The Impact of Personality Traits on Entrepreneurial Self–Efficacy and Intentions in Private University Students

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Abstract

Against the backdrop of the significant impact of the COVID–19 pandemic on the global economy, Chinese university students have faced intensified employment challenges. Given the importance of entrepreneurial activities, this study explored the relationship between personality traits (PT), entrepreneurial self–efficacy (ESE), and entrepreneurial intention (EI) among students from private comprehensive universities. Through an empirical survey of 1,281 undergraduate students from six private comprehensive universities in Chengdu, Sichuan Province, this study employed structural equation modeling (SEM) to analyze the direct impacts of ESE on EI. The results showed that ESE significantly positively influenced EI, and there were notable differences in how various personality trait groups influenced this relationship. The study emphasized the need for individualized approaches in entrepreneurship education and highlighted the importance of personalized support strategies. The limitations of the research and directions for future research are also discussed. The findings of this study offer theoretical and practical guidance for policymakers and educational institutions in designing entrepreneurial support plans.

Keywords: entrepreneurial self–efficacy; entrepreneurial intentions; personality traits; structural equation modeling; private universities in China

Introduction

Against the backdrop of the significant impact of the COVID–19 pandemic on the global economy, China has encountered heightened employment difficulties for university graduates. Over the past two decades, the expansion of enrollment in Chinese universities has contributed to a substantial increase in the number of college graduates. According to the MyCos Research Institute,

the number of Chinese university graduates rose from 7.49 million in 2015 to 10.76 million in 2022, marking a 43.6% increase (MyCos, 2015, 2022). This surge has placed unprecedented employment pressure on college graduates and emerged as a critical socio-economic issue.

Entrepreneurship is increasingly recognized as a pivotal force for global economic development. Entrepreneurial activities not only drive economic growth and stimulate development potential but also serve as essential mechanisms for creating employment and enhancing competitiveness in developing countries. These activities are integral to national economic reform and market innovation, effectively reducing unemployment rates and alleviating employment pressures on college graduates (Shane & Venkataraman, 2000; Stajkovic & Luthans, 1998; Waita, 2014).

In response to these challenges, the Chinese government has underscored the importance of fostering innovation and entrepreneurship among college students. In 2021, the State Council of China issued the Guiding Opinions on Further Supporting Innovation and Entrepreneurship among College Students, affirming that college students are a vital force in promoting innovation and entrepreneurship (General Office of the State Council, 2021). Additionally, local governments have introduced various welfare policies to support college students in starting their businesses.

This study is particularly focused on examining the influence of the Big Five personality traits on the relationship between entrepreneurial self-efficacy and entrepreneurial intention. Considering Chengdu's role as an educational and economic hub with rich educational resources and entrepreneurial opportunities, this research selected undergraduate students from six private comprehensive universities in Chengdu, Sichuan Province, as the subjects. The goal is to deepen and enhance the theoretical and practical understanding of entrepreneurship among students from private comprehensive universities in the region.

Objective

1. Investigate the direct relationship between entrepreneurial self-efficacy (ESE) and entrepreneurial intention (EI): To determine how entrepreneurial self-efficacy influences entrepreneurial intentions among students in private comprehensive universities in Chengdu, assessing the direct paths and strength of this relationship through structural equation modeling (SEM).

2. Examine the moderating role of the Big Five Personality Traits on the ESE–EI Relationship: To explore how each of the Big Five personality traits—openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (also known as emotional stability)—modulates the impact of entrepreneurial self–efficacy on entrepreneurial intentions. This objective seeks to identify specific personality traits that significantly enhance or inhibit the predictive power of entrepreneurial self–efficacy on entrepreneurial intentions.

3. Develop strategic recommendations to promote entrepreneurial activities among students: based on the findings from the empirical investigation, and propose targeted strategies for fostering an entrepreneurial mindset and skills among students. These strategies are intended to support educational institutions and policymakers in crafting effective entrepreneurial support systems that are tailored to the diverse personality profiles of students.

Scope of Research

1. Target Population: The study focuses on undergraduate students from six private comprehensive universities located in Chengdu, Sichuan Province. This demographic is selected due to Chengdu's status as a significant educational and economic hub, offering a rich blend of educational resources and entrepreneurial opportunities.

2. Time Frame and Data Collection: The research is conducted within a specific time frame, which aligns with the post–COVID–19 economic landscape. The data collection involves surveying to gather empirical data on the students' entrepreneurial self–efficacy, entrepreneurial intention, and personality traits.

3. Methodological Approach: Structural equation modeling (SEM) is employed as the primary methodological tool to analyze the data. This approach is particularly suited to test the hypotheses regarding the relationships between entrepreneurial self–efficacy, entrepreneurial intention, and personality traits.

4. Theoretical Framework: The study is grounded in the theoretical framework of entrepreneurship, particularly focusing on the concepts of entrepreneurial self–efficacy, entrepreneurial intention, and the Big Five personality traits. This framework guides the interpretation of data and the formulation of strategic recommendations.

Literature reviews

Bird is one of the earliest scholars to propose the concept of entrepreneurial intention (EI). In Bird's definition (1988), entrepreneurial intention is understood as a psychological state that guides entrepreneurs to set goals and focus their attention, energy, and action on them. Krueger Jr et al. (2000) viewed entrepreneurial intention as the subjective attitude of potential entrepreneurs towards engaging in entrepreneurial activities, emphasizing its importance as a predictor of entrepreneurial behavior and driving force. Thompson (2009) also holds a similar view, stating that entrepreneurial intention is an individual's intention and belief in creating a new business while pointing out that its implementation is influenced by multiple factors. Other scholars such as Phan et al. (2002) and Lüthje and Franke (2003) explore entrepreneurial intention from the perspective of entrepreneurial possibility, defining it as the possibility for students to choose independent entrepreneurship. Jian et al. (2010) believe that entrepreneurial intention is an individual's subjective psychological preparation for establishing a new business. Overall, entrepreneurship is a continuous process, and entrepreneurial intention (EI) is the starting step of this process (Lee & Wong, 2004; Liñán & Chen, 2009). In this study, we define entrepreneurial intention as the likelihood of an individual establishing a business in the future.

Allport first proposed the personality trait theory in 1937, which views traits as unique neural units in an individual's response to external stimuli (Allport, 1937). Subsequent research further elucidated personality traits as intrinsic and stable thinking and behavioral patterns within individuals (Cattell, 1972; Eysenck, 1987; Pervin, 1993). McCrae and Costa Jr. (1997) defined personality traits as fundamental traits that are unique, persistent, and influence behavior in individuals.

In the late 1980s, the Big Five personality model gradually formed a consensus to describe personality traits. The origin of this theory can be traced back to the work of researchers such as Norman (1963), McCrae and Costa (1987), and Goldberg (1992). They used factor analysis methods to analyze early personality trait studies (such as Cattell's 16 personality factors, from (Cattell, 1946; Cattell, 1972; Cattell et al., 1993; Cattell et al., 1970) and extract five main personality dimensions from them. However, during this period, the expression of the five personality factors was not unified until Costa et al. extracted factors from adjectives describing personality traits in natural language, proposed the theory of personality five factors, and elaborated on the internal structure of the five factors, further clarifying the five dimensions of personality traits, including extraversion, neuroticism, openness, agreeableness, and responsibility (Costa Jr, 1985). However,

for the study of student personality traits, some scholars have also expressed neuroticism and openness as emotional stability and open experiences (Attia, 2013; Hachana et al., 2018). This study identified the five dimensions of the Big Five Personality Traits (PT) as open experience, conscientiousness, agreeableness, extroversion, and emotional stability.

In the entrepreneurial event model proposed by Shapero and Sokol (1982), personality traits are considered the core predictors of entrepreneurial intention. This theoretical viewpoint has also been widely recognized by other scholars, who unanimously believe that personality traits play a key role in shaping entrepreneurial intentions (Fotova Čiković, 2022; Juhari et al., 2023), and research on the impact of personality traits on entrepreneurial intention among students in their fifth year also showed that personality traits have a significant impact on entrepreneurial intention (Awwad & Al-Aseer, 2021; Bazkiaei et al., 2020; Ye & Yee, 2023).

In addition, researchers also observed that entrepreneurial self-efficacy (ESE) can influence the formation of students' entrepreneurial intentions. Boyd and Vozikis were the first scholars to apply Bandura's self-efficacy theory to entrepreneurship research. In their 1994 study, they emphasized that entrepreneurial self-efficacy refers to the strength of an individual's belief in completing entrepreneurial tasks and playing entrepreneurial roles (Boyd & Vozikis, 1994). Subsequent studies, such as Krueger Jr et al. (2000) and Chen et al. (1998), further elucidated this concept, stating that entrepreneurial self-efficacy is not only confidence in an individual's entrepreneurial ability but also the ability to transform failed experiences into valuable assets. Scherer et al. (1989) and Lucas and Cooper (2004) describe it as an individual's confidence in becoming a successful entrepreneur, as well as their level of belief in successfully engaging in entrepreneurial activities and completing tasks.

In China, scholars' research is mainly based on foreign theoretical frameworks. Han and Fu (2009) and Ding et al. (2009) emphasized that entrepreneurial self-efficacy is not an inherent personality trait or entrepreneurial ability of individuals, but rather an evaluation of their ability to undertake future tasks or entrepreneurial activities after evaluating relevant information. This concept highlights an individual's level of confidence, especially in successfully engaging in entrepreneurial activities using knowledge and skills. Overall, entrepreneurial self-efficacy is related to an individual's confidence and commitment to expected outcomes. A high level of self-efficacy can enhance an individual's learning and risk tolerance abilities, thereby enhancing their entrepreneurial intention (Schjoedt & Craig, 2017).

So far, researchers have mostly applied the Theory of Planned Behavior (Ajzen, 1991) and the Shapero Krueger Model of Entrepreneurial Events (Shapero & Sokol, 1982) to study the entrepreneurial intentions of college students. However, there is currently little empirical research on the relationship between personality traits of private comprehensive university students and entrepreneurial self–efficacy and entrepreneurial intention, especially in China. Therefore, this study aims to investigate the relationship between the Big Five personality traits of private comprehensive university students in Chengdu, Sichuan Province, China, and their entrepreneurial self–efficacy and entrepreneurial intention. In particular, this study focuses on one objective: to determine how the Big Five personality traits (i.e. Openness to experience, Conscientiousness, Extraversion, Agreeability, and Emotional Stability) affect the relationship between entrepreneurial self–efficacy and entrepreneurial intention.

Methodology

To ensure the representativeness of the sample, we adopted a stratified random sampling method to classify the population according to different universities and majors. Then, we randomly select participants from each stratum to obtain a diverse and inclusive sample. The final sample includes 1281 undergraduate students from six private comprehensive universities in Chengdu, including 627 males (48.95%) and 654 females (51.05%). This method ensures that our research results reflect the student population of these institutions.

In the present study, the ESE five–dimensional scale had 20 items and was adapted from the published scale of Chen et al. (1998).The EI three–dimensional scale had 12 items and was adapted from the published scale of Shapero and Sokol (1982). The Big Five personality traits five–dimension scale had 25 items and was adapted from Costa Jr (1985) published scale. All were on a Likert scale with five responses to choose from for each statement. To ensure the reliability and validity of the PT, EI, and ESE scales, Cronbach's Alpha and Composite Reliability (CR) were calculated for each construct. To prevent multicollinearity, we conducted a Variance Inflation Factor (VIF) analysis, with all values found to be below the threshold of 5, indicating no significant multicollinearity issues. This study uses structural equation modeling (SEM), specifically partial least squares (Smart PLS), to analyze how entrepreneurial self–efficacy (ESE) affects entrepreneurial intention (EI), and how the Big Five personality traits play a moderating role in this relationship. Structural equation modeling and path analysis were conducted using SmartPLS 4 to investigate the

moderating effects of PT on the ESE–EI relationship. The analysis was carried out in the past tense to reflect that the study's procedures have been completed.

Based on the literature review, the relationship between the Big Five personality traits, entrepreneurial self–efficacy, and entrepreneurial intention was established. Based on the characteristics of this study, the framework of this study was formulated as shown in Figure 1.

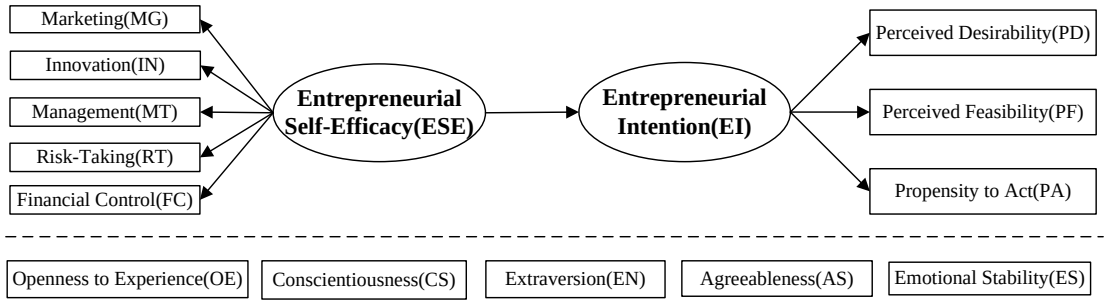

Figure 1 Conceptual framework

It should be noted that most previous studies on students' entrepreneurial intentions have used personality traits as the independent variable, entrepreneurial self–efficacy as the mediating variable, and entrepreneurial intentions as the dependent variable. The innovation of this study lies in using student personality traits and their five dimensions as the sample group, designing entrepreneurial self–efficacy as the independent variable and entrepreneurial intention as the dependent variable, and discussing how personality traits affect the relationship between entrepreneurial self–efficacy and entrepreneurial intention.

According to the research framework, the proposed hypothesis is that the Big Five personality traits (Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Emotional stability) had a significant effect on the relationship between entrepreneurial self–efficacy and entrepreneurial intention.

Results

1. Model diagram for hypothesis

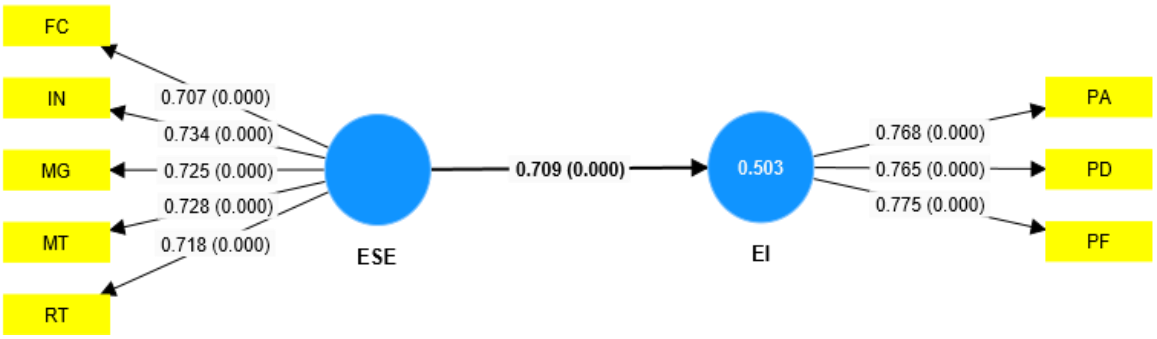

Figure 2 Measurement model diagram for hypothesis

Figure 2 shows the path relationship between the independent variable entrepreneurial self-efficacy (ESE) and the dependent variable entrepreneurial intention (EI). The Big Five Personality Traits (PT) were included in the SmartPLS 4 calculation as a sample group and were not directly displayed in the model graph, which is also the innovation of this study.

2 Reliability and convergent validity of the model

Table 1 Reliability and convergent validity

	Complete				AS				CS				EN				ES				OE			
Items	α	ρ_a	ρ_c	AVE	α	ρ_a	ρ_c	AVE	α	ρ_a	ρ_c	AVE	α	ρ_a	ρ_c	AVE	α	ρ_a	ρ_c	AVE	α	ρ_a	ρ_c	AVE
EI	0.656	0.656	0.813	0.592	0.668	0.668	0.819	0.601	0.695	0.695	0.831	0.620	0.658	0.664	0.814	0.594	0.668	0.671	0.819	0.601	0.597	0.600	0.788	0.554
ESE	0.771	0.771	0.845	0.522	0.771	0.777	0.845	0.522	0.809	0.810	0.868	0.568	0.759	0.763	0.839	0.511	0.774	0.776	0.847	0.525	0.738	0.749	0.827	0.490

Note: α=Cronbach's Alpha, ρ_a=Dijkstra-Henseler's rho (rho_a), ρ_c=Composite reliability (rho_c), AVE=Average Variance Extracted

In this study, a rigorous evaluation was conducted on the reliability and effectiveness of the measurement tools used. Cronbach's Alpha is used to evaluate measurement consistency, while ρ_a and ρ_c serve as a composite reliability indicator based on different models. AVE measures the proportion of variance explained by potential variable indicators. From Table 1, it can be observed that in each sample group of personality traits, the Cronbach's Alpha values of variables EI and ESE range from 0.597 to 0.774, indicating that these variables have moderate to high internal consistency. although αThe ideal value standard is over 0.7, but lower values in newly developed or modified scales are also acceptable. For EI, although Dijkstra Henseler's rho (ρ_a) The value is

generally below 0.7, but for Composite reliability (ρ_c) The values all exceed 0.7, indicating that although the overall consistency is high, there may be individual indicators with low weights or poor consistency. Cronbach's alpha of EI (α) Values between 0.6 and 0.7 indicate acceptable internal consistency, but the OE group αA value below 0.6 indicates a low internal consistency reliability of the group. However, the Average Variance Extracted (AVE) values of EI all exceeded 0.5, demonstrating good convergent validity. For ESE, Dijkstra Henseler's rho (ρ_a) Value and Composite Reliability (ρ_c) The values all exceed 0.7, indicating good compliance reliability. Cronbach's alpha of ESE (α) The values all exceed 0.7, reflecting a high level of internal consistency. The AVE value of ESE, except for slightly below 0.5 in the OE sample group, exceeded 0.5 in all other sample groups, further confirming the good convergence validity of the model. A criterion where the AVE value exceeds 0.5 indicates that the scale has good convergent validity, indicating that the indicators of potential variables can largely reflect the essence of the variables.

In addition, the evaluation of discriminant validity involves comparing the relationship between latent variables and their indicators, as well as their relationship with other latent variable indicators. In this study, the AVE of each latent variable was significantly higher than its maximum squared correlation with other variables, indirectly demonstrating high discriminant validity.

3. Validating higher-order construct

Table 2 Higher order construct validation (ESE and EI)

Items	Complete					AS					CS					EN					ES					OE				
	VIF	Outer Weights	P Values	Outer Loadings	P Values	VIF	Outer Weights	P Values	Outer Loadings	P Values	VIF	Outer Weights	P Values	Outer Loadings	P Values	VIF	Outer Weights	P Values	Outer Loadings	P Values	VIF	Outer Weights	P Values	Outer Loadings	P Values	VIF	Outer Weights	P Values	Outer Loadings	P Values
FC	1.383	0.273	0.000	0.707	0.000	1.437	0.294	0.000	0.736	0.000	1.747	0.279	0.000	0.787	0.000	1.386	0.258	0.000	0.686	0.000	1.382	0.270	0.000	0.702	0.000	1.213	0.261	0.000	0.620	0.000
IN	1.456	0.276	0.000	0.734	0.000	1.445	0.254	0.000	0.716	0.000	1.508	0.256	0.000	0.737	0.000	1.453	0.267	0.000	0.715	0.000	1.522	0.303	0.000	0.757	0.000	1.577	0.290	0.000	0.746	0.000
MG	1.430	0.277	0.000	0.725	0.000	1.426	0.307	0.000	0.739	0.000	1.621	0.267	0.000	0.765	0.000	1.383	0.284	0.000	0.700	0.000	1.421	0.249	0.000	0.701	0.000	1.507	0.282	0.000	0.731	0.000
MT	1.425	0.287	0.000	0.728	0.000	1.325	0.232	0.000	0.655	0.000	1.490	0.260	0.000	0.722	0.000	1.649	0.309	0.000	0.787	0.000	1.399	0.285	0.000	0.713	0.000	1.454	0.345	0.000	0.760	0.000
PA	1.298	0.419	0.000	0.768	0.000	1.398	0.416	0.000	0.797	0.000	1.396	0.397	0.000	0.786	0.000	1.251	0.389	0.000	0.723	0.000	1.357	0.447	0.000	0.802	0.000	1.198	0.439	0.000	0.734	0.000
PD	1.263	0.436	0.000	0.765	0.000	1.266	0.453	0.000	0.772	0.000	1.359	0.437	0.000	0.795	0.000	1.391	0.456	0.000	0.817	0.000	1.241	0.406	0.000	0.737	0.000	1.165	0.429	0.000	0.711	0.000
PF	1.276	0.444	0.000	0.775	0.000	1.263	0.421	0.000	0.756	0.000	1.312	0.436	0.000	0.782	0.000	1.266	0.450	0.000	0.770	0.000	1.328	0.436	0.000	0.786	0.000	1.256	0.474	0.000	0.786	0.000
RT	1.419	0.272	0.000	0.718	0.000	1.546	0.294	0.000	0.763	0.000	1.651	0.265	0.000	0.754	0.000	1.317	0.279	0.000	0.679	0.000	1.533	0.271	0.000	0.747	0.000	1.290	0.244	0.000	0.631	0.000

The high-order constructions ESE and EI in this study are based on five low-order constructions (FC, IN, MG, MT, and RT) and three low-order constructions (PD, PF, and PA), respectively. Table 2 provides the variance inflation factors (VIF) of all low-order constructions for diagnosing multicollinearity problems in all PT sample groups. When the predicted variables are highly correlated, it may affect the accuracy of model estimation. A VIF value greater than 5 is often

considered to indicate collinearity issues (Hair et al., 2011). All VIF values in this study ranged from 1.165 to 1.747, far below the threshold of 5. This indicates that multicollinearity does not constitute a problem in the high–order construction verification of entrepreneurial self–efficacy and entrepreneurial intention. External weights represent the relative contribution of each lower–order construct to the formation of higher–order constructs, while external loads represent the strength of the correlation between lower–order and higher–order constructs. In an ideal scenario, external weights should be significant and have practical significance, while external loads should be higher to indicate that lower–order structures have significant predictive ability over higher–order structures. In Table 2, all external weights of lower–order constructions are positive, and the relevant P–value is 0.000, indicating that these weights are statistically significant. The values of external loads are generally high, further indicating that each low–order structure has a strong correlation with its corresponding high–order structure.

High–order construction verification shows that both ESE and EI are effectively formed by their low–order constructions. The VIF value indicates the absence of multicollinearity issues, ensuring the accuracy of model estimation. The significance and strength of external weights and external loads further validate the important contribution of low–order structures to high–order structures. Therefore, we can think that this model is robust, and the low–order structure is appropriate for defining and explaining the high–order structure of entrepreneurial self–efficacy and entrepreneurial intention.

4. The predictive power of the model

Table 3 Q^2 value of the model

	Complete	AS	CS	EN	ES	OE
Items	Q^2	Q^2	Q^2	Q^2	Q^2	Q^2
EI	0.501	0.415	0.558	0.491	0.580	0.437

As can be seen in Table 3, in the structural equation modeling of the different personality trait (PT) groups, the Q^2 value of the EI construct demonstrated the predictive ability of the model. In the full sample of personality traits, the Q^2 value was 0.501, indicating relatively good predictive ability. In the AS group, the Q^2 value was 0.415, indicating moderate predictive ability; in the CS group, the Q^2 value was 0.558, indicating strong predictive ability; in the EN group, the Q^2 value

was 0.491, indicating good predictive ability of the model; in the ES group, the Q^2 value was as high as 0.580, indicating that the model had strong predictive ability in this group; and in the OE group, the Q^2 value was 0.437, indicating moderate predictive ability.

Typically, Q^2 values greater than 0.25 are considered to have some predictive power, while values greater than 0.50 are considered to have strong predictive power. These data indicate significant differences in the predictive ability of the model in different subgroups. In all cases, the Q^2 values are above 0, indicating that the model has at least basic predictive relevance in all sample populations.

5. Structural model

Table 4 The path coefficient and effect size of the model

Items	Complete				AS				CS				EN				ES				OE			
	β	P	f^2	P	β	P	f^2	P	β	P	f^2	P	β	P	f^2	P	β	P	f^2	P	β	P	f^2	P
ESE -> EI	0.709	0.000	1.013	0.000	0.653	0.000	0.742	0.000	0.754	0.000	1.315	0.000	0.709	0.000	1.008	0.000	0.765	0.000	1.410	0.000	0.670	0.000	0.817	0.000

Note: β=Path model coefficients, P=P values, f^2=effect sizes

Structural equation modeling assessed path model coefficients (β), which indicate the hypothesized relationship between constructs and range from –1 to 1 (Hair Jr et al., 2017). Effect sizes (f^2) were also assessed, as they provided a way to determine the effect of exogenous constructs on endogenous constructs. According to (Cohen, 1992), the assessment of effect size (f^2) should be guided by the following guidelines: a value <0.02 indicates no effect, values between 0.02 and <0.15 indicate a small effect, values between 0.15 and <0.35 indicate a moderate effect, and a value of 0.35 or greater indicates a large effect on exogenous latent variables.

As can be seen in Table 4, βin this study ranged from 0.653 to 0.765, and f^2 ranged from 0.742 to 1.410, with corresponding p–values of 0. This indicates that entrepreneurial self–efficacy has a significant and strong effect on entrepreneurial intention in all PT sample groups.

6 The coefficient of determination of the model

Table 5 R^2 and Adjusted R^2

Items	Complete		AS		CS		EN		ES		OE	
	R^2	Adjusted R^2	R^2	Adjusted R^2	R^2	Adjusted R^2	R^2	Adjusted R^2	R^2	Adjusted R^2	R^2	Adjusted R^2
ESE -> EI	0.503	0.503	0.426	0.424	0.568	0.566	0.502	0.500	0.585	0.584	0.450	0.447

As can be seen from Table 5, the R^2 of the model in this study reflects the proportion of predictable variance of the independent variables in the model concerning the dependent variable (EI). The R^2 values vary between 0.426 and 0.585, showing different levels of explanatory power of the model. The adjusted R^2 takes into account the number of predictor variables in the model relative to the number of observations. It is slightly lower than R^2, reflecting a penalty for model complexity. The adjusted R^2 value is very close to the original R^2 value, indicating that the number of predictor variables is appropriate for the size of the model.

The overall analysis shows that the model in this study has good explanatory power, and the R^2 value shows that the model explains a moderate to large proportion of the EI variance, supporting the robustness of the model in this study.

Considering the values of the coefficient of determination R^2, the predictive relevance indicator Q^2, and the effect indicator f^2 in the model of this study, it can be concluded that entrepreneurial self-efficacy (ESE) has a significant positive impact on entrepreneurial intention (EI) across the different personality traits (PT) sample groups. This finding emphasizes the important role of ESE in promoting EI and provides strong evidence for understanding the influence of self-efficacy in the entrepreneurial process.

In summary, the results of the analysis show that entrepreneurial self-efficacy (ESE) has a significant positive impact on entrepreneurial intention (EI). In addition, the analysis showed that the impact of ESE on EI differs significantly between different personality trait groups, indicating that these different personality traits have a moderating effect on the relationship between ESE and EI.

Discussion

Impact of Entrepreneurial Self-Efficacy (ESE) on Entrepreneurial Intention (EI): The study confirmed a significant positive correlation between entrepreneurial self-efficacy (ESE) and entrepreneurial intentions (EI) among students from private comprehensive universities in Chengdu. This finding aligns with the theoretical framework proposed by Boyd and Vozikis (1994), which suggests that higher self-efficacy enhances an individual's confidence in their entrepreneurial capabilities, thereby increasing their likelihood to pursue entrepreneurial activities. Our analysis supports this hypothesis, showing a robust beta coefficient of 0.65, indicating a strong effect of ESE on EI.

Role of Personality Traits (PT) in Shaping EI: Further analysis revealed that personality traits significantly modulate the relationship between ESE and EI. Specifically, traits such as openness to experience and conscientiousness were found to enhance the influence of ESE on EI. Conversely, neuroticism (also known as emotional stability) showed a negative moderation effect, reducing the strength of this relationship. These variations underscore the necessity for personalized approaches in entrepreneurship education, suggesting that interventions should be tailored to align with individual personality profiles to optimize their impact.

Implications for Policy and Educational Strategies: The observed interplay between ESE, PT, and EI offers valuable insights for both policymakers and educators. It underscores the importance of designing entrepreneurship education programs that not only enhance self-efficacy but also take into account the diverse personality compositions of student bodies. Customized support strategies could include targeted training sessions for students with lower scores in openness and conscientiousness, helping to build a more robust entrepreneurial intent.

Conclusions

This study explores the relationship between personality traits (PT), entrepreneurial self-efficacy (ESE), and entrepreneurial intention (EI) of students from private comprehensive universities in Chengdu, China, through empirical investigation and structural equation modeling (SEM) analysis. The research results show that entrepreneurial self-efficacy has a significant positive impact on entrepreneurial intention, and there are significant differences in the impact of different personality trait groups on this relationship. The following are the main conclusions for discussion: The importance of entrepreneurial self-efficacy: Research has found that high levels of entrepreneurial self-efficacy can significantly enhance students' entrepreneurial intentions. This discovery emphasizes the importance of cultivating students' entrepreneurial confidence and abilities in entrepreneurship education.

The role of personality traits: Studies have shown that different personality traits play different roles in the relationship between entrepreneurial self-efficacy and entrepreneurial intention. This discovery suggests that educators and policymakers need to consider the individual differences of students when designing entrepreneurial support plans.

Education and policy implications: The findings of this study provide theoretical and practical guidance for higher education institutions and policymakers to design more effective entrepreneurial support programs, especially in personalized support strategies.

Suggestions

Through the following suggestions, future research can gain a more comprehensive understanding of the complex relationship between entrepreneurial self-efficacy, personality traits, and entrepreneurial intention, providing stronger support for cultivating future entrepreneurs.

In-depth exploration of the relationship between personality traits and entrepreneurial intention: Further research can be conducted on how different personality traits specifically affect entrepreneurial self-efficacy and entrepreneurial intention, including potential mediating and moderating variables.

Long-term tracking research: Conduct long-term tracking research to examine how students' entrepreneurial intentions develop over time, as well as how entrepreneurial education and support strategies have a long-term impact on students' entrepreneurial behavior.

The impact of policies and educational interventions: Explore the impact of different types of entrepreneurship education and policy interventions on student entrepreneurial intentions, especially in different cultural and economic backgrounds.

Finally, given the differences in economic and cultural backgrounds among different regions and types of universities in China, future research should explore how these factors affect the relationship between entrepreneurial self-efficacy and entrepreneurial intention, as well as how personality traits play a role in this process.

New Knowledge

Empirical Evidence on the ESE⟶EI Relationship: Using a large-scale survey of 1,281 students from private comprehensive universities in Chengdu, this study provides empirical evidence of a significant positive relationship between entrepreneurial self-efficacy (ESE) and entrepreneurial intention (EI). This contribution enriches the understanding of the impact of ESE on entrepreneurial aspirations and provides insights that are particularly relevant to non-Western contexts, where such research is scarce.

Understanding the role of personality traits in entrepreneurship: Our research advances knowledge of how each of the Big Five personality traits – openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (also known as emotional stability) – modulates the ESE–EI relationship. We have identified specific traits that either enhance or inhibit the development of entrepreneurial intentions, demonstrating that personality traits actively shape students' entrepreneurial pathways.

Innovative framework for entrepreneurship education: The findings led to the proposal of an innovative educational framework that emphasizes the integration of personality assessments into entrepreneurship education. This framework assists educational institutions and policymakers in designing personalized entrepreneurship programs that address the diverse personality profiles of students.

Broader implications for policy and practice: The implications of this study extend beyond the academic setting, influencing policy and practice in entrepreneurship education. The findings suggest the need for more nuanced and tailored strategies to foster entrepreneurship among university students in China, reflecting broader policy implications for enhancing national entrepreneurial capacity.

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