eISSN: 2408-1906© 2020 JIR.
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Factors Influencing Entrepreneurial Intention and Behavior among Economics and Management Students in Guangdong

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Received: February 4, 2026. Revised: April 21, 2026. Accepted: April 21, 2026.

Abstract

Purpose: This study examines factors influencing entrepreneurial intention and entrepreneurial behavior among university students, using survey data from undergraduates at Guangdong University of Petrochemical Technology, China. **Research design, data and methodology:** A quantitative approach was adopted using questionnaire data from 500 undergraduate students in the School of Economics and Management. A mixed non-probability sampling strategy combined judgment, quota, and convenience sampling. The framework integrated need for achievement, subjective norms, entrepreneurship education, attitude toward entrepreneurship, perceived behavioral control, entrepreneurial intention, and entrepreneurial behavior. Confirmatory factor analysis and structural equation modeling were applied. **Results:** Entrepreneurial intention is influenced by multiple factors and acts as a mediator between entrepreneurship education and entrepreneurial behavior. Perceived behavioral control ($\beta = 0.367$) and attitude toward entrepreneurship ($\beta = 0.330$) emerged as the strongest predictors, followed by need for achievement, entrepreneurship education, and subjective norms. Entrepreneurial intention showed a strong positive effect on entrepreneurial behavior ($\beta = 0.477$). **Conclusions:** Findings support a multi-factor model of entrepreneurial intention and behavior. The study contributes by integrating psychological and educational variables in a unified framework. However, its cross-sectional design and single-institution sample may limit generalizability. Universities should emphasize experiential learning and supportive environments to improve entrepreneurial outcomes.

Keywords: Entrepreneurial Intention, Entrepreneurial Behaviour, Undergraduate Student, Guangdong, China

JEL Classification Code: A22, C12, I23, L26, M10

1. Introduction

Entrepreneurship is widely recognized as a critical driver of innovation, employment creation, and economic growth, leading to its integration into higher education curricula worldwide (Fayolle et al., 2016; Li & Wu, 2019). Beyond economic outcomes, entrepreneurship education is increasingly viewed as a means to develop students' capabilities and readiness for entrepreneurial activities (Ghouse et al., 2021; Mazzarol & Reboud, 2020).

Within academic institutions, students function as members of an organizational environment where attitudes and behaviors are shaped through observation and interaction (Zapf, 2002). Drawing on organizational behavior theory, social learning and interaction processes explain how students form entrepreneurial perceptions and intentions through exposure to educators, peers, and institutional practices. When students develop self-perceptions aligned with entrepreneurial roles, they are more likely to engage in entrepreneurial behavior (Yousef, 2001). Positive emotional attachment and commitment further strengthen confidence and resilience (Allen & Meyer, 1990).

Prior research shows that organizational commitment and innovation-oriented environments are associated with proactive behavior (Xenikou & Simosi, 2006). In educational settings, students exchange engagement for knowledge and institutional support (Eisenberger et al., 2002; Meyer & Allen, 1991). This exchange process highlights how entrepreneurship education operates through psychological and social mechanisms rather than a single instructional component.

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Students respond to curricular expectations and learning environments (Aragón-Correa et al., 2007; Forgas & George, 2001). Entrepreneurial knowledge stimulates idea generation and enhances performance (Davenport & Prusak, 1998). Effective entrepreneurship education therefore includes not only formal courses but also broader learning experiences that shape attitudes, skills, and perceived capabilities (Bass, 1985; Mohd Adnan & Valliappan, 2019).

Despite the expansion of entrepreneurship education, empirical findings remain inconsistent regarding its influence on entrepreneurial intention and behavior. In China, such education has been widely implemented, yet limited research has examined how multiple psychological and educational factors jointly influence both intention and behavior.

Addressing this gap, this study investigates the factors influencing university students' entrepreneurial intention and entrepreneurial behavior in Guangdong, China. It examines the roles of need for achievement, subjective norms, entrepreneurship education, attitude toward entrepreneurship, and perceived behavioral control.

This study contributes theoretically by advancing a multi-factor framework that integrates organizational behavior and entrepreneurship perspectives to explain the intention-behavior relationship. Practically, it provides guidance for educators and policymakers on how to design learning environments that strengthen key psychological drivers of entrepreneurial outcomes.

2. Literature Review

2.1 Need for Achievement (NA)

Need for achievement refers to an individual's motivation to attain success and perform tasks to a high standard when facing challenges (Atkinson, 1958; Mehrabian, 1968). Individuals with strong achievement motivation tend to overcome obstacles and pursue continuous improvement (McClelland, 1974). This trait represents an internal psychological driver that influences entrepreneurial decisions (Lewis, 1991). Lower levels of achievement motivation are associated with weaker persistence and performance expectations (Nathawat et al., 1997).

Prior research identifies need for achievement as an important antecedent of entrepreneurial intention. Individuals with higher achievement motivation are more likely to view entrepreneurship as a desirable career option (Ferreira et al., 2012; Nasip et al., 2017). Recent studies suggest that achievement-oriented individuals demonstrate stronger goal commitment and opportunity-seeking behavior, which support entrepreneurial intention formation. However, evidence also indicates that achievement motivation alone may be insufficient without supportive attitudes and perceived capability.

In this study, need for achievement is examined as an independent factor within a multi-factor model. Therefore, it is expected to positively influence entrepreneurial intention.

H1: Need for achievement has a significant impact on entrepreneurial intention.

2.2 Subjective Norms (SN)

Subjective norms refer to an individual's perception of social expectations from important others, such as family, friends, and peers, which influence decision-making and behavior (Robledo et al., 2015; Schlaegel & Koenig, 2014). These expectations can be internalized and motivate individuals to align their behavior with socially approved roles (Santos & Liguori, 2019). Subjective norms reflect broader social influences that interact with individual perceptions in the entrepreneurial process.

Prior research shows that subjective norms play an important role in shaping entrepreneurial intention across different contexts (Alam et al., 2019; Al-Mamary et al., 2020). They not only influence intention directly but also affect key psychological factors such as perceived behavioral control and attitude, strengthening intention formation (Ahmad et al., 2019; Kazumi & Kawai, 2017). However, empirical findings are not always consistent, as the strength of this relationship may vary depending on cultural context and social support structures (Feng et al., 2019).

In this study, subjective norms are treated as an independent social factor within a multi-factor model. Based on this reasoning, subjective norms are expected to positively influence entrepreneurial intention.

H2: Subjective norms have a significant impact on entrepreneurial intention.

2.3 Entrepreneurship Education (EE)

Entrepreneurship education refers to structured learning programs that develop an entrepreneurial mindset and equip students with relevant knowledge and skills (Otache et al., 2019). It typically includes activities such as opportunity recognition, venture creation, and skills development (Adesola et al., 2019; Bazkiaei et al., 2020). Entrepreneurship education encompasses broader learning experiences that shape students' attitudes and capabilities. Prior research indicates that such education enhances entrepreneurial competence and encourages students to consider entrepreneurship as a viable career option (Cui & Bell, 2022).

Empirical studies generally support a positive relationship between entrepreneurship education and entrepreneurial intention (Sahputri et al., 2023). Recent evidence also highlights the role of mediating mechanisms, such as self-efficacy and learning orientation, in strengthening this relationship (Hoang et al., 2021). However, findings are not fully consistent, as the effectiveness of entrepreneurship education may depend on contextual factors such as prior experience and family background (Adeel et al., 2023; Rita et al., 2013).

In this study, entrepreneurship education is treated as one key factor within a multi-factor framework rather than the sole driver of entrepreneurial outcomes. Therefore, it is expected to positively influence students' entrepreneurial intention.

H3: Entrepreneurship education has a significant impact on entrepreneurial intention.

2.4 Attitude Toward Entrepreneurship (ATE)

Attitude toward entrepreneurship reflects an individual's overall evaluation of entrepreneurship as a desirable and worthwhile career choice, and it plays a central role in shaping entrepreneurial intention (Nguyen, 2017). This construct represents a cognitive and affective evaluation. It develops through multiple mechanisms. Individuals who assign higher value to entrepreneurial outcomes tend to form more positive attitudes (Xi & Cheng, 2017). When entrepreneurship is perceived as appropriate and beneficial, a favorable action tendency is more likely to emerge (Cho & Perry, 2012). Internal motivations, such as need for achievement and autonomy, further strengthen this attitude (Darmanto & Wahyudi, 2014).

Empirical studies consistently show a strong positive relationship between attitude and entrepreneurial intention across different contexts (Alam et al., 2019; Kim & Hunter, 1993). Recent evidence suggests that attitude acts as a key mediating mechanism linking learning experiences and intention formation (Feng et al., 2019). However, the strength of this relationship may vary depending on individual perceptions and contextual conditions.

In this study, attitude toward entrepreneurship is treated as an independent psychological factor within a multi-factor framework. Therefore, it is expected to positively influence students' entrepreneurial intention.

H4: Attitude toward entrepreneurship has a significant impact on entrepreneurial intention.

2.5 Perceived Behavioral Control (PBC)

Perceived behavioral control refers to an individual's perception of the ease or difficulty of performing entrepreneurial behavior (Ahmed et al., 2020; Liñán & Chen, 2009; Vamvaka et al., 2020). It reflects both perceived feasibility and self-confidence in managing entrepreneurial tasks, which influence willingness to act (Henley et al., 2017; Nguyen, 2017). Individuals with stronger perceived control are more likely to believe they can overcome obstacles and engage in entrepreneurial activities (Banerjee & Ho, 2020). This construct develops through accumulated experience and learning.

Prior research consistently highlights perceived behavioral control as a key determinant of entrepreneurial intention. Drawing on social cognitive theory, Bandura (1986) emphasized that beliefs about personal capability shape motivation and behavioral intention. Empirical studies show that greater knowledge and skills can enhance perceived control, which in turn strengthens entrepreneurial intention (Soomro et al., 2017). However, the magnitude of this effect may vary depending on contextual factors and individual differences (Dugassa, 2012).

In this study, perceived behavioral control is treated as an independent psychological factor within a multi-factor framework. Therefore, it is expected to positively influence students' entrepreneurial intention.

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

2.6 Entrepreneurial Intention (EI)

Entrepreneurial intention refers to an individual's conscious state of mind that directs effort toward starting a business. It reflects the likelihood of engaging in entrepreneurial activity (Autio et al., 2001; Kolvereid, 1996) and the preference for self-employment over alternative careers (Dugassa, 2012). As a cognitive construct, it is shaped by perceived capability and confidence in performing entrepreneurial tasks (Swann et al., 2007; Zhao et al., 2005). It also reflects commitment and willingness to invest sustained effort in venture creation (Farooq, 2018; Liñán & Chen, 2009).

Extensive research identifies entrepreneurial intention as a key predictor of entrepreneurial behavior. Individuals with stronger intention are more likely to engage in venture-related activities (Lewicka & Bollampally, 2022; Pouria et al., 2020). Entrepreneurial intention functions as a central mechanism linking multiple psychological and educational factors to behavioral outcomes (Cui & Bell, 2022). However, the translation from intention to behavior may vary depending on individual motivation and contextual conditions (Alam et al., 2019).

In this study, entrepreneurial intention is positioned as a mediating construct within a multi-factor framework. Therefore, it is expected to positively influence entrepreneurial behavior.

H6: Entrepreneurial intention has a significant impact on entrepreneurial behavior.

2.7 Entrepreneurial Behavior (EB)

Entrepreneurial behavior refers to the actual actions undertaken to initiate and manage entrepreneurial activities. It is shaped by individual, social, and cultural contexts, highlighting the role of broader influences on entrepreneurial action (Morrison et al., 1998). Within this perspective, entrepreneurial behavior is best understood as the outcome of multiple interacting factors. The Theory of Planned Behavior explains how intention translates into action and has been widely applied in entrepreneurship research (Engle et al., 2010).

Entrepreneurial behavior is often linked to values such as autonomy and individual initiative (Cauthorn, 1989; Hebert & Link, 1988; Schumpeter, 1950). However, recent perspectives emphasize that such behavior emerges from the interaction between personal motivation and contextual conditions, rather than cultural traits alone. Belief systems and individual values play a central role in shaping entrepreneurial actions (Rokeach, 1973).

Autonomy is particularly influential, as individuals seeking independence are more likely to engage in entrepreneurial activities (Gatewood et al., 1995; Kolvereid, 1996). In this study, entrepreneurial behavior represents the final outcome of the multi-factor process linking psychological drivers and intention to action.

3. Research Methods and Materials

3.1 Research Framework

The conceptual framework of this study, illustrated in Figure 1, was developed based on established behavioral and entrepreneurship theories. Specifically, it draws on the Theory of Reasoned Action (TRA) proposed by Fishbein and Ajzen (1975), the Theory of Planned Behavior (TPB) developed by Ajzen (1991), and the Entrepreneurial Event theory introduced by Shapero and Sokol (1982).

TRA explains how attitudes and subjective norms shape behavioral intention, which provides the foundation for examining students' entrepreneurial intention. TPB extends this framework by incorporating perceived behavioral control, highlighting the role of perceived capability and feasibility in entrepreneurial decision-making. Entrepreneurial Event theory complements these perspectives by emphasizing how perceived desirability and motivation trigger entrepreneurial action.

Guided by these theories, the framework proposes that need for achievement, subjective norms, entrepreneurship education, attitude toward entrepreneurship, and perceived behavioral control influence entrepreneurial intention, which in turn affects entrepreneurial behavior. Entrepreneurial intention is positioned as a key mediating variable linking these psychological and educational factors to entrepreneurial behavior. This integrated framework supports systematic empirical testing of the proposed relationships.

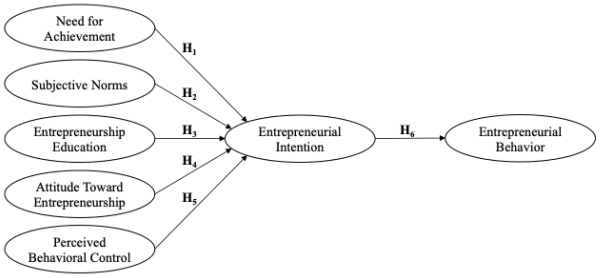

Figure 1: Conceptual Framework

3.2 Research Methodology

This study employed a quantitative research design using a questionnaire survey to examine factors influencing students' entrepreneurial intention and entrepreneurial behavior. Data were collected through an online survey platform. The target population comprised undergraduate students from all four academic years within the School of Economics and Management at Guangdong University of Petrochemical Technology, China, all of whom had completed entrepreneurship-related courses.

A mixed non-probability sampling strategy was applied, combining judgment, quota, and convenience sampling. Judgment sampling ensured that only students with entrepreneurship course experience were included. Quota sampling was used to achieve proportional representation across academic years, and convenience sampling facilitated online distribution.

Participation was voluntary, and respondents were informed of the study purpose. Participants were assured that responses were used only for academic purposes, with no personal identifiers collected. Data were handled confidentially and accessed only by the researcher.

The questionnaire consisted of three sections: screening questions, measurement items assessed using a five-point Likert scale, and demographic information. Measurement items were adapted from established studies, with minor wording adjustments to ensure contextual relevance.

Content validity was established using the Item-Objective Consistency method. Items with IOC values of 0.67 or higher were retained (Rovinelli & Hambleton, 1977). A pilot test with 30 students assessed clarity and reliability

(Eldridge et al., 2016). Internal consistency reliability was confirmed using Cronbach's alpha, with values exceeding 0.70 (Hair et al., 2016).

Data screening removed incomplete and inconsistent responses, resulting in 500 valid cases. Confirmatory factor analysis and structural equation modeling were then applied to test the hypothesized relationships.

3.3 Population and Sample Size

The population of this study comprised undergraduate students from all four academic years within the School of Economics Management at Guangdong University of Petrochemical Technology, China. Based on official institutional records, the total population size was 1,524 students. A mixed sampling strategy was employed, combining judgmental, stratified random, and convenience sampling techniques.

Judgment sampling was first applied to identify students who had participated in entrepreneurship courses. Quota sampling was then used to determine proportional sample sizes across academic years, as presented in Table 1. Finally, convenience sampling was employed to distribute the online questionnaire to eligible respondents. This approach ensured adequate representation while maintaining practical feasibility.

Table 1: Population and Sample Size of Undergraduate Students in the School of Economics Management

Academic Year	Population Size	Proportional Sample Size
Freshman	331	108
Sophomore	350	115
Junior	340	112
Senior	503	165
Total	**1,524**	**500**

Source: Authors' calculation based on data from the official website of Guangdong University of Petrochemical Technology

Data collection was conducted between September 2024 and June 2025, yielding 500 valid responses. Institutional support from the school dean encouraged student participation without coercion and in accordance with ethical research standards. The final sample size exceeds commonly recommended minimum thresholds for structural equation modeling. Prior methodological studies indicate that a sample size of at least 200 is sufficient for SEM, and larger samples enhance estimation stability and statistical power (Hair et al., 2016). Therefore, the sample size in this study is considered adequate for robust model testing.

4. Results and Discussion

4.1 Demographic Information

A total of 500 undergraduate students from the School of Economics and Management at Guangdong University of Petrochemical Technology participated in this study. As shown in Table 2, female students accounted for the majority of respondents at 59.2%, while male students represented 40.8%. Most respondents were between 21 and 22 years old, comprising 49.8% of the sample, followed by students aged 19 to 20 years at 25.6%. In terms of academic year, senior students formed the largest group at 33.0%, while the remaining respondents were relatively evenly distributed across freshman, sophomore, and junior levels. Overall, the sample demonstrates balanced representation across age groups and grade levels, supporting the reliability of subsequent analyses.

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Gender	Female	296	59.2
	Male	204	40.8
Age	19 to 20 years old	128	25.6
	21 to 22 years old	249	49.8
	over 23 years old	123	24.6
Academic Year	Freshman	108	21.6
	Sophomore	115	23.0
	Junior	112	22.4
	Senior	165	33.0

Source: Created by the author

4.2 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis was conducted using AMOS to evaluate the measurement model and verify the relationships between latent constructs and their observed indicators. The results indicate that the measurement model demonstrates satisfactory reliability and validity.

As shown in Table 3, all factor loadings were statistically significant and exceeded the recommended minimum threshold, indicating strong relationships between indicators and their respective constructs (Hair et al., 2016). Composite reliability values for all constructs were above 0.70, and Cronbach's alpha coefficients met accepted reliability standards, confirming internal consistency (Hair et al., 2016). In addition, the average variance extracted values exceeded the recommended threshold of 0.50 for all constructs, providing evidence of adequate convergent validity (Fornell & Larcker, 1981).

Discriminant validity was assessed using the Fornell-Larcker criterion. As presented in Table 4, the square root of the average variance extracted for each construct was greater than its correlations with other constructs, indicating

satisfactory discriminant validity among the study variables (Fornell & Larcker, 1981).

The overall model fit indices further confirm the adequacy of the measurement model. As reported in Table 5, all goodness-of-fit indicators met or exceeded commonly accepted thresholds. The chi-square to degree of freedom ratio was within an acceptable range, and the values of GFI, AGFI, NFI, CFI, and TLI indicated good model fit. The RMSEA value was well below the recommended cutoff, suggesting a close fit between the model and the data.

Overall, the CFA results confirm that the measurement model is reliable and valid, providing a sound foundation for subsequent structural model analysis.

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

Variable	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factor Loading	CR	AVE
Need for Achievement (NA)	Qazi et al. (2021)	4	0.838	0.671-0.874	0.839	0.569
Subjective Norms (SN)	Tran et al. (2023)	3	0.829	0.752-0.833	0.830	0.620
Entrepreneurship Education (EE)	Duong (2021)	3	0.789	0.713-0.799	0.791	0.559
Attitude Towards Entrepreneurship (ATE)	Duong (2021)	4	0.874	0.717-0.865	0.876	0.640
Perceived Behavioral Control (PBC)	Duong (2021)	3	0.837	0.733-0.838	0.838	0.634
Entrepreneurial Intention (EI)	Pérez-Macías and Fernández-Fernández (2016)	3	0.889	0.784-0.911	0.889	0.729
Entrepreneurial Behavior (EB)	Alsos and Kolvereid (1998)	5	0.890	0.747-0.847	0.891	0.621

Note: CR = Composite Reliability, AVE = Average Variance Extracted

Table 4: Discriminant Validity

Variable	Factor Correlations						
	NA	SN	EE	ATE	PBC	EI	EB
NA	**0.754**						
SN	0.296	**0.787**					
EE	0.306	0.335	**0.748**				
ATE	0.334	0.287	0.310	**0.800**			
PBC	0.321	0.342	0.322	0.312	**0.796**		
EI	0.502	0.451	0.493	0.499	0.517	**0.854**	
EB	0.384	0.309	0.368	0.415	0.390	0.459	**0.788**

Note: The diagonally listed value is the AVE square roots of the variables

Table 5: Goodness of Fit

Index	Criterion	CFA Values	SEM Values
CMIN/DF	< 5.00 (Al-Mamary & Shamsuddin, 2015; Awang, 2012)	1.600	3.002
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.938	0.861
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.921	0.832
NFI	≥ 0.80 (Wu & Wang, 2006)	0.942	0.884
CFI	≥ 0.80 (Bentler, 1990)	0.977	0.919
TLI	≥ 0.80 (Sharma et al., 2005)	0.973	0.910
RMSEA	< 0.08 (Pedroso et al., 2016)	0.035	0.063

Note: 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 = normalized fit index, CFI = comparative fit index, TLI = Tucker Lewis index and RMSEA = root mean square error of approximation

4.3 Structural Equation Model (SEM)

Structural equation modeling was conducted using SPSS AMOS version 26 to examine the hypothesized relationships among the study variables. The structural model demonstrated an acceptable level of fit based on commonly recommended criteria. The chi-square to degree of freedom ratio was within the acceptable range, indicating a reasonable balance between model complexity and data fit. Incremental and comparative fit indices also met suggested thresholds, supporting the adequacy of the model. In addition, the RMSEA value was below the recommended cutoff, indicating a satisfactory approximation of the model to the observed data. Overall, the results suggest that the proposed structural model fits the data well and provides a reliable basis for testing the hypothesized causal relationships. Detailed fit statistics are presented in Table 5.

4.4 Research Hypothesis Testing Result

Structural equation modeling was used to test the proposed hypotheses and examine the relationships among the study variables. Overall, the results indicate that the structural model is statistically significant and that all hypothesized relationships are supported. The standardized path coefficients, t-values, and hypothesis testing outcomes are summarized in Table 6 and Figure 2.

Table 6: Hypothesis Testing Result

Hypothesis	Standardized path coefficients (β)	t-value	Test Result
H1: NA → EI	0.337	7.449*	Supported
H2: SN → EI	0.226	5.221*	Supported
H3: EE → EI	0.327	7.084*	Supported
H4: ATE → EI	0.330	7.477*	Supported
H5: PBC → EI	0.367	8.265*	Supported
H6: EI → EB	0.477	9.174*	Supported

Note: *=p-value < 0.05

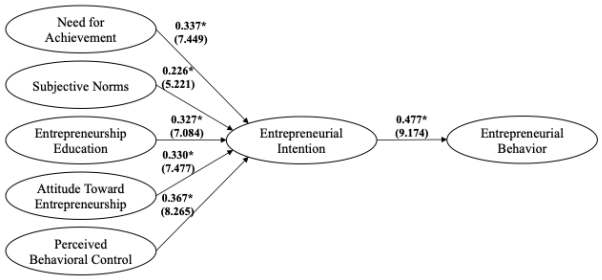

Figure 2: Path Diagram Results
Note: Solid lines report standardized coefficients with $p < 0.05$; t-values in parentheses.

Need for achievement has a significant positive effect on entrepreneurial intention ($\beta = 0.337$, $p < 0.05$), supporting H1. This suggests that students with stronger achievement motivation are more likely to develop entrepreneurial goals, indicating the importance of fostering goal-oriented mindsets in educational settings. Subjective norms also show a significant positive influence on entrepreneurial intention ($\beta = 0.226$, $p < 0.05$), supporting H2. This highlights that encouragement from family and peers can strengthen students' confidence in pursuing entrepreneurial pathways.

Entrepreneurship education demonstrates a significant relationship with entrepreneurial intention ($\beta = 0.327$, $p < 0.05$), supporting H3. This finding indicates that broader learning experiences and skill development, rather than specific courses alone, play an important role in shaping entrepreneurial intention. Attitude toward entrepreneurship also has a significant positive effect ($\beta = 0.330$, $p < 0.05$), supporting H4. Students who perceive entrepreneurship as valuable and rewarding are more likely to form strong intentions. Perceived behavioral control shows the strongest influence on entrepreneurial intention ($\beta = 0.367$, $p < 0.05$), supporting H5. This underscores the practical importance of building students' confidence and perceived capability through experiential learning and skill-based training.

Finally, entrepreneurial intention has a significant positive effect on entrepreneurial behavior ($\beta = 0.477$, $p < 0.05$), supporting H6. This result indicates that intention serves as a key mechanism through which psychological and educational factors translate into actual entrepreneurial actions.

Overall, the findings demonstrate not only statistical significance but also practical relevance, suggesting that universities should focus on enhancing students' confidence, attitudes, and supportive environments to promote entrepreneurial outcomes.

5. Conclusions and Recommendation

5.1 Conclusions

This study examined factors associated with entrepreneurial intention and entrepreneurial behavior among university students in Guangdong, China. It applied a multi-factor framework grounded in established behavioral and entrepreneurship theories. Six hypotheses were developed to test the relationships among need for achievement, subjective norms, entrepreneurship education, attitude toward entrepreneurship, perceived behavioral control, entrepreneurial intention, and entrepreneurial behavior.

The findings indicate that entrepreneurial intention is shaped by a combination of psychological and contextual factors. Perceived behavioral control and attitude toward entrepreneurship show relatively stronger associations with entrepreneurial intention. This result aligns with prior studies that emphasize the importance of perceived capability and outcome evaluation in shaping intention (Duong, 2021; Liñán & Chen, 2009). Need for achievement and subjective norms also demonstrate meaningful relationships, suggesting that both personal motivation and social influence contribute to intention formation (Alam et al., 2019; Ferreira et al., 2012).

Entrepreneurship education is positively associated with entrepreneurial intention, but its role appears to operate alongside other factors. This suggests that educational experiences support intention development when combined with psychological readiness and social context. This interpretation is consistent with recent research that highlights the interaction between learning experiences and individual perceptions (Cui & Bell, 2022; Sahputri et al., 2023).

Entrepreneurial intention is positively related to entrepreneurial behavior, supporting the view that intention plays an important role in guiding action (Tran et al., 2023). At the same time, the results suggest that this relationship is influenced by multiple conditions, rather than functioning as a simple direct pathway. This provides a more nuanced understanding of how intention is translated into behavior.

This study contributes by integrating psychological drivers and educational factors within a unified framework and providing empirical evidence from a Chinese higher education context. It highlights that entrepreneurship education is one component within a broader system that shapes entrepreneurial outcomes.

From a practical perspective, universities should focus on strengthening students' confidence and encouraging positive attitudes toward entrepreneurship. They should also provide supportive environments that reinforce motivation

and social support. Such efforts can enhance entrepreneurial intention and support its translation into behavior.

5.2 Recommendations

The findings of this study offer several practical implications for improving the design and implementation of entrepreneurship courses in higher education. Given the strong influence of attitude toward entrepreneurship on entrepreneurial intention, universities should place greater emphasis on shaping positive entrepreneurial attitudes. This can be achieved by incorporating inspiring and contextually relevant learning materials, such as real-life case studies, alumni entrepreneur sharing sessions, and examples that highlight the social contribution and personal value of entrepreneurial activities.

The results also indicate that perceived behavioral control plays a critical role in strengthening entrepreneurial intention. Therefore, entrepreneurship courses should place stronger emphasis on experiential learning rather than relying primarily on theoretical instruction. Practical activities such as business simulations, mentorship arrangements, startup competitions, and applied skills workshops can enhance students' confidence and perceived ability to engage in entrepreneurial behavior.

Improving the overall quality and relevance of entrepreneurship education is equally important. Course content should be regularly updated to reflect current market conditions and emerging business trends. Instructors with practical entrepreneurial experience, alongside academic expertise, can provide more realistic guidance and improve the connection between classroom learning and real-world application. This approach can strengthen the direct impact of entrepreneurship education and indirectly enhance students' attitudes and perceived control.

In addition, universities should actively cultivate a supportive entrepreneurial climate to reinforce positive subjective norms. Visible institutional support, engagement with local entrepreneurs, student entrepreneurship clubs, and public recognition of student initiatives can increase perceived social encouragement for entrepreneurship.

To ensure long-term effectiveness, institutions are encouraged to implement continuous evaluation mechanisms to refine course content, teaching methods, and student engagement strategies. Future studies may extend this research by adopting longitudinal designs and including multiple institutions to improve generalizability and capture changes in entrepreneurial development over time.

5.3 Limitation and Further Study

Despite its contributions, this study has several limitations. The data were collected from undergraduate students within a single school at one university, which may limit generalizability to other institutional or regional contexts. In addition, the use of non-probability sampling may reduce the representativeness of the sample and limit the generalizability of the findings. The study relied on self-reported data collected at one point in time, which restricts the ability to draw strong causal inferences. This approach may also introduce common method bias, as all variables were measured using the same instrument and respondents. Although structural equation modeling was applied, the cross-sectional design cannot capture changes over time.

Future research is encouraged to adopt longitudinal or experimental designs to examine how entrepreneurship education influences development across stages. Expanding samples across universities and disciplines would improve external validity. Future studies may also apply procedural or statistical remedies to reduce common method bias and strengthen robustness.

References

Adeel, S., Daniel, A. D., & Botelho, A. (2023). The effect of entrepreneurship education on the determinants of entrepreneurial behaviour among higher education students: A multi-group analysis. *Journal of Innovation and Knowledge, 8*(1), 100324. https://doi.org/10.1016/j.jik.2023.100324

Adesola, S., Den Outer, B., & Mueller, S. (2019). New entrepreneurial worlds: Can the use of role models in higher education inspire students? The case of Nigeria. *Journal of Entrepreneurship in Emerging Economies, 11*(4), 465-491. https://doi.org/10.1108/JEEE-08-2018-0076

Ahmad, N. H., Ramayah, T., Mahmud, I., Musa, M., & Anika, J. J. (2019). Entrepreneurship as a preferred career option: Modelling tourism students' entrepreneurial intention. *Education + Training, 61*(9), 1151-1169. https://doi.org/10.1108/ET-12-2018-0269

Ahmed, T., Chandran, V. G. R., Klobas, J. E., Liñán, F., & Kokkalis, P. (2020). Entrepreneurship education programmes: How learning, inspiration and resources affect intentions for new venture creation in a developing economy. *The International Journal of Management Education, 18*(1), 100327. https://doi.org/10.1016/j.ijme.2019.100327

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-T

Alam, M. Z., Kousar, S., & Rehman, C. A. (2019). Role of entrepreneurial motivation on entrepreneurial intentions and behaviour: Theory of planned behaviour extension on engineering students in Pakistan. *Journal of Global Entrepreneurship Research, 9*, 50. https://doi.org/10.1186/s40497-019-0175-1

Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology, 63*(1), 1-18. https://doi.org/10.1111/j.2044-8325.1990.tb00506.x

Al-Mamary, Y. H., & Shamsuddin, A. (2015). Testing of the technology acceptance model in the context of Yemen. *Mediterranean Journal of Social Sciences, 6*(4), 268-273. https://doi.org/10.5901/mjss.2015.v6n4s1p268

Al-Mamary, Y. H. S., Abdulrab, M., Alwaheeb, M. A., & Alshammari, N. G. M. (2020). Factors impacting entrepreneurial intentions among university students in Saudi Arabia: testing an integrated model of TPB and EO. *Education + Training, 62*(7-8), 779-803. https://doi.org/10.1108/ET-04-2020-0096

Alsos, G. A., & Kolvereid, L. (1998). The business gestation process of novice, serial, and parallel business founders. *Entrepreneurship Theory and Practice, 23*(1), 101-114.

Aragón-Correa, J. A., García-Morales, V. J., & Cordón-Pozo, E. (2007). Leadership and organizational learning's role on innovation and performance: Lessons from Spain. *Industrial Marketing Management, 36*(3), 349-359. https://doi.org/10.1016/j.indmarman.2005.09.006

Atkinson, J. W. (1958). *Motives in fantasy, action, and society*. D. Van Nostrand.

Autio, E., Keeley, R. H., Klofsten, M., Parker, G. G. C., & Hay, M. (2001). Entrepreneurial intent among students in Scandinavia and in the USA. *Enterprise and Innovation Management Studies, 2*(2), 145-160.

Awang, Z. (2012). *Structural equation modeling using AMOS graphic*. Penerbit Universiti Teknologi MARA.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice Hall.

Banerjee, S., & Ho, S. S. (2020). Applying the theory of planned behavior: Examining how communication, attitudes, social norms, and perceived behavioral control relate to healthy lifestyle intention in Singapore. *International Journal of Healthcare Management, 13*(1), 496-503. https://doi.org/10.1080/20479700.2019.1605687

Bass, B. M. (1985). *Leadership and performance beyond expectations*. Free Press.

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 university students? *Cogent Business & Management, 7*(1), 1801217. https://doi.org/10.1080/23311975.2020.1801217

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*(2), 238-246. https://doi.org/10.1037/0033-2909.107.2.238

Cauthorn, R. C. (1989). *Contributions to a theory of entrepreneurship*. Garland.

Cho, Y. J., & Perry, J. L. (2012). Intrinsic motivation and employee attitudes: Role of managerial trustworthiness, goal directedness, and extrinsic reward expectancy. *Review of Public Personnel Administration, 32*(4), 382-406. https://doi.org/10.1177/0734371X11421495

Cui, J., & Bell, R. (2022). Behavioural entrepreneurial mindset: How entrepreneurial education activity impacts entrepreneurial intention and behaviour. *The International Journal of Management Education, 20*(2), 100639. https://doi.org/10.1016/j.ijme.2022.100639

Darmanto, S., & Wahyudi, S. (2014). Developing intention and entrepreneurial behavior through the mediating role of entrepreneurial self-efficacy maturity: An empirical study on university students in Semarang, Indonesia. *SSRN Electronic Journal,* 1-29. https://doi.org/10.2139/ssrn.2395090

Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business School Press.

Dugassa, T. G. (2012). The context of entrepreneurship education in Ethiopian universities. *Management Research Review, 35*(3), 225-244. https://doi.org/10.1108/01409171211210136

Duong, C. D. (2021). Exploring the link between entrepreneurship education and entrepreneurial intentions: The moderating role of educational fields. *Education + Training, 64*(7), 869-891. https://doi.org/10.1108/ET-05-2021-0173

Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., & Rhoades, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of Applied Psychology, 87*(3), 565-573. https://doi.org/10.1037/0021-9010.87.3.565

Eldridge, S. M., Chan, C. L., Campbell, M. J., Bond, C. M., Hopewell, S., Thabane, L., & Lancaster, G. A. (2016). CONSORT 2010 statement: Extension to randomised pilot and feasibility trials. *BMJ, 355*, 5239. https://doi.org/10.1136/bmj.i5239

Engle, R. L., Dimitriadi, N., Gavidia, J. V., Schlaegel, C., Delanoe, S., Alvarado, I., He, X., Buame, S., & Wolff, B. (2010). Entrepreneurial intent: A twelve-country evaluation of Ajzen's model of planned behaviour. *International Journal of Entrepreneurial Behaviour & Research, 16*(1), 35-57. https://doi.org/10.1108/13552551011020063

Farooq, M. S. (2018). Modelling the significance of social support and entrepreneurial skills for determining entrepreneurial behaviour of individuals: A structural equation modelling approach. *World Journal of Entrepreneurship, Management and Sustainable Development, 14*(3), 242-266. https://doi.org/10.1108/WJEMSD-12-2017-0096

Fayolle, A., Landström, H., Gartner, W. B., & Berglund, K. (2016). The institutionalization of entrepreneurship. *Entrepreneurship & Regional Development, 28*(7-8), 477-486. https://doi.org/10.1080/08985626.2016.1221227

Feng, Z., Wang, L., Sun, H., & Lo, C. T. (2019). How entrepreneurial learning impacts one's intention towards entrepreneurship: a planned behavior approach. *Chinese Management Studies, 13*(1), 146-170. https://doi.org/10.1108/CMS-06-2018-0556

Ferreira, J. J., Raposo, M. L., Rodrigues, R. G., Dinis, A., & Paço, A. (2012). A model of entrepreneurial intention: An application of the psychological and behavioral approaches. *Journal of Small Business and Enterprise Development, 19*(3), 424-440. https://doi.org/10.1108/14626001211250144

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Addison-Wesley.

Forgas, J. P., & George, J. M. (2001). Affective influences on judgments and behavior in organizations: An information processing perspective. *Organizational Behavior and Human Decision Processes, 86*(1), 3-34. https://doi.org/10.1006/obhd.2001.2971

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/10.2307/3151312

Gatewood, E. J., Shaver, K. G., & Gartner, W. B. (1995). A longitudinal study of cognitive factors influencing start-up behaviors and success at venture creation. *Journal of Business Venturing, 10*(5), 371-391. https://doi.org/10.1016/0883-9026(95)00035-7

Ghouse, S., Durrah, O., & McElwee, G. (2021). Rural women entrepreneurs in Oman: Problems and opportunities. *International Journal of Entrepreneurial Behavior & Research, 27*(7), 1661-1681. https://doi.org/10.1108/IJEBR-03-2021-0209

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2016). *Multivariate data analysis* (7th ed.). Pearson Education.

Hebert, R. F., & Link, A. N. (1988). *The entrepreneur: Mainstream views and radical critiques*. Praeger.

Henley, A., Contreras, F., Espinosa, J. C., & Barbosa, D. (2017). Entrepreneurial intentions of Colombian business students. *International Journal of Entrepreneurial Behavior & Research, 23*(6), 1017-1032. https://doi.org/10.1108/IJEBR-01-2017-0031

Hoang, G., Le, T. T. T., Tran, A. T. T., & Do, T. (2021). Entrepreneurship education and entrepreneurial intentions of university students in Vietnam: the mediating roles of self-efficacy and learning orientation. *Education + Training, 63*(1), 115-133. https://doi.org/10.1108/ET-05-2020-0142

Kazumi, T., & Kawai, N. (2017). Institutional support and women's entrepreneurial self-efficacy. *Asia Pacific Journal of Innovation and Entrepreneurship, 11*(3), 345-365. https://doi.org/10.1108/APJIE-12-2017-041

Kim, M.-S., & Hunter, J. E. (1993). Relationships among attitudes, behavioral intentions, and behavior: Part II. *Communication Research, 20*(3), 331-364. https://doi.org/10.1177/009365093020003001

Kolvereid, L. (1996). Organizational employment versus self-employment: Reasons for career choice intentions. *Entrepreneurship Theory and Practice, 20*(3), 23-31. https://doi.org/10.1177/104225879602000302

Lewicka, D., & Bollampally, N. (2022). Trust in lecturer-student relationships as a factor supporting entrepreneurship. *Asia Pacific Journal of Innovation and Entrepreneurship, 16*(2), 128-149. https://doi.org/10.1108/APJIE-03-2022-0017

Lewis, J. (1991). Reevaluating the effect of N-ach on economic growth. *World Development, 19*(9), 1269-1274. https://doi.org/10.1016/0305-750X(91)90072-P

Li, L., & Wu, D. (2019). Entrepreneurial education and students' entrepreneurial intention: Does team cooperation matter? *Journal of Global Entrepreneurship Research, 9*(1), 46. https://doi.org/10.1186/s40497-019-0157-3

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

Mazzarol, T., & Reboud, S. (2020). *Entrepreneurship as a social and economic process.* Springer. https://doi.org/10.1007/978-981-13-9412-6_1

McClelland, D. C. (1974). Sources of need for achievement. In D. C. McClelland (Ed.), *Human motivation: A book of readings* (pp. 319-377). General Learning Press.

Mehrabian, A. (1968). Male and female scales of the tendency to achieve. *Educational and Psychological Measurement, 28*(2), 493-502. https://doi.org/10.1177/001316446802800235

Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review, 1*(1), 61-89. https://doi.org/10.1016/1053-4822(91)90011-Z

Mohd Adnan, S. N. S., & Valliappan, R. (2019). Communicating shared vision and leadership styles towards enhancing performance. *International Journal of Productivity and Performance Management, 68*(6), 1042-1056. https://doi.org/10.1108/IJPPM-05-2018-0183

Morrison, A., Rimmington, M., & Williamson, C. (1998). *Entrepreneurship in the hospitality industry*. Butterworth-Heinemann.

Nasip, S., Amirul, S. R., Sondoh, S. L., Jr., & Tanakinjal, G. H. (2017). Psychological characteristics and entrepreneurial intention: A study among university students in North Borneo, Malaysia. *Education + Training, 59*(7-8), 825-840. https://doi.org/10.1108/ET-10-2015-0092

Nathawat, S. S., Singh, R., & Singh, B. (1997). The effect of need for achievement on attributional style. *The Journal of Social Psychology, 137*(1), 55-62. https://doi.org/10.1080/00224549709595413

Nguyen, C. (2017). Entrepreneurial intention of international business students in Viet Nam: A survey of the country joining the Trans-Pacific Partnership. *Journal of Innovation and Entrepreneurship, 6*(1), 7. https://doi.org/10.1186/s13731-017-0066-z

Otache, I., Umar, K., Audu, Y., & Onalo, U. (2019). The effects of entrepreneurship education on students' entrepreneurial intentions: A longitudinal approach. *Education + Training, 63*(7-8), 967-991. https://doi.org/10.1108/ET-01-2019-0005

Pedroso, R. S., Zanetello, L. B., Guimarães, L. S. P., Pettenon, M. K., Gonçalves, V. M., Scherer, J. N., Kessler, F. H. P., & Pechansky, F. (2016). Confirmatory factor analysis of the Crack Use Relapse Scale (CURS). *Archives of Clinical Psychiatry, 43*(3), 37-40. https://doi.org/10.1590/0101-60830000000081

Pérez-Macías, N., & Fernández-Fernández, J. L. (2016). Impact of entrepreneurship programmes on university students. *Education + Training, 58*(2), 209-228. https://doi.org/10.1108/ET-01-2015-0004

Pouria, A., Hamed, G., Hamid, K., & Arash, N. (2020). The process of adopting entrepreneurial behaviour: Evidence from agriculture students in Iran. *Innovations in Education and Teaching International, 58*(4), 431-442. https://doi.org/10.1080/14703297.2020.1734476

Qazi, W., Qureshi, J. A., Raza, S. A., Khan, K. A., & Qureshi, M. A. (2021). Impact of personality traits and university green entrepreneurial support on students' green entrepreneurial intentions: the moderating role of environmental values. *Journal of Applied Research in Higher Education, 13*(4), 1154-1180. https://doi.org/10.1108/JARHE-05-2020-0130

Rita, R., Grazina, S., & Daiva, D. (2013). Explaining entrepreneurial intention of university students: The role of entrepreneurial education. *Management, Knowledge and Learning International Conference*, 299-307.

Robledo, J. L. R., Arán, M. V., Sánchez, V. M., & Molina, M. Á. R. (2015). The moderating role of gender on entrepreneurial intentions: A TPB perspective. *Intangible Capital, 11*(1), 92-117. https://doi.org/10.3926/ic.557

Rokeach, M. (1973). *The nature of human values*. Free Press.

Rovinelli, R. J., & Hambleton, R. K. (1977). On the use of content specialists in the assessment of criterion-referenced test item validity. *Dutch Journal of Educational Research, 2*, 49-60.

Sahputri, R. A. M., Mawardi, M. K., Yumarni, T., & Sujarwoto, A. (2023). Entrepreneurship education, family entrepreneurial orientation and entrepreneurial intention among students in Indonesia. *Journal of International Education in Business, 16*(3), 295-311. https://doi.org/10.1108/JIEB-09-2022-0071

Santos, S. C., & Liguori, E. W. (2019). Entrepreneurial self-efficacy and intentions: Outcome expectations as mediator and subjective norms as moderator. *International Journal of Entrepreneurial Behavior & Research, 26*(3), 400-415. https://doi.org/10.1108/IJEBR-07-2019-0436

Schlaegel, C., & Koenig, M. (2014). Determinants of entrepreneurial intent: A meta-analytic test and integration of competing models. *Entrepreneurship Theory and Practice, 38*(2), 291-332. https://doi.org/10.1111/etap.12087

Schumpeter, J. A. (1950). *Capitalism, socialism and democracy* (3rd ed.). Harper & Row.

Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. In C. Kent, D. L. Sexton, & K. H. Vesper (Eds.), *Encyclopedia of entrepreneurship* (pp. 72-90). Prentice Hall.

Sharma, S., Mukherjee, S., Kumar, A., & Dillon, W. R. (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

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 Science Publishers.

Soomro, B. A., Choi, T. L., Liao, J., & Yuen, L. B. W. (2017). The impact of entrepreneurial education on entrepreneurial intention of engineering students in Hong Kong. *Management Decision, 55*(7), 1371-1393. https://doi.org/10.1108/MD-06-2016-0392

Swann, W. B., Jr., Chang-Schneider, C., & Larsen McClarty, K. (2007). Do people's self-views matter? Self-concept and self-esteem in everyday life. *American Psychologist, 62*(2), 84-94. https://doi.org/10.1037/0003-066X.62.2.84

Tran, H. T., Nguyen, V. T., Tran, P. T. H., Nguyen, N. T. P., & Do, D. C. (2023). Closing the entrepreneurial attitude-intention-behavior gap: the direct and moderating role of entrepreneurship education. *Journal of International Education in Business, 17*(1), 107-132. https://doi.org/10.1108/JIEB-05-2023-0026

Vamvaka, V., Stoforos, C., Palaskas, T., & Botsaris, C. (2020). Attitude toward entrepreneurship, perceived behavioral control, and entrepreneurial intention: Dimensionality, structural relationships, and gender differences. *Journal of Innovation and Entrepreneurship, 9*(1), 5. https://doi.org/10.1186/s13731-020-0112-0

Wu, J.-H., & Wang, Y.-M. (2006). Measuring KMS success: A respecification of the DeLone and McLean model. *Information & Management, 43*(6), 728-739. https://doi.org/10.1016/j.im.2006.05.002

Xenikou, A., & Simosi, M. (2006). Organizational culture and transformational leadership as predictors of business unit performance. *Journal of Managerial Psychology, 21*(6), 566-579. https://doi.org/10.1108/02683940610684409

Xi, E., & Cheng, K. (2017). The determinants of purchase intention on counterfeit sportswear. *Journal of Applied Structural Equation Modeling, 1*(1), 13-26. https://doi.org/10.47263/JASEM.1(1)03

Yousef, D. A. (2001). Islamic work ethic: A moderator between organizational commitment and job satisfaction in a cross-cultural context. *Personnel Review, 30*(2), 152-169. https://doi.org/10.1108/00483480110380325

Zapf, D. (2002). Emotion work and psychological well-being: A review of the literature and some conceptual considerations. *Human Resource Management Review, 12*(2), 237-268. https://doi.org/10.1016/S1053-4822(02)00048-7

Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology, 90*(6), 1265-1272. https://doi.org/10.1037/0021-9010.90.6.1265