independent variable (DEF) on the dependent variable (IE) showed significant significance ($t=6.151, p=0.000<0.05$). This means that DEF will have a significant impact on IE. The interaction term between DEF and ED showed significance ($t=1.869, p=0.003<0.05$), and from Model 1, it can be seen that X has an impact on Y, indicating that when DEF affects IE, the moderating variable (ED) has a significant change in magnitude at different levels. It can verify the two research hypotheses proposed in this article.

Conclusion: This article verifies that the experience of entrepreneurial failure among college students significantly affects their innovative entrepreneurship, and entrepreneurship education plays a positive moderating role in it.

Key Word: Entrepreneurial Failure; Innovative Entrepreneurship; Entrepreneurial Education.

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I. Introduction

Currently, with the rapid development of economic globalization and technological innovation, college student entrepreneurship has become an important force driving economic growth and employment worldwide. Many countries and regions have implemented policies and measures to encourage college students to realize their self-worth and promote social progress through entrepreneurship. However, despite the increasing activity of entrepreneurial activities, the failure rate of college students in entrepreneurship remains high. According to statistics, the failure rate of college students in entrepreneurship is as high as 30% to 50%, highlighting the high risks and uncertainties in the entrepreneurial process. These failed experiences, although common and often seen as negative outcomes, actually have a profound impact on the individual psychology and behavior of entrepreneurs. Failure may not only lead to financial losses for entrepreneurs, but more importantly, it may trigger emotional fluctuations, decreased self-confidence, and inhibition of future entrepreneurial intentions. However, these experiences are also considered valuable learning opportunities that can help entrepreneurs reflect on past decisions, reassess business models, and lay a more solid foundation for future entrepreneurial activities.

II. Literature Review

Impact of entrepreneurial failure

Entrepreneurial failure experiences have been widely studied, and their potential psychological effects, learning outcomes, and behavioral adjustments on entrepreneurs are key areas of research. In terms of psychological impact, many scholars have pointed out that failure experiences often lead to entrepreneurs feeling low, questioning their self-worth, and a tendency to avoid future risks (Cardon, Stevens, & Potter, 2011). However, this impact is not entirely negative. For example, Shepherd's (2003) study suggests that appropriate emotional processing and reflection can help entrepreneurs recover from failure and gain valuable personal growth. In terms of learning outcomes, research has found that entrepreneurial failure is an important experiential learning opportunity. By analyzing the reasons for failure, entrepreneurs can improve their cognitive flexibility and problem-solving abilities (Cope, 2011). This type of experiential learning often leads to behavioral adjustments, such as iteration of business models, optimization of risk management strategies, etc. (McGrath, 1999).

Innovative Entrepreneurship

Innovative entrepreneurship is typically defined as entrepreneurial activities that introduce new products, services, technologies, or business models, which can cause disruptive changes or significant improvements in the market (Drucker, 1985). Compared to traditional entrepreneurship, innovative entrepreneurship focuses on creative destruction and continuous technological innovation, aiming to meet unmet market demands or create new market demands through unique solutions. The importance of innovative entrepreneurship is reflected in its enormous driving force for economic growth and social development. For example, innovative entrepreneurial activities can accelerate technological progress, improve production efficiency, and provide consumers with more diverse choices and higher quality product services (Acs, Audretsch, & Lehmann, 2013).

The role of entrepreneurship education

Entrepreneurship education is an important tool for entrepreneurs to improve their success rate in entrepreneurship. Through systematic entrepreneurship education, entrepreneurs can significantly improve their mindset, skills, and risk management in various aspects. In terms of mentality, education can cultivate entrepreneurs' ability to withstand pressure and resilience to adversity, enabling them to better face failures and challenges in the entrepreneurial process (Nabi, Liñán, Fayolle, Krueger, & Walmsley, 2017). In terms of skill development, entrepreneurship education helps entrepreneurs build the core competency framework required for successful entrepreneurship by providing relevant knowledge and skill training, such as market analysis, financial planning, personnel management, etc. (Fayolle & Gailly, 2015). In addition, risk management education teaches entrepreneurs how to identify, evaluate, and respond to various risks in the entrepreneurial process, reducing the likelihood and impact of failure. Overall, entrepreneurship education, as a systematic teaching and training program, not only enhances the knowledge and skills of entrepreneurs, but more importantly, it lays a solid foundation for the success of entrepreneurs on the path of innovative entrepreneurship through psychological construction and risk awareness enhancement.

III. Material And Methods

Research hypothesis

In order to explore the impact of entrepreneurial failure experiences on innovative entrepreneurship among college students and the moderating effect of entrepreneurial education, this study constructed a theoretical model. This model is based on the following assumptions:

Research hypothesis 1 (H1): Entrepreneurial failure experiences have a significant positive impact on the innovative entrepreneurial behavior of college students.

Research hypothesis 2 (H2): Entrepreneurial education positively moderates the relationship between entrepreneurial failure experiences and entrepreneurial behavior of innovative individuals among college students.

Data collection and sampling

To verify the above hypothesis, this study will use a questionnaire survey method to collect data. The questionnaire will be designed to include multiple choice questions and Likert scale questions, aiming to evaluate the respondents' entrepreneurial experiences, psychological attitudes, entrepreneurial education experiences, and their views on entrepreneurial behavior. Sample selection criteria: The research subjects will be limited to current college students and alumni who have graduated within the past five years, including individuals with entrepreneurial experience and those who have not yet started a business but have received relevant education. Sample acquisition process: Through cooperation with multiple universities, questionnaires are distributed through the school's entrepreneurship clubs, alumni networks, and social media platforms. In addition, participation in the survey will also be invited through email to obtain richer qualitative data.

Variable measurement

Experience of entrepreneurial failure: This variable is measured by relevant questions in the questionnaire, such as "Have you ever experienced entrepreneurial failure?" and "If so, what do you think are the main reasons for failure?", in order to determine the nature and impact of entrepreneurial experience. The performance of innovative entrepreneurship: measured by evaluating the innovative nature of entrepreneurial projects (such as product innovation, market innovation, etc.) and market performance (such as market share, growth rate, etc.). The degree of entrepreneurship education: measured by questions in the questionnaire, such as "What entrepreneurship related courses or training have you participated in?" and "What impact have these courses or training had on your entrepreneurial activities?", aimed at evaluating the breadth and depth of entrepreneurship education received by respondents.

IV. Result

After more than a month of questionnaire distribution and collection, 335 questionnaires were distributed. After screening out some questionnaires with obvious errors in answers and short response times, 298 valid questionnaires were obtained, with an actual effective response rate of 88.96%. After conducting reliability and validity analysis using SPSSAU software, the Cronbach coefficient a value was 0.814 and the KMO value was 0.873. This indicates that the reliability and validity of the questionnaire meet the requirements. Using stratified regression to validate the hypothesis, the relevant data can be found in Table 1:

From the table below, it can be seen that the regulatory effect is divided into three models. Model 1 includes the independent variable (DEF), as well as five control variables such as gender, age, education level, company age, and company size; Model 2 adds moderating variables (ED) on top of Model 1, while Model 3 adds interaction terms (product of independent and moderating variables) on top of Model 2. The purpose of Model 1 is to investigate the impact of the independent variable (DEF) on the dependent variable (IE) without considering the interference of the moderating variable (ED). From the above table, it can be seen that the independent variable (DEF) shows significance ($t=6.151$, $p=0.000<0.05$). This means that DEF will have a significant impact on IE.

The regulatory effect can be viewed in two ways. The first is to examine the significance of the F-value change from Model 2 to Model 3; The second method is to examine the significance of the interaction terms in Model 3, and this time analyze the moderating effect using the second method.

From the below table, it can be seen that the interaction term between DEF and ED shows significance ($t=1.869$, $p=0.003<0.05$), and from Model 1, it can be seen that X has an impact on Y, indicating that when DEF affects IE, the moderating variable (ED) has a significant change in magnitude at different levels. From the results, both research hypothesis 1 and research hypothesis have been validated.

Table 1 Hierarchical model			
	Model 1	Model 2	Model 3
Constant	4.714** (28.987)	4.553** (28.370)	4.506** (27.853)
Gender	-0.559** (-9.163)	-0.457** (-7.298)	-0.461** (-7.378)
Age	-0.033 (-1.060)	-0.028 (-0.932)	-0.021 (-0.696)
Educational background	0.010 (0.325)	0.008 (0.270)	0.012 (0.410)
Enterprise age	0.009 (0.330)	0.010 (0.384)	0.014 (0.511)
Enterprise scale	-0.004 (-0.137)	-0.006 (-0.242)	-0.007 (-0.263)
DEF	0.235** (6.151)	0.198** (5.246)	0.221** (5.588)
ED		0.222** (4.760)	0.231** (4.937)
DEF*ED			0.103** (1.869)
Sample size	298	298	298
R 2	0.351	0.398	0.405
Adjusting R2	0.338	0.383	0.389
F □	F (6,291)=26.228,p=0.000	F (7,290)=27.391,p=0.000	F (8,289)=24.609,p=0.000
ΔR 2	0.351	0.047	0.007
ΔF	F (6,291)=26.228,p=0.000	F (1,290)=22.657,p=0.000	F (1,289)=3.492,p=0.003
Dependent variable: IE			
* p<0.05 ** p<0.01 The values in parentheses are for t			

V. Conclusion

This article explores the impact of college students' entrepreneurial failures on their innovative entrepreneurship, as well as the importance of entrepreneurship education in the relationship between the two. According to the research results, it can be concluded that the entrepreneurial failure experiences of college students do have a significant positive impact on their innovative entrepreneurial behavior. In other words, the entrepreneurial failure experiences of college students may not be entirely bad, but can to some extent promote the innovative behavior of enterprises. Entrepreneurship education will also positively regulate the impact of college students' entrepreneurial failure experiences on their innovative entrepreneurship. So in university education, entrepreneurship education is an important part. Entrepreneurship education has a good effect in repairing the psychological trauma of college students after entrepreneurial failure. The sample size of this study is only 300, which may not represent the overall entrepreneurial behavior of college students. In the future, big data technology can be considered to conduct in-depth research using large samples.

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