

Personality Traits and Entrepreneurial Intention:
Evidence from China

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Abstract

This research analyzes the relationship between the Big Five personality traits and entrepreneurial intentions, including five hypotheses corresponding to the correlation between EI and each of the five major traits. The data is collected among university students in Chengdu, a southwest city of China, by conducting a questionnaire survey that consists of three sections: demographic section, personality traits section and entrepreneurial intention section. The OLS method is employed, and during the analysis process, gender and family business are controlled. Results of the study reveal a positive association between conscientiousness and entrepreneurial intention, as well as a positive association between extraversion and entrepreneurial intention. This finding contributes to the existing body of knowledge and aid future research.

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1. Introduction

For decades, scholars and policymakers have captured the attention on entrepreneurs, with a growing need for entrepreneurs to drive economic development by generating new ideas and converting them into profitable ventures (Turker & Selcuk, 2009). In response to this growing demand, various initiatives have been implemented to foster entrepreneurship among young people. For instance, the United States has witnessed the emergence of dozens of student-supporting venture capital firms such as Dorm Room Fund and NextGen Venture Partners. Dorm Room Fund, organized by students, specifically focuses on investing in startups founded by fellow students across the nation. On the other hand, NextGen Venture Partners is a venture capital firm that specializes in early-stage startup investments, including those run by college students. These supporting venture capitals play a crucial role in providing financial resources and mentorship to aspiring young individuals to pursue their business ideas and start up their own businesses with greater confidence. Furthermore, universities worldwide have also taken significant steps to promote entrepreneurship among their students. Institutions such as the University of Amsterdam in the Netherlands and renowned entrepreneurship-specific colleges like Babson in the United States offer comprehensive Entrepreneurship programs. These programs are designed to boost students' entrepreneurial attitudes and equip students with necessary entrepreneurial skills to identify opportunities and turn opportunities into actionable business. With the offer of entrepreneurship program, young people have more opportunity to access this field, and in addition, by integrating theoretical knowledge with practical experiences, these educational institutions empower their students to navigate the complex landscape of entrepreneurship. However, in several developing countries there are still lack of comprehensive entrepreneurial programs within their higher education systems. This absence may potentially jeopardize the propensity for entrepreneurship within young people. A notable example can be observed in China, where the implementation of a formalized Entrepreneurship program within the higher education system has yet to developed.

In order to encourage entrepreneurship, definition of entrepreneurial intention and determined factors need to be recognized first (Scott & Twomey, 1988). Despite the significant attention given to entrepreneurship, it is crucial to aware that no consensus on how to precisely define and measure individual entrepreneurial intention has yet emerged (Shook et al., 2003). Thompson (2009) argued that the term "entrepreneurial intention" has been used loosely to cover a range of related but different concepts, which leads to a lack of clarity and hindering research progress, and this inconsistency is reflected in studies that yield inconsistent results when using individual entrepreneurial intention as a key variable with different concepts and measurements. To address this issue, the author seeked to provide a clearer conceptualization of entrepreneurial intention and presented the development and validation of a reliable and internationally applicable scale called the Individual Entrepreneurial Intent Scale (IEIS). According to the outcomes of his study, Thompson defined entrepreneurial intention as a self-acknowledged conviction by a person that they intend to establish a new business venture and consciously plan to do so at some point in the future. He also mentioned, "the point is uncertain or may never be reached, and while having entrepreneurial intent is a necessary condition for becoming a nascent entrepreneur, being a nascent entrepreneur is not a prerequisite for having entrepreneurial intent, nor is it the inevitable outcome of such intent". Meanwhile, to operationalize the concept of entrepreneurial intention, Thompson tested the IEIS and found that it was internally reliable, unidimensional, and stable. Nowadays, this scale serves as a tool to measure and assess an individual's level of entrepreneurial intention in a standardized manner in many studies, and it is also used in the present study for assessment of entrepreneurial intention.

Indeed, the factors influencing entrepreneurial intentions have been extensively studied by scholars, leading to a variety of perspectives and findings. Some researchers have focused on external factors such as access to capital, parental role models, and entrepreneurial education, examining their impact on entrepreneurial intentions (Hou et al., 2019; Lindquist et al., 2015; Sesen, 2013; Zhang et al., 2014). On the other hand, scholars have also focused on the influence of factors from an individual perspective on entrepreneurial intentions, particularly entrepreneurial self-efficacy and personality traits. Crant (1996) proposed that proactive personality is an important element of a propensity to act, which influences judgments about entrepreneurial careers. The author further suggested that more proactive individuals tend to envision creating situations, such as forming a business. Additionally, a study by Zhao & Seibert (2006) provides evidence that in terms of entrepreneurial status, there is a big difference between self-employed entrepreneurs and managers on personality dimensions, which indicates the importance of personality traits. In a study conducted by Şahin et al. (2019), researchers used a fuzzy set qualitative comparative analysis (fsQCA) approach, employing survey data from two different samples: university students and working adults. The objective was to identify the influence of the big five personality traits and entrepreneurial self-efficacy (ESE) on entrepreneurial intention. The findings of the study indicate that both students and working adults can exhibit a high level of entrepreneurial intention through various configurations of the big five personality traits and ESE, with the core conditions being ESE and openness to experience, which is one of the big five personality traits. Furthermore, Ng et al. (2021) examined the effects of proactive personality on shaping entrepreneurial intentions through attitude toward entrepreneurship. Their findings show a significant relationship between proactive personality and entrepreneurial intention. However, some researchers hold a contradicting viewpoint. Turker and Selcuk (2009) argue that personality traits cannot be isolated from contextual factors because individuals are surrounded by a wide range of cultural, social, economic, political, demographical, and technological factors.

The present research considers personality as a determinant factor and aims to study the influence of personality on entrepreneurial intention among university students in China, specifically in Chengdu city. Personality describes individuals' relatively enduring patterns of cognition, emotion, and behavior that distinguish one person from another; the Big Five personality traits, so called Five-factor Model (FFM) is used as a measure of personality (John et al., 2010). The Big-Five factors have traditionally been numbered and labeled as: Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to experience (Goldberg, 1990). Each of these five traits reflects a key part of individuals' feelings and behaviors (Anglim & O'connor, 2019; DeYoung, 2015). Extensive research has demonstrated the generality of the Big-five representation and stability within sets of trait terms and has provided evidence for the replicability and validity, supporting FFM as a comprehensive taxonomy for understanding and categorizing personality (Cobb-Clark & Schurer, 2012; Goldberg, 1990; Saucier & Goldberg, 1998). The emergence of FFM has allowed scholars to organize a vast variety of personality variables into a small but meaningful set of personality constructs to identify consistent and meaningful relationships (Zhao & Seibert, 2006). The decision to focus on the FFM in the present study is based on the substantial evidence supporting the explanatory power of the Big Five personality traits concerning entrepreneurial intention. Rauch and Frese (2007) find that traits that align with the task of running a business, such as self-efficacy, innovativeness, stress tolerance, need for autonomy, and proactive personality, produce more significant effects on business creation. Individuals possessing these matched traits are more likely to engage in entrepreneurial activities and achieve success. Bazkiaei et al. (2020) examine the impact of the Big Five personality traits on entrepreneurial intention through mediating the role of entrepreneurial attitude. Their findings demonstrate a positive association between the Big Five traits and entrepreneurial intention

among students. In a study by Zhao et al. (2010), the study results indicate that openness to experience and conscientiousness consistently exhibited the strongest associations with entrepreneurial intention, while agreeableness appeared to be unrelated to entrepreneurial intention.

During the literature review process, it was observed that there is a scarcity of research in this field in China compared to existing studies conducted in Western countries. Therefore, to shed light on the association between the Big Five personality traits and entrepreneurial intention among Chinese university students in Chengdu and to contribute to existing literature with empirical evidence for the explanatory power of the Big Five personality traits on entrepreneurial intention, the research question is formulated as follows: "to what extent, the Big Five personality traits are associated with the entrepreneurial intention among university students in Chengdu?"

The present study uses a quantitative method collecting a sample of university students who are attending a college in Chengdu, Sichuan, China from diverse academic disciplines. A survey questionnaire is developed based on established scales for measuring the Big Five personality traits and entrepreneurial intention. The questionnaire is administered to the participants who are asked to provide their demographic information as well. Data analysis involves Ordinary Least Square (OLS) regression analysis, which is employed to investigate the explanatory power of the Big Five personality traits on entrepreneurial intention, controlling for some of demographic variables. The results can provide valuable insights for students, educators, as well as potential entrepreneurs in China. Additionally, it can serve as a basis for developing interventions and support programs to foster entrepreneurship among Chinese university students. This paper is structured as follows. After the introduction section, the literature review is presented. Subsequently, the data and methodology are presented and followed by the results part, demonstrating the main finding of the research. Finally, the paper ends with discussion and conclusion part.

2. Literature Review and Research Hypotheses

To address the research question, I formulate hypotheses concerning the relationship between each of the Big Five personality traits and entrepreneurial intention by integrating perspectives from existing literature in the field and then illustrating the theoretical framework with a plot (shown in Appendix).

2.1 Openness to experience

Openness to experience is a personality dimension encompassing traits such as imagination, cultural appreciation, curiosity, originality, open-mindedness, intelligence, and artistic sensitivity (Barrick & Mount, 1991). Prior studies have consistently demonstrated that individuals scoring high on openness to experience tend to exhibit greater creativity, intelligence, unconventional thinking, and a propensity for exploring novel ideas (Harris, 2004; Liang et al., 2013). A meta-analysis conducted by Zhao et al. (2010) revealed that openness to experience presents the most significant influence on entrepreneurial intention, which is a key personality construct that distinguishes high performance in entrepreneurial roles from managerial roles. Şahin et al. (2019) further supported this notion by demonstrating that in a configuration which significantly predicts elevated levels of entrepreneurial intention among both working adults and students, openness to experience is the core condition with the other Big Five traits and entrepreneurial self-efficacy. Moreover, a study conducted by Udayanganie

et al. (2019) reported significant positive associations between openness to experience and the intention to engage in entrepreneurial behavior among engineering undergraduates. On the other hand, some scholars argue that the relationship between openness to experience and entrepreneurial intention is indirect, mediated by other factors. For instance, Jing and Sung (2012) found that openness to experience positively influences entrepreneurial intention through a full mediating effect of entrepreneurial attitudes. Similarly, Ahmed et al. (2022) discovered that openness to experience present an indirect positive effect on entrepreneurial intention via a mediator, risk aversion. Considering the existing body of literature that supports a positive correlation between openness to experience and entrepreneurial intention, and despite whether there is a direct effect or an indirect effect, the first hypothesis is made as follows:

Hypothesis 1: Openness to experience will be positively related to entrepreneurial intention.

2.2 Conscientiousness

Conscientiousness describes an individual's level of acceptance of traditional norms and propensity to be goal-directed, to think and behave in a relatively enduring and consistent fashion across time in trait-affording situations (Costa Jr & McCrae, 1992; Roberts et al., 2009). According to Zhao et al. (2010), certain other traits under the conscientiousness dimension, such as work goal orientation and perseverance are also likely to be associated with the entrepreneurial role. In addition, their meta-analytic findings further indicate that conscientiousness ranks second in terms of its effect on personality, following closely behind openness to experience, and it exhibits a positive relationship with intentions to pursue entrepreneurship. In the study of Şahin et al. (2019), the authors find that in addition with openness to experience and entrepreneurial self-efficacy, conscientiousness is one of needed traits in the configuration which is a peripheral condition sufficient to lead individuals to have a high level of entrepreneurial intention. LL Jing et al. (2012) also observes that apart from openness to experience, conscientiousness has an indirect positive association with EI through entrepreneurial attitudes. Wang et al. (2016) identified a significant positive association between the personality constructs of conscientiousness on entrepreneurial intention among university students. On the other hand, Luc (2022) reported a surprising result, suggesting that while agreeableness, extraversion, and openness to experience have positive effects, neuroticism and conscientiousness negatively impact social entrepreneurial intention. This finding contradicts the prevailing view in the field. Despite the existence of differing perspectives on the relationship between conscientiousness and entrepreneurial intention, the second hypothesis about conscientiousness is still made according to the mainstream of views and stated as follows:

Hypothesis 2: Conscientiousness will be positively associated with entrepreneurial intention.

2.3 Extraversion

Extraversion is a personality dimension that describes an individual who is talkative, outgoing, extroverted, and energetic (Thompson, 2008). The role of extraversion, whether it is invaluable in understanding entrepreneurial intention remains one of the most debated aspects within the

Five-Factor Model (FFM) of personality. An entrepreneurial career may appear to be more stimulating and exciting than many traditional business occupations, and thus more appealing to extraverts, and successful entrepreneurs tends to exhibit qualities such as enthusiasm, sociability, warmth, talkativeness, and extroversion, which align with the attributes of entrepreneurship and the definition of extraversion (Awwad & Al-Aseer, 2021; Zhao et al., 2010). In a study by Mei et al. (2017) examining the relationship between the Big Six personality traits (which include interpersonal relationship as an additional factor beyond the FFM) and entrepreneurial self-efficacy on entrepreneurial intention among Chinese college students in Guangzhou, the authors discovered that emotional stability, conscientiousness, extraversion, and interpersonal relationship positively influenced entrepreneurial intention, though partially mediated through entrepreneurial self-efficacy. Additionally, the findings from Sahinidis et al. (2020) provided evidence of the positive influence of openness to experience, conscientiousness, and extraversion on entrepreneurial intention. Conversely, agreeableness, neuroticism, and risk aversion yielded contrary results. Moreover, they established that the variable that affects entrepreneurship in the greatest extent is extraversion. On the other hand, Awwad and Al-Aseer (2021) investigate the impact of the Big Five personality traits and entrepreneurial alertness on the entrepreneurial intentions of undergraduate university students in Jordan. Their findings suggested that extraversion does not present a significant impact on entrepreneurial intention but associated with entrepreneurial alertness completely, therefore this further investigates the mediating role of entrepreneurial alertness and the invaluable of extraversion in their study. This aligns with the results of a meta-analysis conducted by Zhao and Seibert (2006). Despite these varying perspectives, for the sake of analytical simplicity in this study, the hypothesis regarding extraversion is made as follows:

Hypothesis 3: Extraversion will be positively related to entrepreneurial intention.

2.4 Emotional Stability

Individuals who are emotionally stable are described as calm, stable, even-tempered, and hardy. They take on physical and emotional burdens and press ahead where others might be discouraged by obstacles, setbacks, or self-doubt are described as someone with a high level of emotional stability (Zhao et al., 2010). While individuals who experience anxious, depressed, angry, embarrassed, emotional, worried, and insecure easily, are described as someone with a low level of emotional stability or high on neuroticism (Barrick & Mount, 1991). Schlaegel et al. (2021) tested the person-entrepreneurship fit theory using samples from various countries, and found that among the Big five personality traits, emotion stability, extraversion, and openness are relevant determinants of entrepreneurial intention and status in at least one country. They discovered that emotionality stability had a positive effect in German sample, indicating that individuals are more likely to have the intention to start a new venture and become entrepreneurs, if they are equipped with the necessary emotional stability to address the day-to-day challenges of a start-up. In the study by Laouiti et al. (2022), two distinct profiles of French students with high entrepreneurial intention emerged. Both profiles shared traits of being open to experience, emotionally stable, and agreeable. However, the first profile also included extraversion, while the second profile comprised conscientiousness. In this context, the combination of emotional stability and high openness to experience was identified as a core factor in entrepreneurial intention. According to the findings of Antončič (2023), several personality and sociological factors can be important for entrepreneurship when it comes to starting a business. The most important are the Big Five personality factors openness, extraversion, and non-agreeableness, and to a smaller extent emotional stability (non-

neuroticism) and conscientiousness. Therefore, considering the findings from literature resources, the fourth hypothesis is made, that a positive correlation exists between emotional stability and entrepreneurial intention, and it is as follows:

Hypothesis 4: Emotional stability is positively associated with entrepreneurial intention.

2.5 Agreeableness

Agreeableness is the tendency to be good-natured, cooperative and caring, friendly and approachable, and agreeable individuals tend to want to reach out to others with help (Singh & DeNoble, 2003). The role of agreeableness in relation to entrepreneurial intention remains a subject of debate within the field. Some researchers have considered it as a positive factor for entrepreneurial intention. For instance, Israr and Saleem (2018) found significant evidence of a positive relationship between agreeableness and students' entrepreneurial intentions. While other studies have suggested that agreeableness may be a negative determinant or unrelated to entrepreneurial intention. Zhao et al. (2010) pointed out that entrepreneurs must face considerable challenges in ensuring the survival of their new businesses, thus given the high likelihood of avoiding interpersonal conflicts, highly agreeable individuals tend to avoid interpersonal conflicts, making the entrepreneurial role less attractive to them. Consequently, they hypothesized that agreeableness will be negatively related to entrepreneurial intentions. However, their study did not provide sufficient evidence to support this hypothesis, as the results indicated that agreeableness appeared to be unrelated to entrepreneurial intention. A similar result was found in a study by Ip et al. (2018). The authors emphasized that the effect size of agreeableness on entrepreneurial intention was negative but statistically insignificant, which was in line with the study results of Zhao et al. Based on the existing literature and for the sake of analytical simplicity, the following hypothesis is proposed regarding agreeableness:

Hypothesis 5: Agreeableness will be negatively related to entrepreneurial intention.

3. Data and Methodology

To analyze the research question: What is the influence of the Big Five personality traits on entrepreneurial intention among university students in Chengdu, this study employs a primary source of data collection through an online questionnaire survey distributed among university students in Chengdu, Sichuan, China. The questionnaire consists of three sections. The first section is the demographic section, and the second section aims to investigate the students' basic personality traits in terms of the Big five. The last section obtains the respondent's intention of being an entrepreneur. The technique used in the study is Ordinary Least Squares Regression (OLS) and using a multiple linear regression to test the big five personality traits jointly.

3.1 Data Collection

The dataset used in this present study comprises a survey conducted among college students in Chengdu. The survey was distributed in the form of an online questionnaire on a popular social media platform in China, WeChat. The questionnaire links were distributed in three distinct

social group chats: my high school Chengdu alumni group, only including students studying in colleges in Chengdu, as well as students' chatgroups of Sichuan University and University of Electronic Science and Technology of China, which are two representative universities in Chengdu. The questionnaire is divided into three sections to collect comprehensive data. The first section is dedicated to gathering students' socio-demographic information, including their gender, age, educational background, major, and family business, some of which are considered to be the research's control variables based on results of existing literature. The second section of the questionnaire focuses on the students' personalities. To shorten the questionnaire completion time and to increase the survey completion rate, the Ten-Item Personality Inventory (TIPI) was used to assess students' basic personality traits based on the Big Five model. TIPI is a concise measure of the FFM developed by Gosling et al. (2003). However, for the ease of comprehension and reading for participants, the Chinese version of the Big Five Personality Inventory (TIPI) translated by Lu et al. (2020) was directly adopted in the study. The third section of the questionnaire aims to collect students' entrepreneurial intention. This section uses the Individual Entrepreneurial Intentions Scale (IEIS) proposed by Thompson in 2009, with slight modifications made to the formatting and a translation in Chinese (both Chinese version of TIPI, IEIS, as well as demographic section are shown in Appendix).

The high school Chengdu alumni chatgroup consists of 256 members, and the Sichuan University and University of Electronic Science and Technology of China chatgroups have 443 and 500 members, respectively. Participants can see a text statement outlining the purpose of the survey as well as emphasizing the privacy and anonymity of their responses before starting the survey. There is a total of 163 responses received, out of which 116 are considered effective and valid, resulting in an approximate respondent rate of 14% and an approximate valid respondent rate of 71% respectively.

3.1.1 Dependent Variable

Thompson (2009) conducted a study demonstrating the stability, unidimensionality, internal reliability, and criterion-related validity of the IEIS across discrete populations. The scale exhibited consistent stability over time within the same sample through a re-test, as well as convergent validity and cross-national and cross-population stability. Furthermore, the scale demonstrated minimal nonresponse bias. The IEIS consists of six items in total and one item stem. A 6-point Likert scale, ranging from 1 ("very untrue") to 6 ("very true"), is utilized, which allowing for no neutral midpoint decided upon since no items could logically have a neutral response (Thompson, 2009). The asterisk (*) denotes distractor items that do not contribute to the scoring process. Conversely, items marked with an "R" indicate reverse-scored items. When calculating scores, these reverse-scored items should be replaced with their corresponding reversed scores. For example, if an item is rated as "very untrue" (1), its score is substituted with the score corresponding to "very true" (6). Then, the average score can be computed to determine an individual's entrepreneurial intention score. Higher scores indicate a stronger EI of an individual. Table 1 presents the English version of IEIS.

Table 1
Section 1: Individual Entrepreneurial Intent Scale

Question: Thinking of yourself, how true or untrue is it that you:						
Items:	Very Untrue 1	Untrue 2	Slightly Untrue 3	Slightly True 4	True 5	Very True 6

1. Intend to set up a company in the future
2. Plan your future carefully*
3. Read business newspapers*
4. Never search for business start-up opportunities (R)
5. Read financial planning books*
6. Are saving money to start a business
7. Do not read books on how to set up a firm (R)
8. Plan your finances carefully*
9. Have no plans to launch your own business (R)
10. Spend time learning about starting a firm

Notes: 1. Items appeared as a single block in the order given. Those marked with an asterisk are distracter items that act as red herrings and are not to be included in scale analysis. Items marked (R) are reverse coded in scale analysis. Interval measure runs 1 = very untrue, 2 = untrue, 3 = slightly untrue, 4 = slightly true, 5 = true, 6 = very true. 2. This scale is referred to Thompson (2009).

3.1.2 Independent Variable

The Five-Factor Model (FFM) has been a central focus in the field of personality research for a long time, and then several rating instruments have been developed to measure the Big-Five dimensions (Gosling et al., 2003). For example, the NEO Personality Inventory, Revised (NEO-PI-R) developed by (Costa & McCrae, 2008) which consists of 240 items, a 40-item instrument developed by Saucier (1994), and an instrument called the BFI-K created by Kovaleva et al. (2013), etc. However, for the purpose of shortening completion time, enhancing completion rates, in the present study, the instrument used is the Ten Items Personality Inventory (TIPI) developed by Gosling et al. (2003). Although the number of items in the TIPI is substantially lower compared to other instruments, it still reaches adequate levels of internal and external validity.

To complete the TIPI (Table 2), participants only need to answer 10 questions in total, as it consists of 2 items for each of the 5 domains represented in the Big five. Each item presents two descriptors, one indicating a desirable trait and the other an undesirable trait, for instance, for Extraversion, the desirable descriptors are extraverted and enthusiastic, and the undesirable ones are reserved and quiet. Each of the ten items are rated on a 7-point Likert scale ranging from 1 (disagree strongly) to 7 (agree strongly). Similar to the Individual Entrepreneurial Intentions Scale, the TIPI includes reverse-scored items denoted by an "R" after the item number. To scoring the outcomes, the reverse-scored items need to be recorded first. Then taking the average of the score for two comprising each scale, that the original item and the

recorded reverse-scored item. Higher scores on each scale indicate a higher propensity toward the corresponding personality trait.

Table 2

Section 2: Ten-Item Personality Inventory (TIPI)

Here are a number of personality traits that may or may not apply to you. Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

I see myself as:

	Disagree Strongly 1	Disagree Moderately 2	Disagree a Little 3	Neither Agree nor Disagree 4	Agree a Little 5	Agree Moderately 6	Agree Strongly 7
1. Extraverted, enthusiastic.							
2. Critical, quarrelsome.							
3. Dependable, self-disciplined.							
4. Anxious, easily upset.							
5. Open to new experience, complex.							
6. Reserved, quiet.							
7. Sympathetic, warm.							
8. Disorganized, careless.							
9. Calm, emotionally stable.							
10. Conventional, uncreative.							

Notes: TIPI scale scoring (“R” denotes reverse-scored items):

Extraversion: 1, 6R; Agreeableness: 2R, 7; Conscientiousness: 3, 8R; Emotional Stability: 4R, 9; Openness to Experiences: 5, 10R.

3.1.3 Control Variables

The questions in the first section (shown in Table 3) of the questionnaire are designed to collect the basic information of students. The initial four questions correspond to “gender”, “age”, “educational background”, and “major”, presenting in a form of multiple-choice question. The final question in this section is dedicated to “family business”, which is presented as a closed-

ended question with an aim of gathering information about the presence or absence of family business involvement among the participants. Additionally, the socio-demographic section is designed to connect the gathered information to the considered control variables: gender and family business, which are selected based on the outcomes offered in existing literature. They suggest that gender and family business not only influence entrepreneurial intentions but also have an impact on individuals' personality traits. Moreover, in order to limit potential bias resulting from these variables, as known as omitted variable bias, it is crucial to include such variables and control for them while analyzing the relationship between the Big Five personality traits and entrepreneurial intentions.

Gender differences has caught scholars' attention for several decades. Extensive empirical evidence suggests that gender plays a significant role in shaping personality characteristics. A study conducted by Weisberg et al. (2011) revealed that females are more likely to exhibit higher susceptibility to experiences of depression and anxiety, greater warmth, empathy, as well as enhanced levels of enthusiasm and sociability than males. This indicates gender differences in neuroticism, agreeableness, and extraversion. Weisberg et al. also noted that the prevalence of gender differences in personality traits were more common than reported. Bajwa et al. (2017) also found a significant difference among females and males against the same two personality traits. On the other hand, gender differences may also lead different outcomes in entrepreneurial intention between females and males. Díaz-García and Jiménez-Moreno (2010) found that males tend to have a higher intention to consider creating a firm. Moreover, both males and females with firm entrepreneurial intentions tend to associate successful entrepreneurs with feminine attributes. Furthermore, a recent empirical study conducted by Laouiti et al. (2022) sheds light on the influence of gender differences in the relationship between personality traits and students' entrepreneurial intention. The study highlights that students' entrepreneurial intentions in France are contingent upon distinct combinations of personality traits, some of which exhibit gender-specific effects. The outcome of their study suggests that the same traits can exert both positive and negative effects depending on gender. Therefore, considering existing literature showcased a significance of gender in shaping both personality traits and entrepreneurial intentions, gender was considered as a control variable in the present study.

"Do either of your parents work as entrepreneurs?" The purpose of this question is to explore whether respondents have experienced parental role modeling, since it is a strong, probably the strongest, determinant of own entrepreneurship (Lindquist et al., 2015). Role model means a transfer or imputation of preferences (and abilities) for a given occupation or lifestyle through observation and social interaction, and entrepreneurial parents may transmit the taste for entrepreneurship through role modeling (Hoffmann et al., 2015; Parker, 2005). Criaco et al. (2017) argued that the role modeling of parents in entrepreneurship was a "double-edged sword" for their offspring's entrepreneurial intentions. It not only enhances the perceived desirability and feasibility of entrepreneurship through exposure mechanisms but also inhibited the translation of these perceptions into entrepreneurial intentions because of upward social comparison mechanisms. On the other hand, Thompson (2008) suggested parents shaping the development of their children's personality through the provision of psychological resources. Chlosta et al. (2012) found that openness to experience plays a mediating role in the relationship between parental role model and offspring's entrepreneurship.

Table 3

Section 3: Socio-geographic information

Q1: What is your gender?	Female		Male
Q2: what is your age?	< 18	18-24	>24

Q3: What is your educational background?	Undergraduate	Bachelor	Master (above)
Q4: What is your major?	Economics & business	Engineering	Others
Q5: Do either of your parents work as entrepreneurs?	Yes		No

3.2 Methodology

The Ordinary Least Squares (OLS) regression is used in the present study. It is a linear least squares method used to estimate unknown parameters in a linear regression model by minimizing the sum of squared differences between the observed dependent variable in the input dataset and the predictions made by the model. The method employed in the study is multiple linear regression. In order to perform a regression properly, four assumptions need to be aware of.

The first assumption is conditional mean independence, which is a relatively weak assumption of the zero conditional mean. In practice, it is challenging to account for all omitted variables and difficult to ensure no potential correlations between the selected control variables and the error term. Therefore, this assumption is violated as always, and the causal effect of the big five personality traits on EI cannot be tested, instead only the associations among them could be assessed. The second assumption requires that observations are identically distributed and independent (i.i.d.). This assumption holds if the sample is randomly selected. In this case, the assumption is violated, as the survey may suffer from self-selection bias, which stems from differences between individuals who choose to participate in the survey (respondents) and those who do not (non-respondents). Then, the third assumption is about the improbability of significant outliers in both the independent and dependent variables. This assumption is considered met because of the carefully designed survey, incorporating multiple-choice questions, which prohibits the likelihood of outliers. Additionally, during the data analysis process, missing data were dropped, therefore, the presence of outliers is regarded as unlikely in this research. Lastly, the fourth assumption concerns the absence of perfect multicollinearity. This assumption is satisfied as in the later chapter (chapter 4: Results) in this paper, an explanation will be presented showing why it is met. The general form of the multiple linear regression used is $Y = \alpha_0 + \beta_0 T + \beta_1 X + \varepsilon$. Here, Y represents the dependent variable (EI in this study), T represents the independent variable (Big 5 personality traits), α_0 denotes the constant term, β represents the coefficients of the big five personality traits on EI, X denotes the control variables, and ε represents the error term. As previously mentioned, the results will be based on a significance level of 10%, if the p-value of the coefficient of a variable is below 10%, the variable is considered to be correlated with EI. For the purpose of assessing whether each trait has an association with EI and testing the hypotheses, a joint test is used in the study, placing five traits together into a multiple regression model and fixing the selected control variables. The mathematical model is shown below:

$$(Joint\ test)\ EI = \alpha_0 + \beta_0 * Openness\ to\ experience + \beta_1 * Conscientiousness + \beta_2 * Extraversion + \beta_3 * Emotional\ Stability + \beta_4 * Agreeableness + \beta_5 * Female + \beta_6 * Family\ business$$

4. Results

This part shows the main findings of the study including the descriptive statistics of the used variables, the multi-collinearity test, and the regression results of the study.

4.1 Descriptive Statistics

Table 4.1 provides information on respondents' social demography. The entire sample of 116 individuals is composed of 54% females and 46% males. The majority of the responders are above 18 years old, and there is a higher proportion falling into the third age group (above 24 years old), with a number of 58 people and a percentage of 50%. Most of the respondents have at least an educational background of bachelor, with a percentage of 85 approximately. Among them, some have also attained a master's degree or higher, with a number of 53 people, while the other 16 respondents are currently pursuing their bachelor's degrees. The percentages of major indicate that more respondents are from other majors (47%) compared to economics and business (28%) and engineering major (25%). Throughout the sample, around 21% of respondents are with parents who are entrepreneurs, while a larger portion of the respondents' parents are employed in other professions and not involved in entrepreneurship.

In Table 4.2, the descriptive statistics of the main variables used in the study are presented. The table includes number of observations, means, medians, standard deviations, minimum values, and maximum values, all rounded to two decimals, providing a clear overview of the dataset. The first six rows of Table 4 display the values for EI and the big five personality traits, which are calculated according to the measurements explained in previous paragraph. For the socio-demographic variables, only the control variables, gender and family business are included in the table. Representing values are assigned to each answer to facilitate the computation of means, standard deviations, and other descriptive statistics. For variable "gender", a value of 1 assigned to males and 0 assigned to females. As it is a dummy variable, only "Male" is displayed to avoid perfect multicollinearity. Similarly, in terms of variable "family business", it corresponds a closed-ended question, where participants can only choose "yes" or "no". Therefore, responses indicating "yes" are assigned a value of 1, which is displayed in the table, while responses indicating "no" are assigned a value of 0, and for the same reason it is dropped for analyzing.

Through Table 4.2, average respondents' entrepreneurial intention score is 3.08, and it is noteworthy that some individuals scored as high as 5.83, while others had a minimum EI score of 1. Moving on to the assessment of personality traits, the data reveals that respondents exhibit a relatively lower average score for extraversion, with a mean value of 3.93, with a range from a minimum score of 1 to a maximum score of 6 when compared to the other four personality traits. For openness, it attains the highest average score at 4.93, with the minimum value of 2. In contrast, the average score of conscientiousness ranks the second, with a value of 4.88 and the minimum score at 1.5. These results indicate that, on average, respondents perceive themselves as possessing a relative higher level of receptivity to new things and experiences, as well as of being dependable and self-disciplined.

Table 4.1: Socio-demographic information

	Obs.	Frequency	Percentage
Gender			
male	116	53	45.69
female	116	63	54.31
Age			
<18	116	2	1.72

18-24	116	56	48.28
>24	116	58	50.00
Educational background			
undergraduate	116	16	13.79
bachelor	116	47	40.52
master or above	116	53	45.69
Major			
economics and business	116	32	27.59
engineering	116	29	25.00
others	116	55	47.41
Family business			
yes	116	92	79.31
no	116	24	20.69

Notes: units for observations and frequency are both the number of people, and the unit for percentage is %. All values are rounded into 2 decimals.

Table 4.2: Descriptive statistics

	Obs	Mean	Std. dev.	Min	Max
EI	116	3.08	1.09	1	5.83
Extraversion	116	3.93	1.16	1	6
Agreeableness	116	4.70	1.17	2	7
Conscientiousness	116	4.88	1.20	1.5	7
Emotional stability	116	4.59	1.23	1.5	7
Openness	116	4.93	1.24	2	7
Male	116	0.54	0.50	0	1
Family business	116	0.21	0.41	0	1

4.2 Multi-collinearity testing

In order to explore the potential interplay correlations between the Big Five personality traits and EI in the context of my research, as well as to examine the presence of multicollinearity in the data used, a correlation matrix created by using Stata, as shown in Table 5. Due to the small sample size, a significance level of 10% is applied. As shown in Table 5, the personality traits openness, conscientiousness, and extraversion demonstrate significant positive correlations with EI, with correlations of 0.192, 0.232, and 0.187, respectively. Furthermore, extraversion seems to be correlated with conscientiousness at a correlation of 0.399. Agreeableness exhibits a negative correlation with extraversion (-0.178) but positively correlated with emotional stability (0.204). Moreover, gender shows positive correlations with agreeableness (0.279) and openness (0.391). On the other hand, family business presents no correlation with any other variables. Additionally, a comprehensive analysis of the entire correlation matrix reveals no indications of multicollinearity among the used variables, as all correlation coefficients fall below the threshold of 0.5, above which implies a strong multicollinearity among variables.

Table 5: Correlation table

	1	2	3	4	5	6	7	8
1. EI	1							
2. Openness	0.192*	1						
3. Conscientiousness	0.232*	0.154	1					
4. Extraversion	0.187*	0.102	-0.059	1				
5. Emotional stability	0.108	0.030	0.399*	-0.181	1			
6. Agreeableness	-0.050	0.136	0.134	-0.178*	0.204*	1		
7. Male	0.085	0.391*	0.002	0.107	-0.123	0.279*	1	
8. Family business	0.049	-0.144	-0.055	-0.106	0.032	0.039	-0.044	1

Notes: * means p-values < 0.1

4.3 Regression Results

The study sought to investigate the contributions of the big five personality traits to entrepreneurial intention. Table 2 presents the coefficients, standard errors, p-values, model constants, observation count, R2, and F statistics of the multiple regression model. The multiple regression model is statistically significant at the significance level of 10% or even 5%, as indicated by the F statistics of 2.63 with a p-value of 0.01.

Despite this, the results reveal the selected control variables, gender (male) and family business, exhibiting positive associations with EI, yet their relationships are not statistically significant, with coefficients of 0.09 (with a p-value of 0.66) and 0.28 (with a p-value of 0.28), respectively. Additionally, openness to experience (with a p-value of 0.17) and emotional stability (with a p-value of 0.71) show positive correlations with EI, but these correlations are not statistically significant, with coefficients of 0.13 and 0.03, respectively. Likewise, the negative correlation between agreeableness and EI is not statistically significant, with a coefficient of -0.09 and a p-value of 0.34. Thus, hypotheses 1, 4, and 5 are rejected. In contrast, the table also reveals that conscientiousness has the most substantial impact on EI, followed by extraversion. Conscientiousness shows a positive correlation with EI and its coefficient is 0.20, and it is statistically significant, with a p-value of 0.03, at the significant level of 5%. This implies that on average a student score on conscientiousness increases by 1 point resulting in the student score on EI rising by 0.20 points, keeping the other variables constant. Similarly, extraversion presents a positive correlation with EI at a value of 0.17 which is statistically significant at the 5% significance level, with p-values of 0.04. This means when a student score on extraversion increasing by 1 point, the score on EI will go up by 0.17 points on average, keeping the other variables constant. Therefore, hypotheses 2 and 3 are supported and accepted.

Table 6: Results multiple linear regression analysis

	Entrepreneurial intention		
	Coefficient	std. err.	p-value
Openness to experience	0.13	0.09	0.17
Conscientiousness	0.20**	0.08	0.03
Extraversion	0.17**	0.09	0.04
Emotional stability	0.03	0.09	0.71
Agreeableness	-0.09	0.09	0.34
Male	0.09	0.21	0.66
Family business	0.28	0.26	0.28

Constant	0.94	0.76	0.22
N	116		
R2	0.13		
Prob > F	0.01		
F(model)	2.63***		

Notes: N equals the total observations. t-statistics in parentheses. * $p < 0,1$; ** $p < 0,05$. Std.err. means standard error. Values are rounded to 2 decimals.

5. Discussion

The research outcomes indicate that conscientiousness is positively associated with Entrepreneurial Intention (EI), as well as a positive association between extraversion and EI. Noteworthy, the coefficients found in the study for conscientiousness (0.20) and extraversion (0.18) are similar to the outcomes (0.18 and 0.11 respectively) found in the study of Zhao et al. (2010), therefore, the outcomes in the study could be supported by their findings. However, a contrasting result is observed for openness, which shows a positive correlation with EI but is not statistically significant, contradicting the anticipated outcome. This discrepancy differs significantly from Zhao's findings, where openness was considered as the most influential trait on EI (coefficient of 0.22). However, in the present study, openness only has a coefficient of 0.13, not being the trait with the highest value, and lacks significance. Additionally, our results deviate from several existing studies (Luc, 2022; Şahin et al., 2019; Udayanganie et al., 2019), which generally support a positive impact of openness on EI. Nevertheless, according to the findings by Ahmed et al. (2022) and Jing and Sung (2012), the present study's failure to establish a significant positive relationship between openness and EI might be attributed to the possibility that the impact of openness on EI is indirectly associated, or just due to the limited sample size. Regarding emotional stability, although it is positively correlated with EI, which is consistent with numerous studies (Antončič, 2023; Laouiti et al., 2022; Schlaegel et al., 2021; Zhao et al., 2010), the regression coefficient of emotional stability shows no statistical significance in the study. The lack of significance is likely due to the small sample size. Conversely, what surprises me is that, for agreeableness, our study's results align entirely with Zhao et al. (2010), with both studies finding a coefficient value of -0.09 and the lack of evidence. This is also in line with the study outcomes by Ip et al. (2018).

Although the findings of this research are restricted to the sample of university students in Chengdu, the implications stemming from the study can still provide some beneficial suggestions to Chinese university students, educators, and prospective entrepreneurs. In China, given the traditional class teaching methods lacking practical opportunities and the inadequate development of an innovative entrepreneurship curriculum, university students may exhibit weak intentions, insufficient knowledge, low interest in practical involvement, inadequate abilities, and lack of initiative in entrepreneurship. The findings in this research highlight that conscientiousness has the most significant association among the Big Five personality traits on EI, followed by extraversion. Based on this, I recommend both students and educators emphasize the cultivation of conscientiousness and extraversion to enhance entrepreneurship education and raise students' entrepreneurial intention. For educators, when exploring how to improve students' EI, they can prioritize nurturing students' conscientiousness and extraversion, encouraging students more self-directed learning and diligence, as well as promoting students being more extroverted and lively through some approaches so that potentially enhance students' entrepreneurial intentions, and then possibly leading to more entrepreneurs in the future. For students, especially who already possess certain entrepreneurial intentions, further

cultivating extraversion and conscientiousness can still be beneficial for them to be more successful entrepreneurs (Zhao et al., 2010). However, worth mentioning that with an R^2 of 0.13, educators should also advise students not to overly place attention on the nurturing of personality traits since they explain only approximately 13% of the variance in EI, and other skills and qualities are also important. Additionally, the findings also offer constructive suggestions for selecting team members for starting new projects. Consistent with the idea of Ettis and Kefi (2016), personality traits could serve as indicators for selecting entrepreneurial team members and evaluating candidates for positions requiring an entrepreneurial profile within a company, among other applications.

On one hand, in terms of theoretical contributions, this study aims to provide potential explanatory value to the entrepreneurial intention model from a psychological and economic perspective. The most significant contribution of this study lies in attempting to observe the associations between the big five personality traits and EI among university students in Chengdu in a short survey format. On the other hand, the study has some limitations. First, the research design limits the assessment on causal effect between personality traits and EI; it only uncovers associations. Second, the small sample size due to time and cost constraints introduces bias to the study results. Lastly, the study's unique sampling process with monetary incentives, where participants were all notified in advance of receiving some money after completing survey, might introduce selection bias, implying that the results are not representative of the overall population. In future research, I will focus on improving the sample selection process and allocating more time to gather sufficient data to ensure a larger sample size. Additionally, I will employ a more robust method to explore this EI model, aiming for higher validity. As the study did not explore potential moderating variables, such as gender, family business, and other variables within the framework, future research will incorporate these variables to conduct further investigations.

6. Conclusion

This research is designed to examine the relationships between the personality of university students and their entrepreneurial intention, and the sample of the research is focused on university students in Chengdu. It is the finding that conscientiousness and extraversion both are positively associated with entrepreneurial intention is consistent with the prevailing findings in other academic literature in this research field. This reaffirms the possibility of utilizing the Big Five personality traits as a metric to nurture university students' intent of setting up their own business in the future. Furthermore, the findings offer valuable insights and practical suggestions for Chinese students, educators, and prospective entrepreneurs. Those recommendations may be useful for them to foster a conducive environment for entrepreneurship development in China.

7. Reference

- Ahmed, M. A., Khattak, M. S., & Anwar, M. (2022). Personality traits and entrepreneurial intention: The mediating role of risk aversion. *Journal of Public Affairs*, 22(1), e2275.
- Anglim, J., & O'connor, P. (2019). Measurement and research using the Big Five, HEXACO, and narrow traits: A primer for researchers and practitioners. *Australian Journal of Psychology*, 71(1), 16–25.

- Antončič, B. (2023). Psychological and sociological determinants of entrepreneurial intentions and behaviors. *Frontiers in Psychology, 14*.
- Awwad, M. S., & Al-Aseer, R. M. N. (2021). Big five personality traits impact on entrepreneurial intention: the mediating role of entrepreneurial alertness. *Asia Pacific Journal of Innovation and Entrepreneurship, 15*(1), 87–100.
- Bajwa, S. U., Shahzad, K., & Aslam, H. (2017). Exploring Big Five personality traits and gender as predictors of entrepreneurs' cognitive adaptability. *Journal of Modelling in Management, 12*(1), 143–161.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: a meta-analysis. *Personnel Psychology, 44*(1), 1–26.
- Bazkiaei, H. A., Heng, L. H., Khan, N. U., Saufi, R. B. A., & Kasim, R. S. R. (2020). Do entrepreneurial education and big-five personality traits predict entrepreneurial intention among universities students? *Cogent Business & Management, 7*(1), 1801217.
- Chlosta, S., Patzelt, H., Klein, S. B., & Dormann, C. (2012). Parental role models and the decision to become self-employed: The moderating effect of personality. *Small Business Economics, 38*, 121–138.
- Cobb-Clark, D. A., & Schurer, S. (2012). The stability of big-five personality traits. *Economics Letters, 115*(1), 11–15.
- Costa Jr, P. T., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and Individual Differences, 13*(6), 653–665.
- Costa, P. T., & McCrae, R. R. (2008). The revised neo personality inventory (neo-pi-r). *The SAGE Handbook of Personality Theory and Assessment, 2*(2), 179–198.
- Crant, J. M. (1996). The proactive personality scale as a predictor of entrepreneurial intentions. *Management, 29*(3), 62–74.
- Criaco, G., Sieger, P., Wennberg, K., Chirico, F., & Minola, T. (2017). Parents' performance in entrepreneurship as a "double-edged sword" for the intergenerational transmission of entrepreneurship. *Small Business Economics, 49*, 841–864.
- DeYoung, C. G. (2015). Cybernetic big five theory. *Journal of Research in Personality, 56*, 33–58.
- Díaz-García, M. C., & Jiménez-Moreno, J. (2010). Entrepreneurial intention: the role of gender. *International Entrepreneurship and Management Journal, 6*, 261–283.
- Ettis, S. A., & Kefi, M. K. (2016). Entrepreneurial intentions amongst Tunisian students: An empirical investigation applying the big-five personality traits theory. *International Journal of Higher Education Management, 3*(1).
- Goldberg, L. R. (1990). An alternative" description of personality": the big-five factor structure. *Journal of Personality and Social Psychology, 59*(6), 1216.
- Gosling, S. D., Rentfrow, P. J., & Swann Jr, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality, 37*(6), 504–528.
- Harris, J. A. (2004). Measured intelligence, achievement, openness to experience, and creativity. *Personality and Individual Differences, 36*(4), 913–929.
- Hoffmann, A., Junge, M., & Malchow-Møller, N. (2015). Running in the family: parental role models in entrepreneurship. *Small Business Economics, 44*, 79–104.
- Hou, F., Su, Y., Lu, M., & Qi, M. (2019). Model of the entrepreneurial intention of university students in the Pearl River Delta of China. *Frontiers in Psychology, 10*, 916.
- Ip, C. Y., Wu, S.-C., Liu, H.-C., & Liang, C. (2018). Social entrepreneurial intentions of students from Hong Kong. *The Journal of Entrepreneurship, 27*(1), 47–64.
- Israr, M., & Saleem, M. (2018). Entrepreneurial intentions among university students in Italy. *Journal of Global Entrepreneurship Research, 8*, 1–14.

- Jing, L.-L., & Sung, M. (2012). University students personality traits and entrepreneurial intention: Using entrepreneurship and entrepreneurial attitude as mediating variable. *International Journal of Economic Research*, 3(3), 76–82.
- John, O. P., Robins, R. W., & Pervin, L. A. (2010). *Handbook of personality: Theory and research*. Guilford Press.
- Kovaleva, A., Beierlein, C., Kemper, C. J., & Rammstedt, B. (2013). Psychometric properties of the BFI-K: A cross-validation study. *The International Journal of Educational and Psychological Assessment*.
- Laouiti, R., Haddoud, M. Y., Nakara, W. A., & Onjewu, A.-K. E. (2022). A gender-based approach to the influence of personality traits on entrepreneurial intention. *Journal of Business Research*, 142, 819–829.
- Liang, C., Chang, C.-C., & Hsu, Y. (2013). Personality and psychological factors predict imagination: Evidence from Taiwan. *Learning and Individual Differences*, 27, 67–74.
- Lindquist, M. J., Sol, J., & Van Praag, M. (2015). Why do entrepreneurial parents have entrepreneurial children? *Journal of Labor Economics*, 33(2), 269–296.
- Lu, J. G., Liu, X. L., Liao, H., & Wang, L. (2020). Disentangling stereotypes from social reality: Astrological stereotypes and discrimination in China. *Journal of Personality and Social Psychology*, 119(6), 1359.
- Luc, P. T. (2022). The relationships between Big-Five personality traits and social entrepreneurship intention. *Cogent Business & Management*, 9(1), 2137950.
- Mei, H., Ma, Z., Jiao, S., Chen, X., Lv, X., & Zhan, Z. (2017). The sustainable personality in entrepreneurship: the relationship between big six personality, entrepreneurial self-efficacy, and entrepreneurial intention in the Chinese context. *Sustainability*, 9(9), 1649.
- Ng, H. S., Hung Kee, D. M., & Khan, M. J. (2021). Effects of personality, education and opportunities on entrepreneurial intentions. *Education+ Training*, 63(7/8), 992–1014.
- Parker, S. C. (2005). The economics of entrepreneurship: What we know and what we don't. *Foundations and Trends® in Entrepreneurship*, 1(1), 1–54.
- Rauch, A., & Frese, M. (2007). Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success. *European Journal of Work and Organizational Psychology*, 16(4), 353–385.
- Roberts, B. W., Jackson, J. J., Fayard, J. V, Edmonds, G., & Meints, J. (2009). *Conscientiousness*.
- Şahin, F., Karadağ, H., & Tuncer, B. (2019). Big five personality traits, entrepreneurial self-efficacy and entrepreneurial intention: A configurational approach. *International Journal of Entrepreneurial Behavior & Research*, 25(6), 1188–1211.
- Sahinidis, A. G., Tsaknis, P. A., Gkika, E., & Stavroulakis, D. (2020). The influence of the big five personality traits and risk aversion on entrepreneurial intention. *Strategic Innovative Marketing and Tourism: 8th ICSIMAT, Northern Aegean, Greece, 2019*, 215–224.
- Saucier, G. (1994). Mini-Markers: A brief version of Goldberg's unipolar Big-Five markers. *Journal of Personality Assessment*, 63(3), 506–516.
- Saucier, G., & Goldberg, L. R. (1998). What is beyond the Big Five? *Journal of Personality*, 66, 495–524.
- Schlaegel, C., Engle, R. L., Richter, N. F., & Taureck, P. C. (2021). Personal factors, entrepreneurial intention, and entrepreneurial status: A multinational study in three institutional environments. *Journal of International Entrepreneurship*, 1–42.
- Scott, M. G., & Twomey, D. F. (1988). The long-term supply of entrepreneurs: students' career aspirations in relation to entrepreneurship. *Journal of Small Business Management*, 26(4), 5.

- Sesen, H. (2013). Personality or environment? A comprehensive study on the entrepreneurial intentions of university students. *Education+ Training*, 55(7), 624–640.
- Shook, C. L., Priem, R. L., & McGee, J. E. (2003). Venture creation and the enterprising individual: A review and synthesis. *Journal of Management*, 29(3), 379–399.
- Singh, G., & DeNoble, A. (2003). Views on self-employment and personality: An exploratory study. *Journal of Developmental Entrepreneurship*, 8(3), 265.
- Thompson, E. R. (2008). Development and validation of an international English big-five mini-markers. *Personality and Individual Differences*, 45(6), 542–548.
- Thompson, E. R. (2009). Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric. *Entrepreneurship Theory and Practice*, 33(3), 669–694.
- Turker, D., & Selcuk, S. S. (2009). Which factors affect entrepreneurial intention of university students? *Journal of European Industrial Training*, 33(2), 142–159.
- Udayanganie, W. M. I., Jusoh, M., & Chinna, K. (2019). Impact of big five personality traits on entrepreneurial intention of engineering undergraduates. *Research in Business and Management*, 6(2), 35–44.
- Wang, J.-H., Chang, C.-C., Yao, S.-N., & Liang, C. (2016). The contribution of self-efficacy to the relationship between personality traits and entrepreneurial intention. *Higher Education*, 72, 209–224.
- Weisberg, Y. J., DeYoung, C. G., & Hirsh, J. B. (2011). Gender differences in personality across the ten aspects of the Big Five. *Frontiers in Psychology*, 2, 178.
- Zhang, Y., Duysters, G., & Cloudt, M. (2014). The role of entrepreneurship education as a predictor of university students' entrepreneurial intention. *International Entrepreneurship and Management Journal*, 10, 623–641.
- Zhao, H., & Seibert, S. E. (2006). The big five personality dimensions and entrepreneurial status: a meta-analytical review. *Journal of Applied Psychology*, 91(2), 259.
- Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The relationship of personality to entrepreneurial intentions and performance: A meta-analytic review. *Journal of Management*, 36(2), 381–404.

8. Appendix

8A. The table below is the Chinese version of IEIS (Table 1):

第一部分：个人创业意向量表

问题：想想你自己，你的以下情况是否真实或不真实：

情况:	完全不真实	不真实	有点不真实	有点真实	真实	完全真实
	1	2	3	4	5	6
1.未来打算成立公司						
2.仔细规划你的未来*						
3.阅读商业报纸*						
4.永远不要寻找创业机会 (R)						
5.阅读财务规划书籍*						
6.正在存钱创业						

- 7.不阅读关于如何设立公司的书籍 (R)
 - 8.仔细规划你的财务*
 - 9.没有计划创办自己的企业 (R)
 - 10.花时间学习如何创办公司
-

8B. The table below is the Chinese versions of TIPI (Table 2):

第二部分：10 项目大五人格量表

以下是一些可能适合也可能不适用于您的性格特征。请在每个陈述旁边写下一个数字，以表明您同意或不同意该陈述的程度。您应该评估这对特征对您的适用程度，即使其中一个特征比另一个特征更适用。

我将自己视为：

	十分不同意	一般不同意	有点不同意	中立	有点同意	一般同意	十分同意
	1	2	3	4	5	6	7
1.外向的·热情的							
2.挑剔的·爱争论的							
3.可靠的·自律的							
4.焦虑的·易心烦的							
5.愿意接触新事物的·思维复杂的							
6.内敛的·安静的							
7.有同情心的·温暖的							
8.缺乏条理的·粗心的							
9.冷静的·情绪稳定的							
10.循规蹈矩的·缺乏创造性的							

8C. The table below is the Chinese versions of demographic section (Table 3):

第 3 节：社会基本信息

Q1: 你的性别是什么？	女性		男性
Q2: 你的年龄有多大？	< 18	18-24	>24
Q3: 你的教育背景是什么？	本科在读	本科	硕士及以上
Q4: 你学的是什么专业？	经济学科	工程学科	其他
Q5: 你的父母（或其中一位）是自主创业者吗？	是的		不是

8D. Theoretical framework plot:

