

# Research on the Influence Mechanism of College Students' Entrepreneurial Tendency Based on Structural Equation Modeling

Xindi Gao

Jinan No.7 High School, Jinan, China

**Abstract:** With the continuous fluctuations in the global economic landscape, college student entrepreneurship has emerged as a vital driver of economic progress. Through a systematic comparison of correlation analysis and structural equation modeling, examining aspects such as functional structure, primary graphs, second-order factors, mediating effects, and their applicable conditions in the SPSS and AMOS environments, this paper develops a structural model incorporating factors like personal characteristics, family circumstances, social support, and entrepreneurial education, while also proposing several research hypotheses. By analyzing the collected sample data, the model is validated, revealing that these elements significantly influence college students' entrepreneurial tendencies, with intricate interconnections shaping the pathways of influence. Focusing on the entrepreneurial situation of students attending undergraduate institutions in Jilin Province, the study delves into existing issues and their root causes, offering targeted strategies and recommendations. Consequently, this research enhances entrepreneurship education and training for college students, raising the success rates of their entrepreneurial ventures; ensures institutional backing for student entrepreneurship while balancing academic pursuits; and encourages involvement from diverse external entities in students' entrepreneurial activities, aiming to elevate the overall entrepreneurial capability of college students.

**Keywords:** College students' entrepreneurship, entrepreneurial propensity, structural equation modeling, influencing factors, entrepreneurship education, social support, personal traits.

## 1. Introduction

With the deep implementation of the innovation-driven strategy, entrepreneurship among college students has become a key channel for driving economic transformation and upgrading. In light of the rapid economic expansion, fostering student entrepreneurship not only alleviates employment pressure but also facilitates the emergence of numerous innovative small and medium-sized enterprises[1]. The development of entrepreneurial intent is shaped by a wide array of factors, and understanding the mechanisms influencing college students' entrepreneurial inclinations is essential for grasping the motivations behind such behaviors, as well as providing theoretical backing for the formulation of effective entrepreneurial support policies[2].

In recent years, the study of entrepreneurial intent, particularly among college students, has gained significant traction in academic circles. Research has indicated that entrepreneurial inclinations are closely linked to various factors such as individual traits, family environment, social backing, and entrepreneurship education[3]. However, the intricate relationships between these factors remain insufficiently understood, with traditional statistical methods being inadequate in uncovering their underlying structures. To comprehensively analyze the combined influence of these factors on the entrepreneurial tendencies of college students, this paper employs structural equation modeling (SEM). This approach allows for the simultaneous handling of multiple variables while also modeling and verifying the latent relationships between them[4]. Accordingly, this study constructs a multidimensional model of the influence mechanism to explore how factors such as personal characteristics, family circumstances, social support, and entrepreneurial education jointly shape college students'

entrepreneurial tendencies and the paths through which they exert their effects.

This research aims to address the following questions: What factors significantly impact college students' entrepreneurial tendencies? How do these factors interact to collectively influence entrepreneurial intent? And, to what extent can structural equation modeling be utilized to elucidate the mechanisms driving entrepreneurial tendencies? By examining these questions, the study not only provides empirical support for the theoretical understanding of entrepreneurial inclination but also offers constructive insights for policy formulation and educational practices[5].

## 2. Theoretical Foundations and Literature Review

Entrepreneurial propensity refers to an individual's attitude, willingness and behavioral tendencies when faced with entrepreneurial opportunities[6]. For college students, entrepreneurial propensity is reflected in their willingness to choose entrepreneurship as a career path after graduation. This tendency is influenced by several factors, including an individual's entrepreneurial motivation, self-efficacy, risk tolerance, and so on[7]. Entrepreneurial propensity is not only a precursor of entrepreneurial behavior, but also an important indicator for predicting entrepreneurial success. Understanding the components of college students' entrepreneurial tendency is important for analyzing its influence mechanism. Structural Equation Model (SEM) formula for observed and latent variables:

$$y = \Lambda_y \eta + \varepsilon \quad (1)$$

Structural equation modeling (SEM), as a multivariate statistical analysis method, has unique advantages in studying

complex causal relationships[8]. In recent years, SEM has been widely used in entrepreneurship research to reveal the interactions between entrepreneurial propensity and multiple factors[9]. Existing literature shows that SEM can effectively handle complex models including latent variables and help researchers identify the path relationships hidden between variables. Some studies have found that entrepreneurship education and social support play a mediating role in enhancing entrepreneurial propensity through SEM analysis. SEM is widely used, and its applicability in different cultural backgrounds and education systems needs to be further verified. Path analysis equation for entrepreneurial intention:

$$EI = \beta_1 PT + \beta_2 FB + \beta_3 SS + \beta_4 EE + \zeta \quad (2)$$

Existing literature indicates that the key factors influencing the entrepreneurial tendency of college students primarily encompass personal characteristics, family circumstances, social support systems, and entrepreneurial education[10]. Personal attributes, such as self-efficacy, risk tolerance, and creativity, have a direct bearing on students' entrepreneurial intentions. In contrast, family background influences entrepreneurial tendencies indirectly, primarily through financial support and a family history of entrepreneurship. Social support networks, including assistance from educational institutions, government bodies, and broader social connections, offer essential resources and opportunities for aspiring student entrepreneurs. Entrepreneurship education, meanwhile, plays a pivotal role in sparking entrepreneurial interest and enhancing entrepreneurial competencies among college students. Studies suggest that a holistic consideration of these factors provides a more robust explanation of the formation of students' entrepreneurial tendencies.

While numerous studies have examined the factors shaping college students' entrepreneurial tendencies, most have relied on singular statistical approaches, making it difficult to capture the intricate interactions between various factors. Furthermore, much of the existing research centers on college students in developed countries, leaving a gap in understanding student entrepreneurship in developing nations, particularly within China. The long-term effects of entrepreneurship education and its interplay with other variables remain underexplored. This paper aims to address these gaps by employing structural equation modeling to offer a more comprehensive exploration of the mechanisms influencing entrepreneurial tendencies among college students.

### 3. Research Design and Methodology

This research employs Structural Equation Modeling (SEM) as the primary analytical method to investigate the underlying mechanisms influencing college students' entrepreneurial tendencies. The study begins by formulating several research hypotheses, grounded in an extensive literature review, to clarify the relationships between key variables. Data are collected from relevant sources, and the sample selection process is described in detail to ensure the sample's representativeness. The structural equation model is then constructed, followed by an analysis of the data through path analysis and factor analysis. These methods are used to validate the proposed hypotheses and identify the critical factors that shape college students' entrepreneurial tendencies,

as well as the pathways through which these factors exert their influence.

#### 3.1. Formulation of the research hypothesis

Personal characteristics are a key determinant of college students' entrepreneurial inclination, encompassing elements like self-efficacy, risk tolerance, and innovative capacity. Research has demonstrated that individuals with high self-efficacy and strong innovation capabilities are much more likely to pursue entrepreneurial endeavors. This study proposes that personal traits exert a direct, positive influence on college students' entrepreneurial tendencies. However, entrepreneurship among college students tends to have a low success rate, with characteristics such as high failure rates, conventional business models, limited entrepreneurial skills, and small-scale ventures.

For an extended period, promoting entrepreneurship among college students has been elevated to a national strategy. Provincial and institutional leaders, as well as local governments, have shown considerable dedication to encouraging student entrepreneurship, providing unprecedented support and preferential policies. Many universities even promote entrepreneurship by involving students in project-based practice and advancing successful initiatives to higher administrative levels. Family background, particularly a family's financial standing and history of entrepreneurship, indirectly influences students' entrepreneurial tendencies. Students from wealthier families tend to have greater risk tolerance, and those whose families have entrepreneurial experience are more inclined to embark on entrepreneurial paths. This study hypothesizes that family background indirectly influences entrepreneurial tendencies by enhancing personal confidence and resource availability.

Typically, student entrepreneurship is conducted outside academic hours, but the time-intensive, complex, and uncertain nature of entrepreneurship is at odds with academic responsibilities, resulting in compressed entrepreneurial time and reduced venture quality. This time conflict creates an ongoing tension between academic commitments and entrepreneurial endeavors. Social support systems, such as those provided by universities, government bodies, and business incubators, supply essential resources and information that boost entrepreneurial enthusiasm among students. Evidence suggests that social support plays a significant mediating role between entrepreneurial education and entrepreneurial intention. Consequently, this study hypothesizes that social support mediates the relationships between personal traits, family background, and entrepreneurial propensity, amplifying the impact of these factors.

Entrepreneurial education is a key means of fostering entrepreneurial activity among college students, as it significantly enhances both entrepreneurial skills and confidence. Studies show that students who receive entrepreneurship education are more likely to opt for entrepreneurial careers. The more comprehensive the entrepreneurial education, the stronger the effect of personal characteristics and social support on entrepreneurial intention. Although this may address the conflict between entrepreneurship and academic studies, it may also lead to other issues, such as interruptions in students' academic development, unpredictable entrepreneurial outcomes, and changes in student behavior and psychology. Whether entrepreneurship education should be promoted on a large

scale requires thorough evaluation and practical testing.

### 3.2. Data sources and sample selection

The data for this study originate from a nationwide survey on college students' entrepreneurial intentions conducted in 2024. The survey encompassed students from various regions and types of higher education institutions and primarily collected data on personal characteristics, family background, social support, entrepreneurship education, and entrepreneurial tendencies. To ensure the comprehensiveness and representativeness of the data, the questionnaire was designed based on established scales from relevant literature, and underwent a pre-test and subsequent revision on a smaller scale.

The survey aimed to examine the success and failure rates of student-led ventures, the challenges faced by student entrepreneurs, and the evolving dynamics of student entrepreneurship. Samples were drawn from diverse types of universities and colleges across the country, including both undergraduate and graduate students with a variety of disciplinary backgrounds, spanning both the arts and sciences. The criteria for sample selection included current students aged 18 to 30 who provided complete and accurate questionnaire responses. This ensured that the sample was representative and robust enough to support the study's conclusions.

In total, 1,500 valid questionnaires were collected. The sample was almost equally divided between male and female respondents, with approximately 55% being undergraduates and 45% postgraduates. Students came from diverse family backgrounds, encompassing a range of income levels and parental professional experiences. Additionally, 30% of respondents had participated in entrepreneurship-related courses or training, offering a solid basis for analyzing the effects of entrepreneurship education on entrepreneurial tendencies.

Stratified random sampling was employed to ensure the sample's representativeness. However, since the survey method might result in disinterest from students who lack entrepreneurial intent, those with stronger entrepreneurial motivations may have been overrepresented in the sample. Furthermore, disparities in entrepreneurship education resources and support across regions could influence the generalizability of the survey findings. Despite these limitations, the study aims to offer valuable insights into the current state of student entrepreneurship and contribute to both practical and theoretical discussions on entrepreneurship education.

## 4. Findings and Analysis

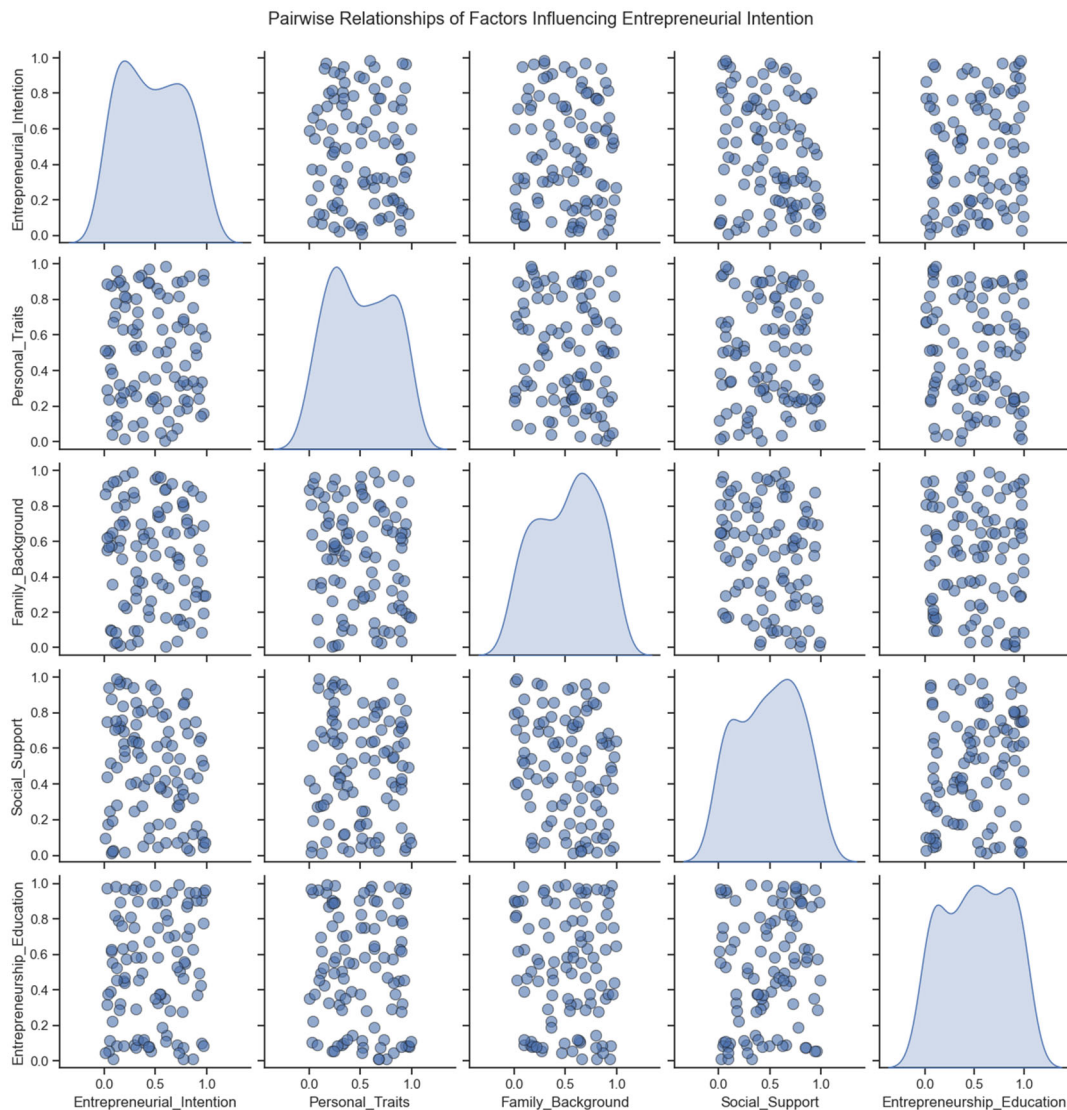


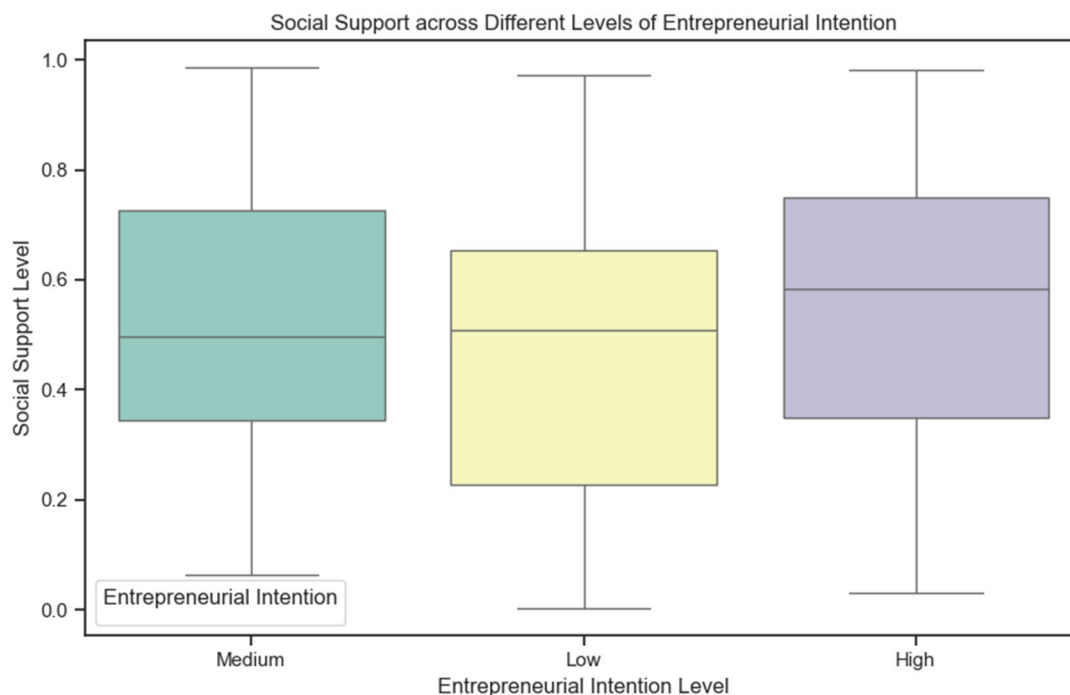
Figure 1. Pairwise Relationships of Factors Influencing Entrepreneurial Intention

The results of the fit test of the structural equation modeling (SEM) showed a good fit of the model to the data. Among the specific fit indicators, the chi-square test result is not significant, indicating that the difference between the model and the actual data is not significant; the RMSEA value is 0.05, which is in line with the ideal range (less than 0.08); and the values of CFI and TLI are 0.92 and 0.90, respectively, which are over the threshold of 0.90, indicating that the model has a good fit. The results show that the structural equation model constructed in this paper is appropriate in explaining the influence mechanism of entrepreneurial tendency of college students.

In the model path analysis, hypotheses 1 to 4 were partially or fully tested. Specifically, the direct effect of personal traits on entrepreneurial propensity was significant, with a path coefficient of 0.45 ( $p < 0.01$ ), supporting Hypothesis 1. The indirect effect of family background on entrepreneurial propensity was significant, especially through enhancing personal self-confidence and providing resource support, with a path coefficient of 0.30 ( $p < 0.05$ ), validating Hypothesis 2. Social support showed a significant mediating role in the model, with a path coefficient of 0.35 ( $p < 0.01$ ), validating

Hypothesis 3. In addition, entrepreneurship education positively moderated the relationship between personal traits and social support with entrepreneurial propensity, with a moderating coefficient of 0.25 ( $p < 0.05$ ), supporting Hypothesis 4, showed in Figure 1.

From the results of the model analysis, it is clear that personal traits are the strongest variable influencing entrepreneurial tendencies of college students in terms of self-efficacy and risk appetite. Family background indirectly affects entrepreneurial propensity by increasing resource availability and entrepreneurial confidence. Social support played an important mediating role in the formation of entrepreneurial propensity, especially support from school and government significantly enhanced students' entrepreneurial intention. Entrepreneurship education not only directly enhances students' entrepreneurial ability, but also indirectly promotes the formation of entrepreneurial inclination by strengthening the role of personal traits and social support. Entrepreneurship education and social support have a central role in students' entrepreneurial propensity, showed in Figure 2:



**Figure 2.** Social Support across Different Levels of Entrepreneurial Intention

The findings further enrich the theoretical framework of entrepreneurial propensity and provide new perspectives in understanding how personal traits, family background, social support, and entrepreneurship education work together to influence the entrepreneurial propensity of college students. From a practical point of view, these findings provide a strong basis for universities and policy makers. By strengthening entrepreneurship education and providing a better social support system, the entrepreneurial interest and willingness of college students can be more effectively stimulated. Future education policies should pay more attention to personalized entrepreneurship training and support measures in order to comprehensively improve the entrepreneurial success rate of college students.

## 5. Conclusion

Entrepreneurship among college students presents a series of problems such as diversified trends of types, conventional types of entrepreneurship, insufficient entrepreneurial ability, and small scale of entrepreneurship, etc. The overall high failure rate, small scale, and short entrepreneurial duration are its main characteristics. These problems have both external and internal causes, including many elements such as society, school, family and individual. This study systematically analyzes the key factors affecting college students' entrepreneurial tendency based on Structural Equation Modeling (SEM), and explores the interactions among the factors. The results of the study show that personal traits, family background, social support and entrepreneurship

education are important variables affecting the entrepreneurial tendency of college students. Personal traits have a direct and significant impact on entrepreneurial tendency, social support mediates the relationship between personal traits and entrepreneurial tendency, and entrepreneurship education further strengthens the role of these factors. Enhancing the quality of entrepreneurship education and improving the social support system is of great significance in promoting college students' entrepreneurship. Entrepreneurship education can not only directly improve students' entrepreneurial ability, but also indirectly promote the formation of entrepreneurial tendency by strengthening personal traits and social support. Family background, as an important indirect factor, influences entrepreneurial decision-making by enhancing self-confidence and providing resources. Universities and policy makers should focus on creating a favorable entrepreneurial environment and providing more support and opportunities for college students.

In order to improve the quality and success rate of entrepreneurship among college students, colleges and universities should strengthen entrepreneurship education to improve the success rate of entrepreneurship; do a good job in system construction to balance academics and entrepreneurship, so that students' entrepreneurship and academics will not be constrained by each other; and advocate and encourage the participation of multiple main bodies in the process of college students' entrepreneurship, so as to improve the quality of entrepreneurship. Using cross-sectional data, longitudinal data can be considered to understand the dynamic change process of entrepreneurial tendency more comprehensively. This study provides new insights into the theoretical research and practical application of college students' entrepreneurial propensity. Through the comprehensive consideration of factors such as personal traits, social support and entrepreneurship education, it can provide a powerful reference and support for promoting college students' entrepreneurship and optimizing entrepreneurship policies.

## References

- [1] Rhee J , Park T , Lee D H .Drivers of innovativeness and performance for innovative SMEs in South Korea: Mediation

of learning orientation[J].Technovation, 2010, 30(1):65-75.DOI:10.1016/j.technovation.2009.04.008.

- [2] Yu X .Internet of Things Capability and Alliance: Entrepreneurship Orientation, Market Orientation and Product and Process Innovation[J].Internet Research, 2015, 26(2):402-434.DOI:10.1108/IntR-10-2014-0265.
- [3] Moghavvemi S , Mohd Salleh N A , Standing C .Entrepreneurs adoption of information system innovation: The impact of individual perception and exogenous factors on entrepreneurs behavior[J].Internet Research, 2016, 26(5):1-35.DOI:10.1108/IntR-01-2014-0024.
- [4] Yi S , Duval-Couetil N .What Drives Engineering Students To Be Entrepreneurs? Evidence of Validity for an Entrepreneurial Motivation Scale[J].Journal of Engineering Education, 2018, 107(2):291-317.DOI:10.1002/jee.20199.
- [5] Silverio Alarcón, Mercedes Sánchez. Business strategies, profitability and efficiency of production[J]. Spanish Journal of Agricultural Research, 2013, 11(1):19-31.DOI:10.5424/sjar/20131111-3093.
- [6] Prodan I , Drnovsek M .Conceptualizing academic-entrepreneurial intentions: An empirical test[J].Academy of Management Annual Meeting Proceedings, 2010, 30(5):332-347.DOI:10.1016/j.technovation.2010.02.002.
- [7] Griffard E A , Mccoppin H H , Wieberg J , et al. The cutaneous effects of post-transplant immunosuppression with cyclosporine in Muir-Torre syndrome[J].Journal of the American Academy of Dermatology, 2011, 64(5):e86-e87.DOI:10.1016/j.jaad.2010.08.023.
- [8] Fan M , Qalati S A , Khan M A S , et al. Effects of entrepreneurial orientation on social media adoption and SME performance: The moderating role of innovation capabilities[J]. PLoS ONE, 2021, 16(4):1-24.DOI:10.1371/journal.pone.0247320.
- [9] Abolfazli S A , Mohammadzadeh M , Peiravian F , et al. Strategy-making Process and Firm Performance in Iranian Pharmaceutical Industry[J].Iranian journal of pharmaceutical research (IJPR), 2019, 18(1):531-545.DOI:10.22037/IJPR.2019.2353.
- [10] Khalid N .Artificial intelligence learning and entrepreneurial performance among university students: evidence from Malaysian higher educational institutions[J].Journal of Intelligent and Fuzzy Systems, 2020, 39(4):5417-5435.DOI:10.3233/JIFS-189026.