

Personality Traits and Entrepreneurship Education as Determinants of Entrepreneurial Intentions

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ABSTRACT

This study aims to examine the relationships between personality traits and entrepreneurship education on entrepreneurial intention, with the mediating role of motivation. The survey was conducted among undergraduate students at Management Department at University in Bandung, Indonesia. The sample of the study was 246 college students, and the data were collected using questionnaires. The questionnaires included six items for assessing personality traits, seven items for entrepreneurship education, six items for motivation, and four items for entrepreneurial intention. Data analysis was performed using Structural Equation Model (SEM), and Smart PLS 3 was used for instrument analysis. The results of the data analysis revealed a positive association between personality traits and entrepreneurship education with entrepreneurial intention. Mediation analysis further indicated that achievement motivation plays an indirect role, mediating the impact of personality traits and entrepreneurship education on entrepreneurial intention. Notably, entrepreneurship education had a greater influence on motivation. These findings validate the underlying mechanism of motivation in bridging the relationships between personality traits, entrepreneurship education, and entrepreneurial intention.

Keywords: Personality traits, Entrepreneurship Education, Motivation, Entrepreneurship Intentions.

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1. INTRODUCTION

The socioeconomic challenges of poverty and unemployment continue to present formidable obstacles for Indonesian society (Ratnamiasih & Rohmah, 2023). With a growing population, the demand for employment opportunities has increased. However, not all individuals possess the necessary preparation and adaptability to meet the requirements of available jobs, including a substantial number of university graduates who face difficulties in the job market (Wiyono & Wu, 2022; Mahendra *et al.*, 2017). Concurrently, unemployment rates in Indonesia persistently rise, and the lack of interest among university graduates in pursuing entrepreneurial ventures remains a prominent factor contributing to the country's high unemployment rate (Suherman, 2021; Ratnamiasih & Setia, 2016). Statistical data from the Central Bureau of Statistics (BPS) substantiates

that a notable proportion of unemployed individuals hold university degrees (Utari & Sukidjo, 2020; Mahendra *et al.*, 2017).

Entrepreneurship has gained recognition as a viable solution for stimulating economic development within nations, as underscored by economist Joseph Schumpeter in his seminal work, "The Theory of Economic Development," published in 1934 (Barringer & Ireland, 2019). Given the prevailing lack of interest in entrepreneurship among Indonesian students, it becomes imperative for universities to undertake concerted efforts to cultivate entrepreneurial aspirations among their student bodies (Wiyono & Wu, 2022).

Universities play a pivotal role in fostering entrepreneurial mindsets by assuming the mantle of mentors through comprehensive entrepreneurship education initiatives and by modeling success through faculty members who inspire and motivate students to become self-reliant and achieve prosperity (Boldureanu *et al.*, 2020; Othman *et al.*, 2020). By integrating entrepreneurship education into their curricula, universities can equip students with the essential knowledge, skills, and entrepreneurial acumen requisite for pursuing entrepreneurial opportunities and thereby contributing to the overall economic growth of the nation.

Moreover, universities can actively create an entrepreneurial ecosystem that nurtures innovation, collaboration, and networking among students. By offering incubation programs, hosting entrepreneurial events, and facilitating networking opportunities, universities can foster the development of entrepreneurial ideas and ventures. Additionally, forging strategic partnerships with industry stakeholders, government agencies, and entrepreneurial communities empowers universities to provide students with invaluable real-world experiences and the prospect to connect with mentors and potential investors. Entrepreneurial interest plays an important role in determining whether someone will become an entrepreneur (Oliveira & Rua, 2018). For universities, it is important to understand the factors that can influence entrepreneurial interest in order to maximize their efforts in encouraging entrepreneurship (Gelderen *et al.*, 2008).

In this study, a sample of undergraduate students was selected due to their diverse backgrounds, offering insights into the factors impacting entrepreneurial intentions across various populations. Undergraduate students represent potential future entrepreneurs, and analyzing their entrepreneurial intentions sheds light on the determinants of their decision to embark on entrepreneurship. This approach enhances data analysis clarity compared to studying postgraduates. Many postgraduate students are already employed or engaged in entrepreneurial activities, potentially biasing the results due to their pre-existing preferences developed prior to receiving entrepreneurship education at the University.

2. LITERATUR REVIEW

2.1. Entrepreneurial Intention

The current trends in entrepreneurship demonstrate a noteworthy demographic shift. Positive developments include the rise in the number of women, minorities, older individuals, and millennials engaging in entrepreneurial endeavors (Barringer & Ireland, 2019). These shifts signify an increasing interest in entrepreneurship among diverse groups. Entrepreneurial interest can be defined as a cognitive state that directs attention

and behavior towards entrepreneurial activities (Bird, 1988). Similarly, Lüthje and Franke (2003) elucidate entrepreneurial interest as a commitment to behaviors that lead to business activities, indicating the inclination to start a business or work independently.

Referring to The entrepreneurship intentionality model (EIM) developed by Bird (1988) which is then reinforced by the theory of Planned Behavior (TPB), an individual's interest in entrepreneurship can be influenced by contextual and personal factors that stimulate the desire to establish a new business (Ajzen, 1991). Contextual factors encompass political, social, and economic education-related aspects (Maheshwari *et al.*, 2022). On the other hand, personal factors associated with entrepreneurial interest include personality traits like internal locus of control (Ratnamiasih & Rohmah, 2023), moderate risk-taking propensity (Barringer & Ireland, 2019), self-efficacy, ability, and motivation (Tsaknis *et al.*, 2022), as well as educational background, familial encouragement, achievement motivation, and the desire for independence (Utari & Sukidjo, 2020; Barringer & Ireland, 2019). Contextual and personal characteristics play crucial roles that universities need to consider in fostering entrepreneurial interest (Purwana & Suhud, 2018). This is supported by the research findings of Zarnadze *et al.* (2022), which indicate that the impact of personality on entrepreneurial intention is mediated by motivation.

2.2. Entrepreneurial education

Efforts to enhance a country's economy encompass strategies to reduce unemployment rates and increasing income per capita (Maulina *et al.*, 2020). The presence of unemployment among university graduates can be attributed to their limited interest in entrepreneurship (Mahendra *et al.*, 2017; Suherman & Yusuf, 2021). Entrepreneurship education has demonstrated its ability to foster students' interest in entrepreneurship (Maheshwari *et al.*, 2022; Boldureanu *et al.*, 2020; Santos & Liguori, 2019; Shamsudin *et al.*, 2021). However, this effect is not direct but rather mediated by increased motivation (Zarnadze *et al.*, 2022; Ula Ananta Fauzi, 2022; Mahendra *et al.*, 2017).

In order to promote student entrepreneurship, universities should provide entrepreneurship education programs that enhance students' competence and motivation (Ula Ananta Fauzi, 2022; Othman *et al.*, 2020). According to Vučijak *et al.* (2018), enhancing student competence in entrepreneurship can be achieved through appropriate learning policies and curriculum design (Ratnamiasih & Rohmah, 2023; Maheshwari *et al.*, 2022; Ahmed Al-Hammadi *et al.*, 2021). Furthermore, the role of lecturers as influential role models is crucial in shaping students' attitudes and interests, thereby fostering social and economic benefits (Boldureanu *et al.*, 2020).

In addition to the significance of role models, entrepreneurship education should focus on developing curricula and programs that foster leadership skills and an entrepreneurial mindset (Wiyono & Wu, 2022). There are three essential aspects of entrepreneurship education that can enhance student motivation. Firstly, the knowledge aspect, which encompasses theoretical knowledge and conceptual understanding (Maheshwari *et al.*, 2022). Secondly, the vocational aspect, which emphasizes practical skills related to establishing and managing a profitable business (Maheshwari *et al.*, 2022). Lastly, the financial education aspect, which involves cultivating financial literacy and awareness (Zarnadze *et al.*, 2020; Solesvik *et al.*, 2013).

When striving to enhance student motivation through entrepreneurship education, universities may encounter external challenges, including ecological and technological issues, as well as infrastructure limitations. It is important to address these challenges in order to effectively support efforts to increase student interest in entrepreneurship (Zarnadze *et al.*, 2022). Based on the literature on entrepreneurial intention, motivation, personality traits and entrepreneurial education, hypotheses can be made:

H1. Entrepreneurial education has an influence towards motivation

2.3. Personality traits

Personality traits are inherent characteristics that exert a substantial influence on an individual's range of relevant responses. Personality can be described as a behavioural manifestation of underlying traits (Ajzen, 1991). In line with the theory of planned behaviour, which states that individual behavior is influenced by personality and attitude factors. However, studies have revealed personality differences between managers and entrepreneurs, encompassing cognitive, environmental, social, educational, contextual, and demographic factors (Shimoli *et al.*, 2020; Ahmed *et al.*, 2022; Zarnadze *et al.*, 2022; Kerr *et al.*, 2017).

For the purpose of this study, personality was assessed using the six personality factors of the HEXACO model (De Vries, 2010). The adoption of the HEXACO model in this study was based on recent extensive research, which suggests that personality dimensions can be better predicted by integrating dimensions within the HEXACO framework. Furthermore, the model's effectiveness has been demonstrated across diverse languages (Ashton & Lee, 2009). Specifically, the dimension of emotionality was measured using interpersonal relationships, drawing from the big six personality model in China and employing the Personality Assessment Inventory (CPAI) developed by Cheung and Zhang (1996).

In earlier research conducted by Cheung and Zhang (1996) and Cheung *et al.* (2001) stated that the interpersonal relationship dimension may not be very relevant in Western culture, but this dimension is very important in Chinese culture. For instance, Chinese culture places great emphasis on factors such as prestige, relationships, harmoniousness, flexibility, optimism, and defensiveness. These cultural characteristics bear resemblance to those found in Indonesia. Hence, the dimension of Interpersonal Relationship can capture the humanistic ethics prevalent in Chinese culture. Therefore, the dimensions of the Big Six personality model employed in this study encompass Emotional Stability (low Neuroticism indicating high Emotional Stability), Conscientiousness, Agreeableness, Extraversion, Openness, and Interpersonal Relationship.

Empirical evidence has indicated that certain personality traits, namely Emotional Stability, Conscientiousness, Extraversion, and Interpersonal Relationship, have a positive influence on entrepreneurial intention (Fei & Liu, 2023; Al-Ghazali *et al.*, 2022; Ahmed Al-Hammadi *et al.*, 2021; Mei *et al.*, 2017). Conversely, research suggests that agreeableness and openness do not significantly impact entrepreneurial intention (Mei *et al.*, 2017). The relationship between personality and entrepreneurial intention is mediated by motivation (Zarnadze *et al.*, 2022). Drawing from the theory of achievement motivation or self-

actualization needs, several pertinent personality components can foster motivation for independence and achievement (Zarnadze *et al.*, 2022; Danziger *et al.*, 2012).

Conscientiousness, characterized by diligent work management and a strong work ethic, is closely associated with entrepreneurship (Al-Ghazali *et al.*, 2022; Shimoli *et al.*, 2020). Meanwhile, openness to experience, reflecting curiosity and a proclivity for novel ideas, aligns with the traits required for entrepreneurship, as it relates to an individual's inclination to embark on a business venture (Zhao *et al.*, 2010).

Studies have shown that emotional stability is a crucial trait for undertaking the challenges inherent in entrepreneurship (Al-Ghazali *et al.*, 2022; Ahmed Al-Hammadi *et al.*, 2021). Furthermore, individuals possessing extraverted personalities are characterized as pleasant and friendly, with strong communication skills that are valuable for entrepreneurs (Butz *et al.*, 2018; Tsaknis *et al.*, 2022). In contrast, some research suggests that extraversion may not differ significantly between entrepreneurs and non-entrepreneurs (Zhao, 2009).

Agreeableness signifies trust and forgiveness, traits important for entrepreneurs to establish cooperative relationships with customers. However, research findings suggest that agreeableness tends to be low and is not significantly associated with interest in becoming an entrepreneur (Al-Ghazali *et al.*, 2022; Antoncic *et al.*, 2015; Laouiti *et al.*, 2022). According to Zhao (2009), Interpersonal Relationship is positively correlated with entrepreneurial intention, as individuals with high levels of Interpersonal Relationship tend to value personal reputation, foster relationships, and emphasize their abilities. Additionally, they exhibit a sense of contributing to society as a valued social norm. In the context of entrepreneurial interest, efforts to maintain self-esteem encourage individuals to engage in innovative pursuits or choose challenging careers (Mei *et al.*, 2017). Based on these findings, a hypothesis can be formulated:

H2. Personality traits has an influence towards motivation

2.4. Motivation

Motivation can be defined as a multifaceted construct comprising expectancy, utility, and polarity (Segal *et al.*, 2005). Within the context of entrepreneurship, motivation refers to the drive or inclination to independently organize, manage, and exert control over institutions, individuals, or ideas (Solesvik, 2013). Research conducted by Hessels *et al.* (2008) has demonstrated significant variations in motivation across different countries. Therefore, comprehending the motivational factors that influence entrepreneurial interest necessitates a consideration of the diverse environmental factors and policies within a particular country.

Abraham Maslow, through his theory of self-actualization motivation, posited that individuals possess an inherent inclination to express their interests, develop their abilities, and confront the challenges they encounter (Schultz & Schultz, 2017). This theory is rooted in the self-determination theory. Concerning entrepreneurship, the decision to become an entrepreneur indicates a desire for independence (Solesvik, 2013). According to Jamaludin *et al.* (2022), the aspiration for success in life fosters high motivation and enthusiasm to actively pursue desired goals, and their research findings substantiate that the need for achievement significantly influences entrepreneurial interest.

Referring to the Economic Psychological Model proposed by Luthje and Franke (2003), several beliefs can stimulate an individual's interest in entrepreneurship, including general attitudes and domain attitudes. General attitudes encompass factors such as change, competition, money, achievement, and autonomy, while domain attitudes involve income, society, contribution, and knowledge. These attitudes can be influenced by contextual factors that, in turn, encourage corresponding behaviors (Purwana & Suhud, 2018). Furthermore, extensive literature indicates that both extrinsic and intrinsic motivations play significant roles as driving factors for entrepreneurship (Wiyono & Wu, 2022; Jamaludin *et al.*, 2022; Purwana & Suhud, 2018; Seemaprakalpa & Arora, 2016). Individuals with high levels of motivation tend to exhibit interest in and engage in entrepreneurial activities (Hassan *et al.*, 2021). Additional research suggests that motivations such as freedom, financial independence, and a sense of public service serve as catalysts for entrepreneurial interest among students. Based on the aforementioned discussion, a hypothesis can be formulated:

H3. Motivation has an influence towards entrepreneurial intention

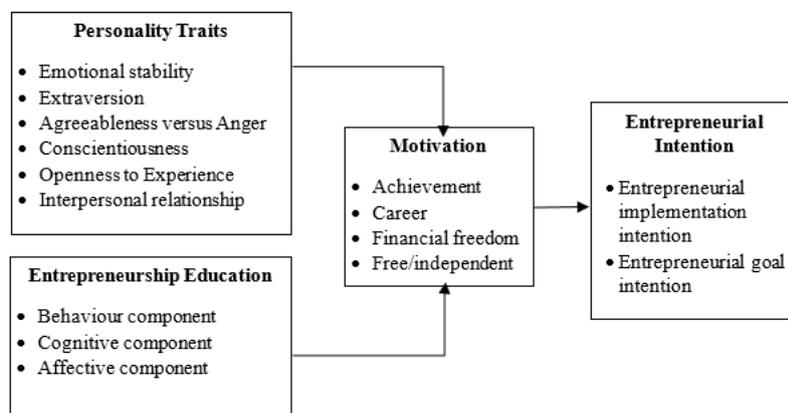


Figure 1. Research Model

To explain the proposed hypothesis, in Figure 1 above, we provide a picture of the research model. Figure 1 below explains the variable constructs with the indicators that form them and the relationship between these variables and the direction of the relationship.

3. METHOD

This study aims to examine the relationships between personality traits and entrepreneurship education on entrepreneurial intention, with the mediating role of motivation. The motivation studied in this case is achievement motivation. The survey was conducted among undergraduate students at the Management Department of University in Bandung, Indonesia. The total population at the end of 2022 is 11 universities. The sampling method used was accidental sampling with total sample of 246 college students. All data were collected using questionnaires. Each positively-worded questionnaire item offered five response choices: strongly agree (scored as 5), agree (scored as 4), neutral (scored as 3), disagree (scored as 2), and strongly disagree (scored as 1). The questionnaires included six items for assessing personality traits, seven items for entrepreneurship education, six items for achievement motivation, and four items for entrepreneurial intention. The following are some references for the dimensions and indicators of Entrepreneurship intention, motivation, entrepreneurship education, and personality traits tested in this study:

Table 1. Operationalization of variables

Factor	Dimension	Previous research
Entrepreneurship intention	Attitude that leads to entrepreneurship	Bird, 1988; Iakovleva & Kolvereid, 2014, Boldureanu dkk, 2020; Fei & Liu, 2023
	Commitment to behavior that leads to business activity	Ajzen, 1991; Lüthje & Franke, 2003; Boldureanu dkk, 2020; Hassan dkk 2021; Al Ghazali dkk, 2022;
	Attitude, Subjective norms, Perceived behavior control	Ajzen, 1991; Elfving dkk, 2009; Iakovleva & Kolvereid, 2014; Yurtkoru dkk 2014;
Motivation	Achievement	Solesvick, 2013; Kerr dkk, 2017; Hassan dkk, 2021; Jamaludin dkk, 2022 Samsudin, et.al., 2022
	Career	Solesvick, 2013; Hassan dkk, 2021; Jamaludin dkk, 2022; Samsudin, et.al., 2022; Zarnadze dkk, 2022
	Financial freedom	Hassan dkk, 2021; Jamaludin dkk, 2022
	Free & Independent	Solesvick, 2013; Hassan dkk, 2021; Jamaludin dkk, 2022
Entrepreneurship education	Behavior component	Bae dkk, 2014; Solesvick, 2013; Hassan dkk, 2021; Sarmento, 2016; Tsaknis dkk, 2022
	Cognitive component	Solesvick, 2013; Hassan dkk, 2021; Sarmento, 2016; Tsaknis dkk, 2022
	Affective component	Solesvick, 2013; Hassan dkk, 2021; Sarmento, 2016; Tsaknis dkk, 2022
Personality trait	Emotional Stability	Zhao dkk, 2010; Thalmayer & Saucier, 2014; Schultz & Schultz, 2017; Zhang dkk, 2021; Ahmed dkk, 2022; Al Ghazali dkk, 2022; Tsaknis dkk, 2022
	Conscientiousness,	Zhao dkk, 2010; Thalmayer & Saucier, 2014; Schultz & Schultz, 2017; Zhang dkk, 2021; Ahmed dkk, 2022; Al Ghazali dkk, 2022; Tsaknis dkk, 2022
	Agreeableness	Zhao dkk, 2010; Thalmayer & Saucier, 2014; Schultz & Schultz, 2017; Zhang dkk, 2021; Ahmed dkk, 2022; Al Ghazali dkk, 2022; Tsaknis dkk, 2022
	Extraversion	Zhao dkk, 2010; Thalmayer & Saucier, 2014; Schultz & Schultz, 2017; Zhang dkk, 2021; Ahmed dkk, 2022; Al Ghazali dkk, 2022; Tsaknis dkk, 2022
	Openness to experience	Zhao dkk, 2010; Thalmayer & Saucier, 2014; Schultz & Schultz, 2017; Zhang dkk, 2021; Ahmed dkk, 2022; Al Ghazali dkk, 2022; Tsaknis dkk, 2022
	Interpersonal Relationship	Cheung & Zhang, 1996; Cheung dkk, 2001; Thalmayer & Saucier, 2014 ; Zhang dkk, 2021

Data analysis was performed using Structural Equation Model (SEM). Smart PLS 3 was used for instrument analysis (Mouzaek *et al.*, 2021; Ringle *et al.*, 2015). PLS-SEM is suitable for exploratory theoretical models because the existing literature on this topic is still limited (Makki *et al.*, 2020). The research model analysis was conducted with two main steps, viz: examining the measurement model, and investigating the structural model, as recommended by Simpson (1990).

4. RESULT

4.1. Respondent profile

Respondents in this study were obtained through the "accidental sampling" method because students who participated in this study were voluntary. The following is the demographic data of the students who participated.

Table 2. Demographic data for respondent

Criterion	Factor	Percentage
Gender	Male	
Male	126	51%
Female	120	49%
Age		
18 - 20	179	73%
21 - 23	65	26%
> 23	2	1%
Year in University		
First Year	106	43%
Second Year	54	22%
Third Year	39	16%
> Third Year	46	19%

Based on Table 2, it can be seen that 51% of respondents are male and 49% are female; 73% of respondents are students aged between 18 and 20 years old and 26% are between 21 - 23 years old and 1% of students who are over 23 years old. Based on the semester stage of study, it can be seen that 43% are students in the first year of study, 22% are students who have entered the second year, and 16% of students who have entered the third year, while 19% are students who have passed the third year at the University.

Table 3. Convergent validity results
 Acceptable values (Factor loading, CA, and CR ≥ 0.70 & AVE >0.5).

Constructs	Items	Factor Loading	Cronbach's Alpha	CR	pA	AVE
Entrepreneurial Education (EDU)	EDU1	0.853	0.915	0.923	0.923	0.662
	EDU2	0.833				
	EDU3	0.769				
	EDU4	0.810				
	EDU5	0.828				
	EDU6	0.755				
	EDU7	0.843				
Personality Traits (PT)	PT_AGR	0.722	0.840	0.857	0.880	0.551
	PT_CONS	0.740				
	PT_EXT	0.712				
	PT_INT	0.764				
	PT_OP	0.770				
	PT_STB	0.743				
Entrepreneurship Motivation (MOTIV)	MOTIV1	0.738	0.828	0.834	0.874	0.535
	MOTIV2	0.725				
	MOTIV3	0.715				
	MOTIV4	0.778				
	MOTIV5	0.716				
	MOTIV6	0.716				
Entrepreneurship Intention (INTEN)	INTEN1	0.825	0.766	0.770	0.851	0.589
	INTEN2	0.791				
	INTEN3	0.710				
	INTEN4	0.739				

4.2. Convergent Validity

As suggested by Hair *et al.* (2017), construct reliability (including Composite Reliability (CR), Dijkstra-Henseler's rho (ρ_A), and Cronbach's alpha (CA)), as well as validity (including convergent and discriminant validity), are valuable tools for evaluating measurement models. As shown in Table 2, the Cronbach's alpha (CA) values for construct reliability ranged from 0.708 to 0.926, which is greater than the threshold value of 0.7 (Nunnally & Bernstein, 1994).

Table 3 also shows the Composite Reliability (CR) values with values ranging from 0.716 to 0.915, which exceeds the threshold value of 0.7 (Kline, 2015). Alternatively, researchers used Dijkstra-Henseler's rho coefficient (ρ_A) to assess construct reliability (Dijkstra & Henseler, 2015). Like CA and CR, the reliability coefficient ρ_A should have a value greater than or equal to 0.70, and a value greater than 0.8 or 0.9 (Hair *et al.*, 2011). In Table 3, it can also be seen that all constructs show a reliability coefficient ρ_A that has a value higher than 0.70 so that it can be said to have adequate construct reliability.

To measure convergent validity, Average Variance Extracted (AVE) and factor loadings are tested (Hair *et al.*, 2017). The value of all factor loadings is greater than 0.7. The AVE values of all factors range from 0.535 to 0.662, meaning that they are greater than the threshold value of 0.5. Based on loading factors and AVE, convergent validity for all constructs is stated to be fulfilled.

4.3. Discriminant validity

To measure discriminant validity, the Fornell-Larker criterion and the Heterotrait-Monotrait ratio (HTMT) were measured (Hair *et al.*, 2017). The results in Table 4 show that the AVE and its square root are higher than their correlations with other constructs, confirming the alignment with the Fornell-Larker conditions (Fornell & Larcker, 1981).

Table 5 presents the findings of the HTMT ratio. As shown, all constructs have values lower than the threshold value, 0.85 (Henseler *et al.*, 2015), which indicates conformity with the HTMT ratio. Based on these findings, discriminant validity has been established. No issues related to validity and reliability emerged in the findings of the measurement model assessment analysis. Therefore, the collected data can be used to assess and analyze the structural model.

Table 4. Fornell-larcker scale.

	Personality Traits	Entrepreneurial Education	Entrepreneurship Intention	Entrepreneurship Motivation
Personality Traits	0.742			
Entrepreneurial Education	0.454	0.814		
Entrepreneurship Intention	0.456	0.545	0.768	
Entrepreneurship Motivation	0.458	0.574	0.682	0.732

Table 5. Heterotrait-monotrait ratio (HTMT)

	Personality Traits	Entrepreneurial Education	Entrepreneurship Intention	Entrepreneurship Motivation
Personality Traits				
Entrepreneurial Education	0.502			
Entrepreneurship Intention	0.549	0.631		
Entrepreneurship Motivation	0.517	0.631	0.839	

4.4. Hypotheses testing using PLS-SEM

The structural model was assessed using structural equation modeling (SEM) with Smart PLS (Al-Marroof *et al.*, 2021) and maximum likelihood estimation (Al-Emran *et al.*, 2020; Salloum *et al.*, 2019) to examine the interrelationships among the theoretical constructs. The proposed hypotheses were subjected to evaluation within this framework. The analysis revealed the model's robustness, as indicated by a variance percentage (R^2) of 47% for entrepreneurship intentions and 38% for entrepreneurship motivation.

The PLS-SEM technique was employed for estimation and analysis, which substantiated the formulation of hypotheses. Table 9 presents the beta (β) values, t-values, and p-values associated with these hypotheses. Remarkably, all the researchers unanimously supported these hypotheses. The empirical data analysis confirms the support for hypotheses H1, H2, and H3, denoting the relationships between Entrepreneurial Education (EDU) and Entrepreneurship Motivation (MOTIV) ($\beta = 0.460$, $P < 0.05$), Personality Traits (PT) and Entrepreneurship Motivation (MOTIV) ($\beta = 0.249$, $P < 0.05$), and Entrepreneurship Motivation (MOTIV) and Entrepreneurship Intention (INTEN) ($\beta = 0.682$, $P < 0.05$), respectively. Considering the significance level, the t-values are indicative of the relationships. The t-values range from 8.012 for the association between Entrepreneurial Education (EDU) and Entrepreneurship Motivation (MOTIV), 4.267 for the link between Personality Traits (PT) and Entrepreneurship Motivation (MOTIV), to 15.241 for the connection between Entrepreneurship Motivation (MOTIV) and Entrepreneurship Intention (INTEN). Previous studies by Hair *et al.* (2011) suggest that the acceptable t-value for a two-tailed test at a significance level of 5% is 1.96. Therefore, it can be concluded that all the hypotheses exhibit a significant relationship.

Table 5. Hypothesis Testing result

H	Relationship	Path	t-value	p-value	Direction	Decisions
H1	EDU → MOTIV	0.460	8.012	0.000	Positive	Supported
H2	PT → MOTIV	0.249	4.267	0.000	Positive	Supported
H3	MOTIV → INTEN	0.682	15.241	0.000	Positive	Supported

Table 6. Indirect Effect Result

Relationship	Path	t-value	p-value	Direction
PT → MOTIV → INTEN	0.170	4.327	0.000	Positive
EDU → MOTIV → INTEN	0.314	5.996	0.000	Positive

Based on the data from table 6 above, it can be concluded that the independent variable personality traits has a significant effect on the dependent variable INTEN through the mediating variable MOTIV based on empirical data ($\beta = 0.170$, $P < 0.05$). For the independent variable EDU, it is also known to have a significant effect on the dependent variable INTEN through the mediating variable MOTIV based on empirical data ($\beta = 0.314$, $P < 0.05$). The calculation shows that entrepreneurial motivation plays a mediating role in the relationship of personality traits to entrepreneurial intention. Entrepreneurial motivation plays a mediating role in the relationship between entrepreneurship education and entrepreneurial intention.

4.5. Discussions

This study highlighted the significance of personality traits and entrepreneurship education in fostering students' financial independence and career development while pursuing higher education. By cultivating motivation, it is anticipated that students will exhibit a keen interest in pursuing entrepreneurship. The survey data in this study were collected from 246 students who had undergone entrepreneurship courses. The personality dimension was assessed using personality traits, while entrepreneurship education encompassed various aspects of learning, including behavioural and cognitive components. Motivation, serving as a mediator between personality and entrepreneurship education, was measured through achievement, career, and financial independence motivations.

Hypothesis 1 receives support from the findings of this study, which demonstrate a relationship between entrepreneurship education towards motivation. This implies that entrepreneurship education can exert a positive impact on students' motivation and interest in entrepreneurship. This finding aligns with previous research (Mahendra *et al.*, 2017; Hasan *et al.*, 2017). On closer examination, entrepreneurship education encompasses several factors that contribute to stimulating entrepreneurial motivation. One particularly crucial aspect is the development of a resilient entrepreneurial mindset (Sun *et al.*, 2023). Moreover, entrepreneurship education imparts knowledge and skills that equip individuals to embark on entrepreneurial endeavours

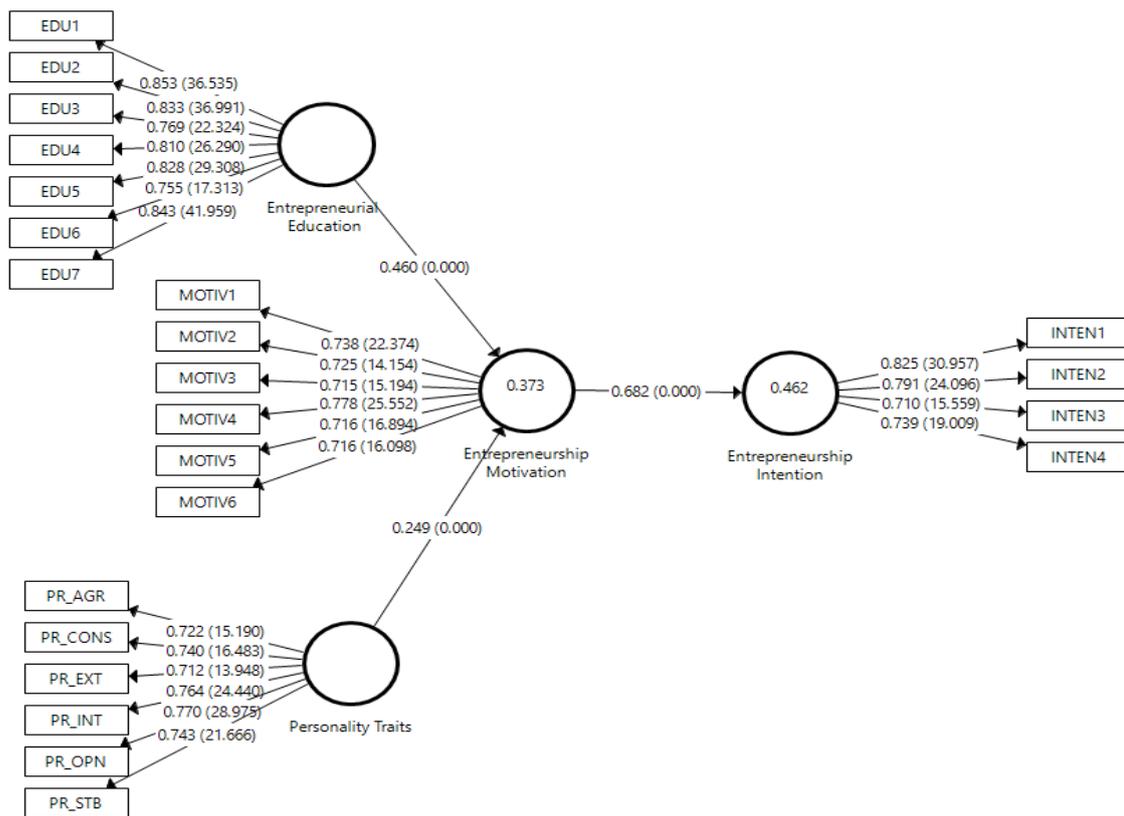


Figure 2. Path coefficient of the model (significant at $p < 0.05$)

Entrepreneurship education is a powerful tool in triggering high motivation to become entrepreneurs in students. Based on research conducted by Ghafar (2020) and Cui *et al.* (2021), building an entrepreneurial mindset and providing students with knowledge and skills will make entrepreneurship education a solid foundation for students to pursue their dreams of becoming successful entrepreneurs. Through role models, it will give them a

sense of confidence and strong motivation to realize their dreams of becoming reliable and successful entrepreneurs in the future. (Oosterbeek, 2010; Wang *et al.*, 2023). These findings provide important insights to improve lecturer skills and emphasize the importance of lecturers as role models (Boldureanu, 2020). In general, it can be said that contextual factors are important in reconstructing entrepreneurship education, cooperation between parents, students, lecturers, universities, policymakers, researchers, government, all stakeholders play an important role in it (Martin Lackéus, 2015). The model of learning entrepreneurship by learning by doing is one of the policies of the Indonesian Government through the independent university program where students are given the freedom to learn directly to manage their business. Through government policies, other stakeholders such as business companies can contribute to education by training students to work directly with businesses in accordance with their fields of expertise. Through this cooperation, the entrepreneurial atmosphere becomes stronger with more competence output (Bae & Kian, 2014; Suryanarayana, 2020).

The analysis results confirm the support for hypothesis 2 which proposed a relationship between personality traits and entrepreneurial motivation, as indicated in Table 5. This finding suggests that personality characteristics play a crucial role in driving individuals' aspirations to become successful entrepreneurs. Table 5 provides an overview of the relationship between personality traits and entrepreneurial motivation, demonstrating a significant positive association. These findings align with previous research conducted by Leutner *et al.* (2014), Ahmed *et al.* (2022), and AL-Ghazali (2022), who also identified personality factors as influential in fostering individuals' commitment to becoming reliable and prosperous entrepreneurs. Furthermore, studies by Farhangmehr *et al.* (2016) and Murnieks *et al.* (2020) support these findings by highlighting the substantial impact of personality traits on individuals' aspirations to succeed as entrepreneurs.

The inclusion of Personality Traits in this study adds value by considering internal factors and relationships that influence entrepreneurial motivation. Among the significant dimensions of personality, interpersonal relationships and openness to experience stand out. Interpersonal relationships, as indicated by self-esteem, valuing meaningful connections with others, and the ability to maintain family ties, hold considerable importance. Individuals with a strong emphasis on interpersonal relationships experience psychological distress if they perceive themselves as making insufficient contributions to society, particularly their families. Maintaining self-esteem encourages financial independence, thereby enhancing interest in entrepreneurship (Fei & Liu, 2023; Al-Ghazali *et al.*, 2022; Al-Hammadi *et al.*, 2021; Mei *et al.*, 2017).

Another personality dimension that can foster student motivation is openness to experience. As a trait characterized by curiosity and a propensity for initiating new ideas, individuals with high openness to experience are driven to achieve. In the context of entrepreneurship, those with openness to experience seek achievement through engaging in novel activities, making entrepreneurial endeavours a suitable outlet for their initiative and ideas. Therefore, openness to experience is associated with a person's inclination towards entrepreneurship (Zhao *et al.*, 2010; Brandt *et al.*, 2015). It is worth noting that, based on observations, some students with openness to experience, despite having modest economic backgrounds and average academic performance, are motivated to excel in other domains, specifically entrepreneurship, owing to their economic needs and personal circumstances.

From Table 5, it can be seen that hypothesis 3 has been proven where entrepreneurial motivation there is a relationship toward entrepreneurial intention. Motivation serves as a strong predictor of subsequent behaviours because it reflects the willingness and determination of individuals to act on their plans (Iffan, 2018). These findings further emphasize the important role of motivation to be free, and financially independent as a driver for a student to make entrepreneurship a career path (Soon *et al.*, 2020). Thus, individuals with high entrepreneurial motivation are more likely to take the necessary steps and engage in activities that match their aspirations to become successful entrepreneurs (Amelia *et al.*, 2022). The results of this study found that students' motivation to have financial freedom is mostly driven by the demands of the environment, both friendship and family environment. Improved digital technology, wider socialization, and increasingly difficult family economic conditions often strengthen students' motivation to become financially independent. In addition, the current curriculum that allows students to have other activities outside of college has increased students' interest in entrepreneurship.

After evaluating the mediating effect of the motivation variable, it can be concluded that entrepreneurship education plays a more significant role in fostering entrepreneurial interest. This finding is in line with the research of Alexander (2016) and Sitaridis & Kitsios (2018), which showed that entrepreneurship education has a greater influence on entrepreneurial intention than personality traits. Entrepreneurship education is widely recognized as a positive force in shaping entrepreneurial intentions and serves as a basis for entrepreneurship training interventions. Entrepreneurship education is considered a key factor in fostering entrepreneurship and innovation, especially in developing countries. Numerous studies have shown that entrepreneurship education increases the level of entrepreneurial activity and equips individuals with the necessary skills to design business and growth strategies. This enables them to effectively exploit entrepreneurial opportunities in the market (Pounder and Gopal, 2021; Oukil, Fahd, & Arabia, 2012). A study conducted by Luc (2022) revealed that entrepreneurship education requires practice and experiential learning, which play an important role in inspiring and supporting students to engage in entrepreneurial activities. Although personality traits also contribute in predicting entrepreneurial intentions, their impact is less significant compared to entrepreneurship education. Personality traits have varying effects on entrepreneurial intentions, with agreeableness, extraversion, and openness to experience showing positive effects, while neuroticism and conscientiousness have negative effects (Travis and Craig, 2022).

5. CONCLUSIONS AND IMPLICATIONS

5.1. Conclusions

Entrepreneurship education is an important factor in encouraging students' interest in entrepreneurship. The main objective of this study is to assess the aspects of entrepreneurial motivation in terms of the components of entrepreneurship education and personality traits of students. This study also examines how entrepreneurial motivation can provide more tangible steps or what is often called intention in entrepreneurship. All hypotheses formulated in this study are significantly supported. Based on data calculations, it is found that in the entrepreneurship education factor, the most prominent component in generating entrepreneurial motivation is the behavioral aspect. The most important components of

personality traits are aspects of interpersonal relationships and openness to experience, so that these factors provide good implications for future research and have real implications for policies that must be carried out by stakeholders in the world of education.

5.2. Limitations

There are several limitations in this study that should not be ignored. Firstly, this study was conducted in Indonesia, with differences in cultural context that may affect the object of research, therefore a broader object of research is needed to be able to provide more acceptable generalizations. In this study, we combined the components of personality traits into one variable, but it would be a more comprehensive finding if each component of personality traits (Emotional Stability, Conscientiousness, Extraversion, Interpersonal Relationship, Agreeableness, and Openness) were examined separately to evaluate their impact on students' willingness to become entrepreneurs.

The main weakness of this study is the selection of respondents using the accidental sampling method. Respondents were students who were willing to fill out the questionnaire, but their average time in filling out the questionnaire was less than 10 minutes. In addition, moderating factors such as family and friend support were not considered in the study. This study focuses on looking at the influence of personality and entrepreneurial education on entrepreneurial interest through motivation through a cross section study. Personality is a complex condition so the understanding obtained through cross section research is very limited. Similarly, entrepreneurship education where cross section research will not be able to see the contribution of college culture and climate which is important to foster entrepreneurial interest. In the future, research with a longitudinal design can be conducted to examine the dynamic changes in the relationship between entrepreneurship education, personality traits, entrepreneurial motivation, and entrepreneurial intention.

5.3. Implications for research

This study extends the literature on entrepreneurial interest by introducing a psychological perspective to understand personality factors and entrepreneurship education mediated by motivation. The results of the loading factor calculation show that the behavioural component has the highest value in the entrepreneurship education variable. The behavioural component is behaviour, visible response and goals as a description of the student's desire or goal of entrepreneurship. Students who want to become an entrepreneur before or after graduation are encouraged to intensively participate in entrepreneurship education (Jena, 2020). The results of this study are good news because students will basically be interested in entrepreneurship if they have the desire to become an entrepreneur. Further research is needed to identify entrepreneurship education methods that can increase student motivation from cognitive and affective components to become behaviour. Longitudinal research is expected to refine the results of this study.

Besides entrepreneurship education, in this study we examine the relationship between personality traits and entrepreneurial intention through motivation. Our findings show that all the factors examined have a significant influence with a positive direction. It is worth highlighting here based on the empirical data that the indicators of interpersonal

relationships and openness to experience are the personality types with the highest factor loading and mean compared to other indicators in the personal traits variable.

This implies that further research is needed to strengthen the results of research on other personalities (Emotional Stability, Conscientiousness, Agreeableness, Extraversion) which are carried out intensively by validating various kinds of theories such as (quotes from experts) so that it is expected that more aspects of personality can be directed to motivate students in entrepreneurship.

5.4. Practice implications

This study explores how entrepreneurship education shapes students' business intentions, and find the high on behavioral aspect impact. Implications for governments and universities include selecting educators who stimulate startup interest and branding for credibility. Collaboration between government, universities, and businesses is key for impactful entrepreneurship learning. Educators fostering business drive are essential, requiring not only knowledge but also verbal stimulus. Universities must brand educators who fit criteria, enhancing their image for credibility. Research also examines personality traits influencing entrepreneurship as a career choice. High Interpersonal Relationships and openness to experience drive entrepreneurial aspirations, impacting universities. Group tasks and interactive learning promote collaboration and teamwork. Interdisciplinary interaction fosters open-mindedness and innovative thinking. Universities also can foster entrepreneur by introducing new technologies and identifying opportunities to get entrepreneurs who are more resilient in the context of the development of industry 4.0 which is more commonly known as technopreneurship.

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