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An Analysis of Influencing Factors of Entrepreneurial Intentions and Behavior of Undergraduate Students at a University in Guangxi, China

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Abstract

Purpose: This research aims to examine the factors that influence undergraduate students' entrepreneurial intentions and behavior at Guangxi University of Science and Technology. The framework contains variables, which are creativity, entrepreneurial education, personal attitude, subjective norms, perceived behavioral control, entrepreneurial intentions, and entrepreneurial behavior. **Research Design, Data, and Methodology:** A quantitative research approach was employed in this study, involving a sample size of 500 undergraduate students from Guangxi University of Science and Technology. Non-probability sampling methods include judgmental, quota and convenience sampling. Before the data collection, the index of item-objective congruence (IOC) and pilot test (n=50) with Cronbach's Alpha are employed. The data was analyzed using structural equation modeling (SEM) and confirmatory factor analysis (CFA) to assess model fit, reliability, and construct validity. **Results:** The findings reveal that creativity, entrepreneurial education, personal attitude, subjective norms, and perceived behavioral control significantly impact both entrepreneurial intentions and entrepreneurial behavior. Among these factors, perceived behavioral control has the strongest influence. **Conclusions:** This study recommends that university administrators evaluate the factors that influence student entrepreneurship and assess the developmental levels in this area. The findings of this research provide valuable insights for organizers and administrators of entrepreneurial activities in higher education, enabling them to promote student entrepreneurship and create more employment opportunities.

Keywords : Subjective Norms, Perceived Behavioral Control, Entrepreneurial Intention, Entrepreneurial Behavior

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Entrepreneurship can realize personal value, promote employment, and contribute to the development of the social economy. Among many entrepreneurial people, college students' entrepreneurship is especially in the limelight (Ayob, 2021); it is very important for their growth in addition to social and economic development and alleviates the current employment pressure. From the point of view of the current employment environment, self-employment has become the choice of many college graduates (Leiva et al.,

2023). Employment is closely related to the educational achievements of colleges and universities, and emphasis on entrepreneurship has become an important part of college education, entrepreneurial education for college students to cultivate their entrepreneurial awareness and ability (Barba-Sanchez et al., 2022). Chinese colleges and universities provide an environment and platform for college students' entrepreneurship, emphasize students' entrepreneurship, improve students' multiple abilities, and cultivate all-around talents (Longva, 2021).

Creativity is one of the key markers that distinguishes

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talent. Creativity offers greater possibilities for entrepreneurial intentions and behaviors (Li, 2017). An entrepreneur needs to have creativity in order to bring continuous innovation to his or her business. Good entrepreneurial education in colleges and universities can make college students receive comprehensive knowledge of entrepreneurship in a comprehensive and in-depth way, increase the cultivation of entrepreneurial intentions and entrepreneurial ability, and provide a basic guarantee for the success of entrepreneurial behaviors (Zhang et al., 2021).

This paper establishes a research framework based on the TPB model that creativity (C), entrepreneurial education (EE), personal attitude (PA), subjective norms (SN), and perceived behavioral Control (PBC) are the factors that have a significant influence on Entrepreneurial Intentions (EI) and entrepreneurial Intentions (EI) is a direct influence on entrepreneurial behavior (EB). Zulfiqar et al. (2019) found that entrepreneurial intentions and entrepreneurial behavior are positively correlated through experiments, which provides an effective reference for entrepreneurial education perspective focusing on transforming undergraduate students' entrepreneurial intentions into entrepreneurial behavior from the perspective of entrepreneurial education.

Therefore, the framework of this study contains seven variables: creativity (C), entrepreneurial education (EE), personal attitude (PA), subjective norms (SN), perceived behavioral control (PBC), Entrepreneurial Intentions (EI), and Entrepreneurial Behavior (EB) to explore further the factors influencing the entrepreneurial intentions and entrepreneurial behavior of undergraduate students at Guangxi University of Science and Technology (GUST).

2. Literature Review

2.1 Creativity

Creativity is a comprehensive skill of human beings, which refers to the generation of new ideas and the ability to discover and create new things (Gao et al., 2021). Creativity is one of the necessary completion factors when people want to accomplish some creative activity, and creativity is closely related to the stock of knowledge, the individual's intellect and multiple abilities, as well as good personality qualities (Hou et al., 2021). Creativity is a phenomenon of the human spirit, a mental skill developed as a process of creativity, inspiration, and intuition (Khorakian et al., 2020).

From the entrepreneurial perspective, creativity is an important ability for entrepreneurial intentions, and entrepreneurs can find many opportunities through creativity (Zisser et al., 2019). Neneh (2022) found out through his research that an individual's creativity positively affects their entrepreneurial intentions. When creative individuals

generate many ideas and thoughts about entrepreneurship, they will be more confident, and good creativity can improve entrepreneurs' self-energy efficiency and enhance entrepreneurial intentions (Biraglia & Kadile, 2017). Thus, this study provides a hypothesis:

H1: Creativity has a significant impact on entrepreneurial intentions.

2.2 Entrepreneurial Education

Education can be regarded as a social contract, an implied agreement between members of a society to cooperate for a shared benefit, and entrepreneurial education refers to a series of activities and approaches used by colleges and universities to develop the talents or skills of the participants (usually referred to as students) so that they can be more competitive in future entrepreneurial activities (Wang et al., 2022). Entrepreneurial education focuses on the cultivation of the essential strengths of human beings and the shaping of their subjectivity (Wu & Chen, 2019), with universities and colleges around the world offering entrepreneurial education courses, and the creation of a new business is itself a creative activity (Peschl et al., 2021).

Entrepreneurship can be taught and learned, which has been repeatedly cited by entrepreneurial education researchers and practitioners (Tu & Akhter, 2022). From a pedagogical perspective, entrepreneurial education can directly teach the theoretical knowledge that conveys entrepreneurial spirit, entrepreneurial thinking, entrepreneurial methodology, and so on, influencing creative intentions and entrepreneurial actions (Weicht & Jonsdottir, 2021). Sun (2020) argues that entrepreneurial education is about developing the ability to do business and developing people's creative thinking, responsibility, and careerism. Hence, a hypothesis is derived:

H2: Entrepreneurial education has a significant impact on entrepreneurial intentions.

2.3 Personal Attitude

Attitude is a reaction. An individual attitude is a reaction to something or someone, which can be positive or negative and can be evaluated and is usually found in an individual's beliefs, feelings, or behavioral tendencies (Alabduljader et al., 2023). According to Rajkovic et al. (2023), an attitude is a mental tendency towards any person, idea, or thing, emphasizing that an attitude is an idea, opinion, and other subjective things.

The fact that the person who is what he is will do what he does and that the person who does what he does is what he is proves that personal attitudes are linked to personal intentions (Mei et al., 2016). Attitude can be accomplished through learning and guidance; personal attitude influences

behavioral choices (Pejic Bach et al., 2018). From the psychological point of view, the intention factor is the psychological tendency of attitudinal behavior, which, together with emotion, constitutes the motivation of attitude (Rodriguez-Gutierrez et al., 2020). Accordingly, a hypothesis is indicated:

H3: Personal attitude has a significant impact on entrepreneurial intentions.

2.4 Subjective Norms

Subjective norms refer to whether a particular behavior of an individual feels pressure from the social level (Mohammadrezaei et al., 2022). Subjective norms can also be understood as being an individual's subjective thoughts or intentions, and they can be expressed through practices or values (Hu et al., 2022). Subjective norms can be affected by perceptions of particular behaviors. At the same time, subjective norms can be influenced by the judgments of significant others, such as parents and spouses, or close relationships, such as friends (Liu et al., 2023).

Subjective norms include the perceptions of the people around whom an individual perceives close relationships and the expectations of the individual's behavior (Burgess et al., 2017). Thornton and Collins (2018) found through experiments that there is a direct relationship between subjective norms and behavioral intentions in a group of college students. Geng et al. (2021) found through a study that subjective norms have an obvious influence, which is related to China's traditional culture, and their families influence Chinese college students' entrepreneurship. Therefore, this study hypothesizes that:

H4: Subjective norms have a significant impact on entrepreneurial intentions.

2.5 Perceived Behavioral Control

Perceived behavioral control refers to the difficulty an individual perceives in performing a particular behavior, which can reflect the individual's feelings about positive or negative behavioral factors (Lin et al., 2021). In addition, the theory of perceived behavior can be understood as the degree to which an individual perceives the control of the behavior that he or she has scraped together to engage in (Mead & Irish, 2021). From the Theory of Planned Behavior perspective, people can determine behavioral intentions through a combination of behavioral attitudes, subjective norms, and perceived behavioral control (Lee & Kim, 2018).

Mensah et al. (2021) found that entrepreneurial intention occurs when students understand the entrepreneurial resources required and entrepreneurial risks and perceived behavioral control affects entrepreneurial intention. Miralles et al. (2016) found empirically through entrepreneurial

behaviors that perceived behavioral control is one of the mechanisms of entrepreneurial intention. Of. After studying entrepreneurial education, Xu et al. (2016) found that all three aspects of behavioral attitudes, subjective norms, and perceived behavioral control play a positive role in entrepreneurial intentions. Based on the previous discussions, a hypothesis is set:

H5: Perceived behavioral control has a significant impact on entrepreneurial intentions.

2.6 Entrepreneurial Intentions

Entrepreneurship is a process of integrating resources, where entrepreneurs and their partners integrate and optimize their efforts and the resources, they have to create more economic or social value (Hu et al., 2019). Entrepreneurial intentions are personal attributes manifested through entrepreneurship, demonstrating attitudes and behaviors that influence intentions (Duan, 2022). Factors such as personal background, experience, financial ability, and knowledge in entrepreneurial education can influence an individual's entrepreneurial intentions (Zhang & Huang, 2021).

Kong et al. (2020) examined the role of entrepreneurial intentions in the entrepreneurial process, and they found through the development of entrepreneurship theories that the need for motivation and intentions of the entrepreneurial decision-maker directly affects entrepreneurial behavior. Psychologists believe various factors influence entrepreneurial behavior, and entrepreneurial intention is among the many important factors (Ye & Dong, 2021). Entrepreneurial intentions and motivations inspire, sustain, and direct entrepreneurial action to a specific goal that satisfies the entrepreneur's needs (Aamir et al., 2021). Hence, a hypothesis is proposed:

H6: Entrepreneurial intentions have a significant impact on entrepreneurial behavior.

2.7 Entrepreneurial Behavior

Entrepreneurial behavior is an act that requires entrepreneurs to integrate resources, good business management, use of services, technology, and other thinking and judgment (Croonen et al., 2016). Entrepreneurship aims to start a business and realize value (Bao et al., 2017). The act of entrepreneurship is the act of entrepreneurs who utilize them in various ways and means through their discoveries and creations, ultimately producing various results (Li et al., 2022).

Sampene et al. (2022) argued that everyone starts a business with different initial goals but ultimately wants to achieve entrepreneurial success, and entrepreneurial intentions play an important role in guiding entrepreneurs'

entrepreneurial behavior. A good strategy can guide entrepreneurs to make wise decisions (Woodside et al., 2016) and seize good timing to achieve their goals (Yachin, 2019).

3. Research Methods and Materials

3.1 Research Framework

This conceptual framework was developed from four theoretical models from previous research frameworks. The influence of creativity (C) on entrepreneurial intentions (EI) was derived from Smith et al. (2016)' model. The effect of entrepreneurial education (EE) on entrepreneurial intentions (EI) was from the Puni et al. (2018) model. The influence of entrepreneurial intentions (EI) on entrepreneurial behavior (EB) was from Alam et al. (2019) model. The influences of personal attitude (PA), subjective norms (SN), and perceived behavioral control (PBC) on entrepreneurial intentions (EI) are from the Hu et al. (2016) model (see Figure 1).

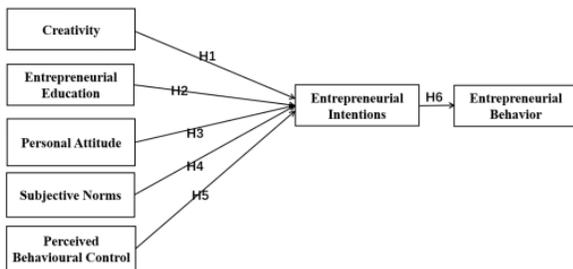


Figure 1: Conceptual Framework

H1: Creativity has a significant impact on entrepreneurial intentions.

H2: Entrepreneurial education has a significant impact on entrepreneurial intentions.

H3: Personal attitude has a significant impact on entrepreneurial intentions.

H4: Subjective norms have a significant impact on entrepreneurial intentions.

H5: Perceived behavioral control has a significant impact on entrepreneurial intentions.

H6: Entrepreneurial intentions have a significant impact on entrepreneurial behavior.

3.2 Research Methodology

The researcher adopted a quantitative non-probability sampling method to distribute online questionnaires to undergraduate students at Guangxi University of Science and Technology. The objective was to collect and analyze the key factors that significantly influence undergraduate students' entrepreneurial intentions and behaviors. The survey was

divided into three parts. The first part consisted of screening questions to identify the characteristics of the respondents. The second part included questions related to the personal demographic characteristics of the students. The third part utilized a Likert scale to assess seven proposed variables, ranging from strongly disagree to strongly agree.

To ensure the quality of the questionnaire, a pilot test was conducted with 50 participants. An expert evaluated the consistency of the program objectives (IOC) and provided feedback. The validity and reliability of the questionnaire were assessed using the Cronbach's alpha method. The IOC evaluation involved the participation of three experts who individually assessed each item, all of whom assigned scores of 0.6 or greater. Following this, a preliminary test was conducted with a group of 50 participants, employing the Cronbach alpha coefficient to gauge reliability. The results revealed a strong internal consistency across all questionnaire items, with a reliability score exceeding 0.7 (Nunnally & Bernstein, 1994).

Following the reliability test, the questionnaire was distributed to the target respondents, resulting in 500 responses. The collected data was analyzed using SPSS AMOS 26.0. Confirmatory factor analysis (CFA) was employed to test the convergence and validity of the model. Fit measures were calculated to ensure the validity and reliability of the model using the synthesized data.

Finally, the researcher utilized Structural Equation Modeling (SEM) to examine the effects of the variables, providing a comprehensive analysis of the relationships between the key factors influencing undergraduate students' entrepreneurial intentions and behaviors.

3.3 Population and Sample Size

The population of this paper is undergraduate students of Guangxi University of Science and Technology in three majors. Structural equation modeling suggests a sample size of at least 425 people. This study used 500 respondents.

3.4 Sampling Technique

The researcher used non-probability sampling to select three majors at Guangxi University of Science and Technology that have experienced entrepreneurial education using judgmental sampling followed by quota sampling. After that, the researchers distributed online questionnaires using the convenience sampling tool Questionnaire Star (see Table 1).

Table 1: Sample Units and Sample Size

Major	Population Size	Proportional Sample Size
Engineering	14008	347
Business	4037	100
Humanities and Social Sciences	2151	53
Total	20196	500

Source: Constructed by author

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
GUST	Yes	500	100%
Majors	Engineering	347	69.4%
	Business	100	20%
	Humanities and Social Sciences	53	10.6%

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

All respondents were students of Guangxi University of Science and Technology (GUST), and their three undergraduate majors were engineering, business, and humanities and social sciences. The students in each major were 347, 100, and 53, respectively, representing 69.4%, 20.0%, and 10.6% of the total sample (see Table 2).

4.2 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) was used in this study. All items in each variable were significant, representing the factor loadings for testing convergent validity. Hair et al. (2006) emphasized the importance of the factor loadings for each item. The factor loading requirement was set at 0.5 with a p-value coefficient of less than 0.05. In addition, according to the critical. Fornell and Larcker (1981) cut-off point was set at CR greater than 0.7 and AVE greater than 0.5. As shown in Table 3, the factor loading values were all above 0.5, with the CR greater than 0.7 and the AVE greater than 0.5. The results of Cronbach's Alpha revealed a strong internal consistency across all questionnaire items, with a reliability score exceeding 0.7 (Nunnally & Bernstein, 1994). The results indicated that the CFA test was good. The results of the data analysis are valid and reliable (see Table 3).

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Creativity (C)	Runco et al. (2001)	16	0.962	0.751-0.822	0.962	0.616
Entrepreneurial Education (EE)	Puni et al. (2018)	10	0.944	0.737-0.876	0.944	0.626
Personal Attitude (PA)	Liñán and Chen (2009)	5	0.892	0.769-0.811	0.894	0.627
Subjective Norms (SN)	Hu et al. (2016)	5	0.901	0.791-0.833	0.902	0.649
Perceived Behavioral Control (PBC)	Hu et al. (2016)	5	0.888	0.748-0.848	0.889	0.618
Entrepreneurial Intentions (EI)	Hu et al. (2016)	5	0.873	0.73-0.794	0.874	0.582
Entrepreneurial Behavior (EB)	Ngan (2020)	4	0.899	0.769-0.794	0.900	0.693

This study uses CMIN/DF, GFI, AGFI, NFI, CFI, TLI, and RMSEA as model fit indices in the CFA test. Table 4 presents that all values pass the acceptable criteria to approve a measurement model.

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index and RMSEA = Root mean square error of approximation.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	≤ 5.0 (Wheaton et al., 1977)	2735.457/1169 2.340
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.808
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.791
NFI	≥ 0.80 (Wu & Wang, 2006)	0.856
CFI	≥ 0.80 (Bentler, 1990)	0.912
TLI	≥ 0.80 (Sharma et al., 2005)	0.908
RMSEA	≤ 0.10 (Hopwood & Donnellan, 2010)	0.052
Model Summary		In harmony with empirical data

As shown in Table 5, the values obtained in this study are higher than the acceptable values, verifying that the models have a good fit. The square root of AVE for each variable is greater than its correlation with other variables, indicating good discriminant validity of the model. In addition, the measurements of these models strengthened their discriminant validity and verified the validity of the subsequent structural model estimation.

Table 5: Discriminant Validity

	C	EE	PA	SN	PBC	EI	EB
C	0.785						
EE	0.435	0.791					
PA	0.403	0.343	0.792				
SN	0.625	0.383	0.44	0.806			
PBC	0.567	0.427	0.432	0.623	0.786		
EI	0.497	0.391	0.413	0.523	0.531	0.763	
EB	0.228	0.441	0.562	0.206	0.292	0.195	0.832

Note: The diagonally listed value is the AVE square roots of the variables
 Source: Created by the author.

4.3 Structural Equation Model (SEM)

Structural equation modeling (SEM) is to simultaneously analyze multiple independent and dependent variables (Wang et al., 2022). Table 6 presents the fit indices for the structural equation model (SEM) used in this study. The model was assessed using AMOS, and the results indicate a good fit based on the fit indices. Specifically, the indices include CMIN/DF = 2.147, GFI = 0.855, AGFI = 0.814, NFI = 0.869, CFI = 0.925, TLI = 0.921, and RMSEA = 0.048. These values fall within the acceptable range, indicating that the model adequately fits the data (refer to Table 6).

Table 6: Goodness of Fit for Structural Model

Index	Acceptable	Statistical Values
CMIN/DF	≤ 5.0 (Wheaton et al., 1977)	2500.821/1165 2.147
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.855
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.814
NFI	≥ 0.80 (Wu & Wang, 2006)	0.869
CFI	≥ 0.80 (Bentler, 1990)	0.925
TLI	≥ 0.80 (Sharma et al., 2005)	0.921
RMSEA	≤ 0.10 (Hopwood & Donnellan, 2010)	0.048
Model Summary		In harmony with Empirical data

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker-Lewis index and RMSEA = Root mean square error of approximation.

4.4 Research Hypothesis Testing Result

The research model assesses the significance of regression path coefficients through t-values and calculates the explanatory power of independent variables on the dependent variable using R2. Table 7 presents the results, with significance levels indicated p < 0.001.

All hypotheses are supported by the findings. The coefficient of influence for creativity on entrepreneurial

intentions is 0.202. Entrepreneurial education has an influence coefficient of 0.166 on entrepreneurial intentions. Personal attitude shows an influence coefficient of 0.214 on entrepreneurial intentions. Subjective norms exhibit an influence coefficient of 0.240 on entrepreneurial intentions. Perceived behavioral control demonstrates the highest influence coefficient of 0.294 on entrepreneurial intentions. Lastly, entrepreneurial intentions have an influence coefficient of 0.224 on entrepreneurial behavior.

It is worth noting that perceived behavioral control has the most substantial impact on entrepreneurial intentions, as indicated in Table 7.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-Value	Result
H1: C→EI	0.202	4.385***	Supported
H2: EE→EI	0.166	3.603***	Supported
H3: PA→EI	0.214	4.359***	Supported
H4: SN→EI	0.240	4.978***	Supported
H5: PBC→EI	0.294	5.957***	Supported
H6: EI→EB	0.224	4.345***	Supported

Note: *** p<0.001

Source: Created by the author

H1 has confirmed that creativity is a factor affecting entrepreneurial Intentions with a result of 0.202. Among the many factors affecting entrepreneurial Intentions, creativity is one of the bases of entrepreneurial Intentions. The ability to innovate comes from creativity. A successful entrepreneur must have personality traits such as independence, dissimilarity, imagination, novelty, inspiration, acuity, etc. Therefore, creativity influences entrepreneurial intentions (Nguyen & Do, 2023). The result of **H2** is 0.166, which shows that entrepreneurial education affects entrepreneurial intentions has an effect. From the actual effect of entrepreneurial education, the actual effect on entrepreneurial intention is mainly realized by improving entrepreneurial skills and carrying out entrepreneurial practices (Le et al., 2023). The result of **H3** is 0.214, which indicates that personal attitude affects entrepreneurial intentions. Positive personal attitudes and entrepreneurial intentions can solve the problem of adapting to the growing youth entrepreneurship crisis facing today (Arshad et al., 2023). The result of **H4** is 0.240, which indicates that subjective norms affect entrepreneurial intentions. In entrepreneurship, subjective norms drive individuals to pursue entrepreneurial activities (Hossain et al., 2023). The result of **H5** is 0.294, which indicates that perceived behavioral control impacts entrepreneurial intentions. In transforming individuals into entrepreneurs, academic entrepreneurial intentions are influenced by perceived behavioral control at the stage of entrepreneurial intention formation (Aga, 2023). Finally, the result of **H6** is 0.224, which indicates that entrepreneurial intentions affect

entrepreneurial behavior. Entrepreneurship, as an engine to promote a country's economic and social development, has become a global concern, and entrepreneurial behavior should be supported or driven by entrepreneurial intentions (Martín-Navarro et al., 2023).

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

This study aims to investigate the factors affecting the entrepreneurial intentions and entrepreneurial behavior of undergraduate students at Guangxi University of Science and Technology. The model consists of seven variables and six hypotheses. The hypotheses are: creativity influences entrepreneurial intentions, entrepreneurial education influences entrepreneurial intentions, personal attitude influences entrepreneurial intentions, subjective norms have an effect on entrepreneurial intentions, perceived behavioral control has an effect on entrepreneurial intentions, and entrepreneurial intentions have an effect on entrepreneurial behavior. A questionnaire survey was conducted among undergraduate students of Guangxi University of Science and Technology, and the purpose of the data analysis was to explore the factors influencing entrepreneurial intentions and entrepreneurial behavior of undergraduate students. Confirmatory factor analysis (CFA) was used to measure the validity and reliability of the conceptual model. Structural equation modeling (SEM) was used to analyze the proposed relationships among the hypotheses.

The results of the study are as follows. First, perceived behavioral control has the greatest effect on entrepreneurial intentions. That is, perceived behavioral control determines students' entrepreneurial intentions to a large extent. Perceived behavioral control has a significant effect on entrepreneurial intentions. This shows that perceived behavioral control indirectly influences entrepreneurial behavior. Secondly, subjective norms have a significant effect on entrepreneurial intentions. Subjective norms are one of the factors affecting entrepreneurial behavior. At the same time, subjective norms indirectly affect entrepreneurial behavior, which means that subjective norms are one of the intrinsic driving factors for individuals to carry out entrepreneurial activities. Third, entrepreneurial intentions significantly affect entrepreneurial behavior, meaning there is a strong connection between entrepreneurial intentions and entrepreneurial behavior. Fourth, personal attitude has a significant effect on entrepreneurial intentions, which means that in entrepreneurial activities, personal attitude is one of the influencing factors of entrepreneurial intentions, which

indirectly influences Fifth, creativity has a significant effect on entrepreneurial intentions. This shows that entrepreneurial activities require entrepreneurial creativity, one of the influencing factors of entrepreneurial intentions, and indirectly affects entrepreneurial behavior. Finally, entrepreneurial intentions affect entrepreneurial behavior. This shows that entrepreneurial education is one of the factors influencing entrepreneurial intentions and indirectly influences entrepreneurial actions, and entrepreneurial education can directly teach theoretical knowledge related to entrepreneurship, which provides a scientific guarantee for entrepreneurial intentions and actions.

5.2 Recommendation

The researcher found that through the investigation of the influencing factors of entrepreneurial intentions and entrepreneurial behavior at Guangxi University of Science and Technology, it can be concluded that the key factors influencing undergraduate students' entrepreneurial intentions and entrepreneurial behavior are creativity, entrepreneurial education, personal attitude, subjective norms, and perceived behavioral control. Perceived behavioral control is the key factor influencing undergraduate students' entrepreneurial intentions and behavior. Therefore, it is recommended that colleges and universities should pay attention to perceived behavioral control in undergraduate students' innovative and entrepreneurial activities, and a clear positive or negative evaluation of perceived behavioral control on entrepreneurial intention and entrepreneurial behavior, and improve undergraduates' ability to estimate the importance of entrepreneurial resources. First, subjective norms are individuals' subjective ideas, which students can express through practices or values in future entrepreneurial activities. Clarifying the content and significance of subjective norms in future entrepreneurial activities will enable students to understand and express the same basic understanding of entrepreneurial practice and make real-time adjustments and control according to their situation. Entrepreneurial willingness is the foundation of entrepreneurial behavior (Duong, 2023), and students then realize entrepreneurial activities by enhancing their entrepreneurial skills and carrying out entrepreneurial practices. Secondly, positive individuals profoundly influence the entrepreneurial spirit and the determination to deal positively with entrepreneurial challenges that undergraduates may face in their future entrepreneurial activities, so for entrepreneurs, mindfulness is important (Feakes et al., 2023). Again, entrepreneurship requires creativity, and successful entrepreneurs can bring more

possibilities and innovations to their business through creativity. Finally, colleges and universities help students with entrepreneurship through entrepreneurial education-related courses, a talent cultivation model for entrepreneurship purposes (Shen & Huang, 2023). Under the guidance of entrepreneurial education, students utilize a variety of conditions to improve their abilities, which leads to self-improvement. In summary, the results of this study will help Guangxi University of Science and Technology or similar institutions to gain information and inspiration on students' entrepreneurial intentions and entrepreneurial behavior and to pinpoint the influencing factors affecting students' entrepreneurial intentions and entrepreneurial behavior to promote the prosperity and development of social economy.

5.3 Limitation and Further Study

The limitations of this study are as follows: first, all the samples in this study are from Guangxi University of Science and Technology (GUST), so the results only represent the entrepreneurial tendency of undergraduate students in GUST. Second, the questionnaire results are influenced by the respondents' mental state and emotions when filling in the questionnaire, so there may be some errors. Thirdly, the theoretical framework of this paper may have several shortcomings due to the large amount of literature and the controversial perspectives, which have yet to reach a unified consensus in the academic world. The limitations of this study also indicate the control of other uncorrelated factors, and given the complexity of entrepreneurial intention and entrepreneurial behavior, other intermediate variables may influence the results. Therefore, the current findings need to be further validated by future researchers.

References

- Aamir, M., Sarfraz, M., & Khawaja, K. F. (2021). Signifying the Effect of Relational and Experiential Cognitive Styles on Entrepreneurial Behavior: A Mediated Moderated Model. *Frontiers in Psychology, 12*, 1-10. <https://doi.org/10.3389/fpsyg.2021.762403>
- Aga, M. K. (2023). The mediating role of perceived behavioral control in the relationship between entrepreneurship education and entrepreneurial intentions of university students in Ethiopia. *Journal of Innovation and Entrepreneurship, 12*(1), 1-32. <https://doi.org/10.1186/s13731-023-00297-w>
- Alabduljader, N., Solomon, G. T., Kang, J. H., Choi, D. Y., & Al-Abduljader, S. T. (2023). Cognitive styles and entrepreneurial intentions: A cross-cultural comparison. *Journal of Small Business Management, 61*(2), 738-768. <https://doi.org/10.1080/00472778.2020.1816430>
- Alam, M. Z., Kousar, S., & Rehman, C. (2019). Role of entrepreneurial motivation on entrepreneurial intentions and behavior: theory of planned behavior extension on engineering students in Pakistan. *Journal of Global Entrepreneurship Research, 9*(1), 50. <https://doi.org/10.1186/s40497-019-0175-1>
- Arshad, A. S., Ambad, S. N. A., & Damot, D. H. D. (2023). Determining Entrepreneurial Intention Among Undergraduate Students in Malaysia Using the Theory of Planned Behavior (TPB). *Malaysian Journal of Consumer and Family Economics, 30*, 415-431. [https://doi.org/10.1016/s2212-5671\(16\)30100-9](https://doi.org/10.1016/s2212-5671(16)30100-9)
- Ayob, A. (2021). Institutions and student entrepreneurship: the effects of economic conditions, culture, and education. *Educational Studies, 47*(6), 661-679. <https://doi.org/10.1080/03055698.2020.1729094>
- Bao, J. N., Zhou, X., & Chen, Y. (2017). Entrepreneurial passion and behaviors: Opportunity recognition as a mediator. *Social Behavior and Personality, 45*(7), 1211-1220. <https://doi.org/10.2224/sbp.6492>
- Barba-Sanchez, V., Mitre-Aranda, M., & Brió-González, J. D. (2022). The entrepreneurial intention of university students: An environmental perspective. *European Research on Management and Business Economics, 28*(2), 100184. <https://doi.org/10.1016/j.iedeen.2021.100184>
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238. <https://doi.org/https://doi.org/10.1037/0033-2909.107.2.238>
- Biraglia, A., & Kadile, V. (2017). The Role of Entrepreneurial Passion and Creativity in Developing Entrepreneurial Intentions: Insights from American Homebrewers. *Journal of Small Business Management, 55*(1), 170-188. <https://doi.org/10.1111/jsbm.12242>
- Burgess, A. M., Change, J., & Nakamura, B. J. (2017). Evidence-Based Practice Implementation Within a Theory of Planned Behavior Framework. *Journal of Behavioral Health Services & Research, 44*(4), 647-665. <https://doi.org/10.1007/s11414-016-9523-x>
- Croonen, E. P. M., Brand, M. J., & Huizingh, E. K. R. E. (2016). To be entrepreneurial, or not to be entrepreneurial? Explaining differences in franchisee entrepreneurial behavior within a franchise system. *International Entrepreneurship and Management Journal, 12*(2), 531-553. <https://doi.org/10.1007/s11365-014-0352-1>
- Duan, L. H. (2022). An Extended Model of the Theory of Planned Behavior: An Empirical Study of Entrepreneurial Intention and Entrepreneurial Behavior in College Students. *Frontiers in Psychology, 12*, 627818. <https://doi.org/10.3389/fpsyg.2022.627818>
- Duong, C. D. (2023). A moderated mediation model of perceived barriers, entrepreneurial self-efficacy, intentions, and behaviors: A social cognitive career theory perspective. *Oeconomia Copernicana, 14*(1), 355-388. <https://doi.org/10.24136/oc.2023.010>
- Feakes, A., Lindsay, N., Palmer, E., & Petrovski, K. (2023). Business Intentions of Australian Veterinary Students-My Business or Yours? A Cluster Analysis. *Animals, 13*(7), 1225. <https://doi.org/10.3390/ani13071225>

- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing Research*, 18(1), 39-50. <https://doi.org/10.1177/002224378101800104>
- Gao, Y., Xin, Z., Xiaobo, X., & Fei, M. (2021). A study on the cross-level transformation from individual creativity to organizational creativity. *Technological Forecasting and Social Change*, 171, 120958. <https://doi.org/10.1016/j.techfore.2021.120958>
- Geng, B., Huang, T., Jiang, X., & Fan, L. (2021). The Analysis of the Innovation Consciousness of College Student Entrepreneurs Under the Teaching Concept of Chinese Excellent Traditional Culture. *Frontiers in Psychology*, 12, 717336. <https://doi.org/10.3389/fpsyg.2021.717336>
- Hair, E., Halle, T., & Terry-Humen, E. (2006). Children's school readiness in the ECLS-K: Predictions to academic, health, and social outcomes in first grade. *Early Childhood Research Quarterly*, 21(4), 431-454. <https://doi.org/10.1016/j.ecresq.2006.09.005>
- Hopwood, C. J., & Donnellan, M. B. (2010). How should the internal structure of personality inventories be evaluated?. *Personality and social psychology review*, 14(3), 332-346. <https://doi.org/10.1177/1088868310361240>
- Hossain, M. I., Tabash, M. I., & Siow, M. L. (2023). Entrepreneurial intentions of Gen Z university students and entrepreneurial constraints in Bangladesh. *Journal of Innovation and Entrepreneurship*, 12(1), 12. <https://doi.org/10.1186/s13731-023-00279-y>
- Hou, F., Su, Y., Qi, M., & Wang, L. (2021). Entrepreneurial Team Knowledge Diversity and Creativity: A Multilevel Analysis of Knowledge Sharing, Individual Creativity, and Team Creativity. *Frontiers in Psychology*, 12, 717756. <https://doi.org/10.3389/fpsyg.2021.717756>
- Hu, K., Junfeng, D., & Xiaojing, L. (2022). International students' university choice to study abroad in higher education and influencing factors analysis. *Frontiers in Psychology*, 13, 1036569. <https://doi.org/10.3389/fpsyg.2022.1036569>
- Hu, L. Y., Wu, J., & Gu, J. (2019). The Impacts of Task- and Relationship-oriented Personal Initiative on Entrepreneurial Intention. *Sustainability*, 11(19), 5468. <https://doi.org/10.3390/su11195468>
- Hu, M., Zhan, Z., & Fong, P. A. W. (2016). Planned behavior of tourism students' entrepreneurial intentions in China. *Applied Economics*, 48(13), 1240-1254.
- Khorakian, A., Hemsworth, D., & Jahangir, M. (2020). The Effects of Religious Orientations on Malevolent Creativity: Role of Positive Emotions and Spiritual Intelligence. *Creativity Research Journal*, 32(4), 421-430. <https://doi.org/10.1080/10400419.2020.1818491>
- Kong, F. Z., Zhao, L., & Tsai, C.-H. (2020). The Relationship Between Entrepreneurial Intention and Action: The Effects of Fear of Failure and Role Model. *Frontiers in Psychology*, 11, 229. <https://doi.org/10.3389/fpsyg.2020.00229>
- Le, T. T., Doan, X. H., & Duong, D. (2023). A serial mediation model of the relation between cultural values, entrepreneurial self-efficacy, intentions, and behaviors: Does entrepreneurial education matter? A multi-group analysis. *Journal of Open Innovation: Technology, Market, and Complexity*, 9(2), 100064. <https://doi.org/10.1016/j.joitmc.2023.100064>
- Lee, S. J., & Kim, H. L. (2018). Roles of perceived behavioral control and self-efficacy to volunteer tourists' intended participation via theory of planned behavior. *International Journal of Tourism Research*, 20(2), 182-190. <https://doi.org/10.1002/jtr.2171>
- Leiva, J. C., Pierrakis, Y., & Gil-Domenech, D. (2023). Nascent entrepreneurship in university students: the role of the context. *Venture Capital. An International Journal of Entrepreneurial Finance*, 25(3), 205-217. <https://doi.org/10.1080/13691066.2023.2171318>
- Li, G. H. (2017). Role of Innovation and Entrepreneurship Education in Improving Employability of Medical University Students. *Eurasia Journal of Mathematics Science and Technology Education*, 13(12), 8149-8154. <https://doi.org/10.12973/ejmste/80779>
- Li, L. N., Murad, M., & Shahzad, F. (2022). The Relationship Between Personality Traits and Entrepreneurial Intention Among College Students: The Mediating Role of Creativity. *Frontiers in Psychology*, 13(11), Article 822206. <https://doi.org/10.3389/fpsyg.2022.822206>
- Lin, Y. C., Liu, G., & Chang, C.-Y. (2021). Perceived Behavioral Control as a Mediator between Attitudes and Intentions toward Marine Responsible Environmental Behavior. *Water*, 13(5), 500-580. <https://doi.org/10.3390/w13050580>
- Liñán, F., & Chen, Y. W. (2009). Development and Cross-Cultural Application of a Specific Instrument to Measure Entrepreneurial Intentions. *Entrepreneurship Theory and Practice*, 33(3), 593-617. <https://doi.org/10.1111/j.1540-6520.2009.00318.x>
- Liu, B. S., Zhai, Y., & Li, L. (2023). Effects of Social Influence on Relationships among Citizens' Expectation Confirmation, Satisfaction and Acceptance under Different Urban Renewal Compensation Modes. *Public Performance & Management Review*, 128, 1-10. <https://doi.org/10.1080/15309576.2023.2209851>
- Longva, K. K. (2021). Student venture creation: developing social networks within entrepreneurial ecosystems in the transition from student to entrepreneur. *International Journal of Entrepreneurial Behavior & Research*, 27(5), 1264-1284. <https://doi.org/10.1108/ijeb-09-2020-0661>
- Martín-Navarro, A., Velicia-Martín, F., & Medina-Garrido, J. A. (2023). Causal propensity as an antecedent entrepreneurial intention. *International Entrepreneurship and Management Journal*, 19(2), 501-522. <https://doi.org/10.1007/s11365-022-00826-1>
- Mead, M. P., & Irish, L. A. (2021). Intraindividual Variability of Sleep Opportunity Attitudes, Perceived Norms, Perceived Behavioral Control, and Intentions. *Annals of Behavioral Medicine*, 55(7), 693-697. <https://doi.org/10.1093/abm/kaa112>

- Mei, H., Zhan, Z., & Liang, T. (2016). Planned behavior of tourism students' entrepreneurial intentions in China. *Applied Economics*, 48(13), 1240-1254.
- Mensah, I. K., Coata, N., & Olivirira, C. (2021). Exploring the Predictors of Chinese College Students' Entrepreneurial Intention. *Sage Open*, 11(3), 21582440211029941. <https://doi.org/10.1177/21582440211029941>
- Miralles, F., Giones, F., & Riverola, C. (2016). Evaluating the impact of prior experience in entrepreneurial intention. *International Entrepreneurship and Management Journal*, 12(3), 791-813. <https://doi.org/10.1007/s11365-015-0365-4>
- Mohammadrezaei, M., Meredith, D., & McNamara, J. (2022). Subjective norms influence advisors' reluctance to discuss farm health and safety. *Journal of Agricultural Education & Extension* 29(5), 1-25. <https://doi.org/10.1080/1389224x.2022.2125410>
- Neneh, B. N. (2022). Entrepreneurial passion and entrepreneurial intention: the role of social support and entrepreneurial self-efficacy. *Studies in higher education*, 47(3), 587-603. <https://doi.org/10.1080/03075079.2020.1770716>
- Ngan, N. D. H. B. (2020). Extended Theory of Planned Theory of Planned behavior for millennial Generation Toward Entrepreneurial Intention. *Management Information Calculation*, 8, 83-92. https://doi.org/10.6285/mic.201908/sp_02_8.0008
- Nguyen, T. T., & Do, D. N. (2023). Teaching for creativity and entrepreneurial intentions: an empirical study. *Journal of Entrepreneurship in Emerging Economies*, 15(4), 766-785. <https://doi.org/10.1108/JEEE-05-2021-0185>
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Pejic Bach, M., Aleksic, A., & Marjana, M. S. (2018). Examining determinants of entrepreneurial intentions in Slovenia: applying the theory of planned behavior and an innovative cognitive style. *Economic Research-Ekonomska Istrazivanja*, 31(1), 1453-1471. <https://doi.org/10.1080/1331677x.2018.1478321>
- Peschl, H., Deng, C., & Larson, N. (2021). Entrepreneurial thinking: A signature pedagogy for an uncertain 21st century. *International Journal of Management Education*, 19(1), 100427. <https://doi.org/10.1016/j.ijme.2020.100427>
- Puni, A., Anlesinya, A., & Akosua Korsorku, P. D. (2018). Entrepreneurial education, self-efficacy, and intentions in Sub-Saharan Africa. *African Journal of Economic and Management Studies*, 9(4), 492-511. <https://doi.org/10.1108/AJEMS-09-2017-0211>
- Rajkovic, J., Terek, T., & Nikolic, M. (2023). Big Five, entrepreneurial orientation and entrepreneurial intentions. *European Journal of International Management*, 20(3), 475-507. <https://doi.org/10.1504/ejim.2023.131704>
- Rodriguez-Gutierrez, P., Cabeza-Ramirez, L. J., & Muñoz-Fernández, G. A. (2020). University Students' Behavior towards Entrepreneurial Intention in Ecuador: Testing for the Influence of Gender. *International journal of environmental research and public health*, 17(22), 8475. <https://doi.org/10.3390/ijerph17228475>
- Runco, M. A., Plucker, J., & Lim, W. (2001). Development and Psychometric Integrity of a Measure of Ideational Behavior. *Creativity Research Journal*, 13(3-4), 393-400. https://doi.org/10.1207/S15326934CRJ1334_16
- Sampene, A. K., Li, K., Khan, A., & Agyemen, F. O. (2022). Yes! I want to be an entrepreneur: A study on university students' entrepreneurship intentions through the theory of planned behavior. *Current Psychology*, 42(2), 1-10. <https://doi.org/10.1007/s12144-022-03161-4>
- Sharma, S., Mukherjee, S., & Kumar, A. (2005). A simulation study to investigate the use of cutoff values for assessing model fit in covariance structure models. *Journal of Business Research*, 58(7), 935-943. <https://doi.org/10.1016/j.jbusres.2003.10.007>
- Shen, J., & Huang, X. (2023). The role of entrepreneurial education in determining actual entrepreneurial behavior: Does TESOL amplified communication apprehension matter?. *Frontiers in Psychology*, 13, 1074774. <https://doi.org/10.3389/fpsyg.2022.1074774>
- Sica, C., & Ghisi, M. (2007). The Italian versions of the beck anxiety inventory and the beck depression inventory-II: Psychometric properties and discriminant power. In M.A. Lange (Ed.), *Leading - edge psychological tests and testing research* (pp. 27-50). Nova.
- Smith, R. M., Sardeshmukh, S. R., & Combs, G. M. (2016). Understanding gender, creativity, and entrepreneurial intentions. *Education + Training*, 58(3), 263-282. <https://doi.org/10.1108/ET-06-2015-0044>
- Sun, X. M. (2020). Exploration and Practice of "Internet plus Maker Education" University Innovative Entrepreneurship Education Model from the Perspective of Positive Psychology. *Frontiers in Psychology*, 11, 891. <https://doi.org/10.3389/fpsyg.2020.00891>
- Thorlton, J., & Collins, W. B. (2018). Underlying Beliefs Associated with College Student Consumption of Energy Beverages. *Western Journal of Nursing Research*, 40(1), 5-19. <https://doi.org/10.1177/0193945916686961>
- Tu, J. J., & Akhter, S. (2022). Exploring the role of Entrepreneurial Education, Technology and Teachers' Creativity in excelling Sustainable Business Competencies. *Economic Research-Ekonomska Istrazivanja*, 36(2), 1-19. <https://doi.org/10.1080/1331677x.2022.2119429>
- Wang, Y., Mundorf, N., & Salzarulo, A. (2022). Methodological research and model development on structural equation models in China's mainland from 2001 to 2020. *Advances in Psychological Science*, 30(8), 1715. <https://doi.org/10.3724/SP.J.1042.2022.01715>
- Weicht, R., & Jonsdottir, S. R. (2021). Education for Social Change: The Case of Teacher Education in Wales. *Sustainability*, 13(15), 8574. <https://doi.org/10.3390/su13158574>
- Wheaton, B., Muthen, B., Alwin, D. F., & Summers, G. (1977). Assessing Reliability and Stability in Panel Models. *Sociological Methodology*, 8, 84-136. <http://dx.doi.org/10.2307/270754>
- Woodside, A. G., Mir, P., & Coduras, A. (2016). The general theory of culture, entrepreneurship, innovation, and quality-of-life: Comparing nurturing versus thwarting enterprise start-ups in BRIC, Denmark, Germany, and the United States. *Industrial Marketing Management*, 53, 136-159. <https://doi.org/10.1016/j.indmarman.2015.11.003>
- Wu, H. T., & Chen, M. Y. (2019). Course Design for College Entrepreneurship Education - From Personal Trait Analysis to Operation in Practice. *Frontiers in Psychology*, 10, 1016. <https://doi.org/10.3389/fpsyg.2019.01016>

- Wu, J.-H., & Wang, Y.-M. (2006). Measuring KMS success: A respecification of the DeLone and McLean's model. *Information & management*, 43(6), 728-739. <https://doi.org/10.1016/j.im.2006.05.002>
- Xu, X. Z., Mao, Y., & Ye, Y. (2016). Factors influencing entrepreneurial intentions of Chinese secondary school students: an empirical study. *Asia Pacific Education Review*, 17(4), 625-635. <https://doi.org/10.1007/s12564-016-9439-4>
- Yachin, J. M. (2019). The entrepreneur-opportunity nexus: discovering the forces that promote product innovations in rural micro-tourism firms. *Scandinavian journal of hospitality and tourism*, 19(1), 47-65. <https://doi.org/10.1080/15022250.2017.1383936>
- Ye, L., & Dong, X. Y. (2021). The Impact of Cross-Cultural Adaptation on the Psychology and Entrepreneurial Intention of Venture Entrepreneurs. *Frontiers in Psychology*, 12, 705075. <https://doi.org/10.3389/fpsyg.2021.705075>
- Zhang, B. G., Han, S., & Xu, Q. (2021). Construction of Innovation Behavior of College-Student Entrepreneurs Using Entrepreneurship and Innovation Theory Under Educational Psychology. *Frontiers in Psychology*, 12, 697924. <https://doi.org/10.3389/fpsyg.2021.697924>
- Zhang, J. P., & Huang, J. H. (2021). Entrepreneurial Self-Efficacy Mediates the Impact of the Post-pandemic Entrepreneurship Environment on College Students' Entrepreneurial Intention. *Frontiers in Psychology*, 12, 643184. <https://doi.org/10.3389/fpsyg.2021.643184>
- Zisser, M. R., Jonas, E., & Brantl, M. (2019). The relationship between entrepreneurial intent, gender, and personality. *Gender in Management*, 34(8), 666-684. <https://doi.org/10.1108/gm-08-2018-0105>
- Zulfqar, S., Sarwar, B., & Khan, M. K. (2019). An Analysis of Influence of Business Simulation Games on Business School Students' Attitude and Intention Toward Entrepreneurial Activities. *Journal of Educational Computing Research*, 57(1), 106-130. <https://doi.org/10.1177/0735633117746746>