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RESEARCH

The effect of entrepreneurship education on entrepreneurial intention through planned behavioural control, subjective norm, and entrepreneurial attitude

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Abstract
This study aims to determine the effect of entrepreneurship education on entrepreneurial intention through planned behavioural control, subjective norm, and entrepreneurial attitude. The previous studies related to applying the theory of planned behaviour focused on identifying the factors that determine entrepreneurship behaviour. This study is more concerned with identifying factors affecting entrepreneurial intention, attitude, and behaviour of university students majoring in business and non-business enrolled entrepreneurship courses. The research methodology uses quantitative research with a purposive sampling method that selects 450 samples based on specific criteria. The data analysis uses the SmartPLS for analysing discriminant validity and AMOS for testing the conceptual model. Entrepreneurship education in business students and non-business (education) students influences student's entrepreneurial attitudes and behaviour. The entrepreneurial intention, perceived behaviour, and entrepreneurship attitude in business students are higher than those of non-business students.

Keywords Entrepreneurship education · Intention · Attitude · Behaviour · University students

Introduction

The Central Bureau of Statistics (2018) stated that the number of the labour force in Indonesia was 131.01 million people, which rose 2.95 million compared to the previous year. Hence, the participation rate rose to 0.59%. Although this unemployment rate decreased by around 1 million compared to 2017, the unemployment rate still touched 6.87 million people in August 2018. One of the causing factors is that the prospective workers were too picky in determining employment. Meanwhile, the availability of suitable jobs is limited to their competence. Their preference to be more selective in choosing a job will cause them to become structural unemployed, negatively affecting their loss of skills and increasing the natural unemployment rate in the long run. This phenomenon has increased government attention to the importance of entrepreneurship programs in a country. Besides, entrepreneurship has a significant role in improving innovation and economic growth. Scholars and practitioners also show an increasing need for entrepreneurial employees to enable intrapreneurship in established companies (Fayolle et al. 2006).

Recently, Indonesia lacks entrepreneur despite predicting that this country will become a developed country if 2% of its population are entrepreneurs (Ciputra 2011). Therefore, as agents of change, higher education has a moral responsibility to overcome this problem by preparing entrepreneurial skills for university students. It aims to support them to remain creative in creating job opportunities and earn income independently when they do not find jobs that fit with their competence. The institution also needs to measure entrepreneurship education in Indonesia that influences entrepreneurial intentions and entrepreneurial behaviour to ensure that students who have graduated should also have an entrepreneurial spirit in themselves as provisions to become *intrapreneurs*.

Higher education symbolises an optimistic future based on the increasing importance of science and technology as an engine of economic growth and how countries can successfully compete in the global economy (Bagozzi 1992). Therefore, an increase in investment in human resources,

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especially in education and training, is significant in increasing the number of entrepreneurs (Peters 2001). Therefore, In Indonesia, each university provides an entrepreneurial-based curriculum and entrepreneurship courses as part of the national education campaign. The government promotes the national education campaign to reduce unemployment rates and increase economic growth. As Indonesia's position to become one of the biggest global labour markets, the university also offers to increase the competitive advantage of prospective labour and entrepreneurs with a global mindset.

The number of higher education institutions in Indonesia is 3225 universities, consisting of 121 state universities and 3101 private universities that provided education for 6 million students. These universities are starting to increase students' interest in entrepreneurship through PMK-K (Student-Entrepreneurship Creativity Program) and PMW (Entrepreneurial Student Program). The government also provides business plan competitions for students and gives funding and entrepreneurship mentoring as the award for the winner. Each university with economics faculty must nurture entrepreneurship skills to its students with entrepreneurship-based education such as Ciputra University or branding its institution as Entrepreneurial University, such as Brawijaya University, which has often won a Gold medal at PIMNAS (National Scientific Week). Therefore, the high entrepreneurial skills of students are determined by the collaboration of their passion, government programs, and universities' entrepreneurial-based education. Therefore, specific research focused on identifying how successful the entrepreneurial program is on students by investigating the student's entrepreneurial intentions and entrepreneurial behaviour after gaining entrepreneurial education in university (Hien and Beri 2018).

According to Fayolle et al. (2006), the definition of entrepreneurial education is the broadest sense of a pedagogical program or educational process for entrepreneurial attitudes and skills, which involves the development of particular personal qualities. This definition is not explicitly focused on how sooner or later in creating a new business but covers various situations, objectives, methods, and teaching approaches. Teaching entrepreneurship at the academic level is very relevant for some reason. First, businesses established by highly educated entrepreneurs tend to be more innovative, experiencing higher growth rates and survival rates, and more often involved in international activities. Therefore, stimulating and teaching entrepreneurship among highly educated people have positive consequences for society at large. Second, teaching entrepreneurship at the academic level stimulates entrepreneurial research and enhances our knowledge of entrepreneurship both as a research object and a career domain. Entrepreneurship courses for student encourage more supportive policy-making and entrepreneurship curricula at all levels of education (Fayolle et al. 2006).

This study aims to find how entrepreneurship programs can stimulate non-business students by examining whether there are differences in the influence of entrepreneurship education on entrepreneurial intention and behaviour on business students and non-business (education) students. Therefore, this study will scrutinise what essential ingredients should be incorporated in a program catered towards non-business students and lead to a framework that can be used to construct or evaluate entrepreneurship courses or programs.

This study replicates the relationship model between entrepreneur education and entrepreneurial attitude, subjective norms, and controlled behaviour done by Fayolle et al. (2006), Heuer and Kolvereid (2014), Maresch et al. (2016), Murugesan and Jayavelu (2015), Naia et al. (2017), and Matlay et al. (2010). Nevertheless, our research focus also emphasised comparing how entrepreneurship education affects entrepreneurship intention between business and non-business students, which becomes the research gap offered by this study. This study aims to provide input to universities on how effective entrepreneurship education on the entrepreneurship intention of business and non-business students and provide input on how to design an effective curriculum for them. The majority of entrepreneurship programs are offered by the faculty of economics and business administration and not open to non-business students.

Literature review

Entrepreneurship education

Jones and English (2004) describe entrepreneurship education as 'the process of providing individuals with the ability to recognise commercial opportunities and insights, self-esteem, knowledge, and skills to act by them'. Henry et al. (2005) define it as the process of giving students the ability to recognise situations that can create innovative business creations. Furthermore, entrepreneurship education can also give students the skills needed to start a successful business. Martinez et al. (2010) differentiate entrepreneurship education and entrepreneurship training. Entrepreneurship education is about gaining knowledge and skills for entrepreneurial activities in general, while entrepreneurship training is acquiring the knowledge and skills to establish new businesses (Béchard and Toulouse 1998). From this point, the difference between them relied on their primary target/goal.

Entrepreneurship education means entrepreneurship in a broader sense; entrepreneurship training is provided explicitly for the creation of companies (Martinez et al. 2010). In this paper, the definition of entrepreneurship education mentioned will be used in entrepreneurship education for university students at the undergraduate level. This definition considered the previous research that focused on various forms of

entrepreneurial education such as entrepreneurship education at Scotland's school and entrepreneurship education training for employees held at business school (Martinez et al. 2010). Entrepreneurship education is a planned and applicable effort to increase students' knowledge, intention, and competence to develop their potential by manifesting themselves in creative, innovative, and risk-management behaviour. The rise of entrepreneurship education around the world is none other than the increasing awareness of its importance.

Nowadays, entrepreneurship education has become one student, and parents demand when entering university (Jones and English 2004). This phenomenon represents the increasing interest and demand for entrepreneurship education in the last 10 years. Entrepreneurship education can transmit the mindset and behaviour of an entrepreneur to students so that they behave and become entrepreneurs. Education is forming independent students through a mindset and providing competencies and skills. In entrepreneurship education, students will develop entrepreneurial behaviour and answer future challenges.

Furthermore, it will become a compulsory competence that must be possessed to answer future challenges by embracing entrepreneurial character. Therefore, according to Cooper et al. (2004), students even seek a university that provides them with the skills needed to succeed as entrepreneurs. As a result, the offer of entrepreneurship education also increased (Rideout and Gray 2013) because of its significance to stimulate students in entrepreneurial activities (Martinez et al. 2010). It is based on the reverse theory of a career, such as specific jobs that will not be available if there is no education (Rideout and Gray 2013; Tri Wijayati et al. 2020).

Theory of planned behaviour

Moreover, this desire and need of students to take an entrepreneurship course to add to their added value can be categorised as cognitive self-regulation as a system that controls our actions and forms the basis for actions that have goals (Ajzen 1991; Bandura 1991; Noel 2002). Krueger et al. (2000) acknowledge this by stating that entrepreneurial behaviour is intentional and not driven by reflexive behaviour. Theory of planned behaviour (TPB) is built on the idea that people make rational choices and intentions that lead to specific behaviours (Küttim et al. 2014). Intentions resulted in behaviour, while those intentions rarely occur but retained for a more extended period (Noel 2002). Opening a new business contains both aspects because people only start a business occasionally, and when doing so, they require a long time to plan (Noel 2002). Assessing performance by measuring the level of business creation is not always practical. It implies a significant delay between the cause (i.e. training) and the availability of results because the impact of education only becomes measurable in the medium or long term (McMullan and Gillin 1998). Aside from the inconvenience, this delay can also significantly weaken the reliability of the analysis because it will give more opportunity to the inevitable disruption to disrupt the 'link' between entrepreneurship training and observation of actual business creation. McMullan and Gillin (1998) suggest measuring the likelihood of business creation as a proxy for the educational effect to alleviate this problem. Entrepreneurship education has a positive relationship but not significant to entrepreneurship attitudes, subjective norms, and controlled behaviour. Meanwhile, entrepreneurship attitudes, subjective norms, and controlled behaviour have a significant and positive relationship to entrepreneurial intention (Maresch et al. 2016; Murugesan and Jayavelu 2015).

1. The attitudes towards behaviour. The degree to which a person has an unfavourable interest or evaluation or assessment of the behaviour in question (Ajzen 1991). When new issues arise that require evaluative responses, people can make use of them. The relevant information (trust) is stored in memory. Because each of these beliefs carries evaluative implications, attitudes are formed automatically. Based on Krueger and Brazeal (1994), this factor includes the notion of the perception of desire (or lack thereof), which is one component of Shapero and Sokol (1982).
2. The subjective norms. The subjective norms are perceived as social pressure to do or do not behave (Ajzen 1991), namely, the subject's perception of other people's opinions about the proposed behaviour. Normative beliefs influence this perception. It is less relevant for individuals with a robust internal control locus (Ajzen 1991, 2005) than those who have a strong orientation to act (Bagozzi et al. 1992). Krueger and Brazeal (1994) state that this factor overlaps with an understanding of the desires and feasibility of the Shapero and Sokol (1982).
3. Perceived behavioural control (PBC). The ease or perceived difficulty in carrying out behaviour (Ajzen 1991). This concept was introduced into the theory of planned behaviour to accommodate the inherent non-will element, at least potentially, in all behaviour (Ajzen 2005). These factors are related to the perception of the feasibility of behaviour, which is a significant predictor of behaviour. Individuals usually choose to adopt behaviour that they think they can control and master.

The relationship of entrepreneurship education, entrepreneurship attitude, subjective norms, and controlled behaviour

Entrepreneurship education is essential in fostering and promoting an entrepreneurial mindset (Rae and Carswell 2001).

The discussion of the effectiveness of entrepreneurship education conforms to the ongoing debate about whether entrepreneurship implies individuals with certain personalities or skills that can be developed (Béchard and Toulouse 1998). In general, there is increasing evidence supporting changes in entrepreneurial skills, while the educational approaches adopted to achieve this change are very different, for example, when it comes to the objectives of the training (Béchard and Toulouse 1998). The longitudinal studies conducted by Varela and Jimenez (2001) provided evidence of a positive correlation between entrepreneurship training and guidance and the level of actual entrepreneurship. Therefore, higher education adjusts its curriculum to develop entrepreneurship education programs (EEP) based on business trends (Rae and Carswell 2001).

According to Heuer and Kolvereid (2014), the specific research about the role of education in the other two antecedents of intention: subjective norms (perceived social pressure to create a business or not to start a business) and controlled perceived behaviour (perceived easy or difficult creation efforts). However, several studies show a positive relationship between these two factors to entrepreneurial intention (Utami 2017). Basu (2010) confirms the significant positive impact of entrepreneurship class on perceptions of behavioural control. In contrast, Souitaris et al. (2007) found significant variations between pre- and post-program marks of entrepreneurship courses for subjective norms.

Some researchers have studied the relationship between entrepreneurship education to create entrepreneurship behaviour. Heuer and Kolvereid (2014) found a direct relationship between extensive education in entrepreneurship and entrepreneurial intentions, but this cannot be explained by differences in attitudes, subjective norms, or perceived behavioural control. TPB failed the adequacy test because entrepreneurship education directly influenced entrepreneurial intentions. The variables that the TPB tended to map were more intrapersonal. Interpersonal variables may not be accounted for correctly by TPB. This interaction is significant in changing the structure of knowledge. This profound knowledge structure is at the heart of job status choice and the key to expert skill development. The positive impact of entrepreneurship courses (and of the entrepreneur's parents) on entrepreneurial intentions and the lack of adverse effects of short-term education fits into this reason. Furthermore, the cognitive style has been found as one of the constructs that moderate entrepreneurial intention.

Fayolle et al. (2006) stated that facing the multiplication of entrepreneurial education programs and increasing allocated resources, there is a need to develop a common framework for evaluating the design of such programs. This study aims to propose such a framework based on the TPB. TPB is a relevant tool for modelling entrepreneurial intention development through a pedagogical process. The independent variable is the EEP characteristic, and the dependent variable is the antecedent of entrepreneurial behaviour. The EEP is assessed to have a robust and measurable impact on students' entrepreneurial intentions, meanwhile positive, but not very significant, impact on their perceived behavioural control.

Murugesan and Jayavelu (2015) conducted a comparative study about the effect of entrepreneurship education through Azjen's theory of planned behaviour on the variable score of attitudes towards entrepreneurship, subjective norms, perceptions of behavioural control, and intention towards entrepreneurship that fail to find it. Using the theory of planned behaviour, this study examines the impact of entrepreneurship education on students of business, engineering, and the arts and sciences to measure attitudes, subjective norms, and perceived behavioural control. For the intention of becoming self-employed, this study adopted a three-item career intention measure, which captures one's intention to start a business. The results showed that the mean value of post-program subjective norms, attitudes towards entrepreneurship, perceived behavioural control, and intentions towards entrepreneurship increased compared to before the program.

Naia et al. (2017) tested Ajzen's theory of planned behaviour in sports science students to determine which variables most influenced students' entrepreneurial intentions. The results showed that perceived attitude control and perceived behaviour control had a significant positive effect on entrepreneurial intention, while the effect of subjective norms was negative. Therefore, it is essential to improve curriculum design and teaching by promoting entrepreneurial intentions and attitudes.

Then, Maresch et al. (2016) investigate context-specific questions in two separate student categories (business and engineering students). The results of this study indicate that there are contextual differences. The results showed that modified entrepreneurship education (EE) suits specific target groups that could solve subjective norm problems separately for business students and science and engineering students. Their main results show that EE is generally effective for business students and science and engineering students. However, entrepreneurship intention (EI) of science and engineering students were negatively affected by subjective norms, whereas this effect was not seen among business students.

There are differences in the results of research conducted by Murugesan and Jayavelu (2015) about the positive effect of entrepreneurial education on business intention based on TPB with the research of Naia et al. (2017) and Maresch et al. (2016). These last researchers stated that attitude and controlled behaviour influence the entrepreneur's intention, but subjective norms do not influence entrepreneurial intentions. Nevertheless, Heuer and Kolvereid (2014) explained a positive relationship between entrepreneurship education and attitudes, subjective norms, and controlled behaviour, but

Fayolle et al. (2006) stated that the effect of entrepreneurship education on intention is positive but not significant.

Furthermore, the measurement of entrepreneurial behaviour can adopt a theory of planned behaviour developed by Ajzen (1988, 1991), which explains how entrepreneurship education affects entrepreneurial behaviour. There are three variables in TPB, namely entrepreneurial attitude, subjective norm, and controlled behaviour. These three variables are influenced by entrepreneurship education and affected entrepreneurial intentions.

Therefore, based on theories, we hypothesise that:

H1: There is an influence of entrepreneurship education on entrepreneurial attitudes.
H2: There is an influence of entrepreneurship education on subjective norms.
H3: There is an influence of entrepreneurship education on perceived behaviour control.

The relationship of entrepreneurship attitude, subjective norm, perceived behaviour control and entrepreneurial intention

Entrepreneurial opportunities and abilities mainly drive entrepreneurial behaviour. These elements are essential because Bosma and Levie (2010) state that a potential entrepreneur in the entrepreneurial process must have the opportunity, skills, and knowledge. However, as mentioned before, aside from real opportunities and abilities, perceptions of the two elements also play a significant role (Bosma and Levie 2010). Therefore, self-efficacy can be seen as an essential element in entrepreneurial behaviour. Based on Neto et al. (2018), self-efficacy has proven to predict entrepreneurial behaviour, while occupational self-efficacy becomes a better predictor of entrepreneurial behaviour than the educator's self-efficacy.

Entrepreneurial intention is people's intention to open their own business (Noel 2002). Ajzen (1991) stated that intention is assumed to capture motivational factors that influence behaviour. Because intention shows the willingness of people to achieve a specific goal, the higher the intention to a particular behaviour, the more likely the performance will occur (Ajzen 1991). In other words, entrepreneurial activity originated from entrepreneurial intentions and entrepreneurship education plays an essential role because it can direct entrepreneurial intentions (Rideout and Gray 2013). Furthermore, Rideout and Gray (2013) mentioned that there is a belief that entrepreneurship education able to increase the probability that someone is involved in entrepreneurial activity.

The entrepreneurial intentions — as defined by theory planned behaviour — offer such proxies. It represents the possibility of creating this higher effort because people tend to stick to their real behaviour intentions (Ajzen 2005; Kolvereid and Isaksen 2006). Theory of planned behaviour (Ajzen 1991, 2005) is a psychological model that has become very influential in entrepreneurial research over the past decade. Ajzen (1988) defines behavioural control or PBC as performed behaviour reflecting past experiences and anticipating obstacles. It means that PBC reflects perceptions that determine human action or not take action while taking reflection from past experiences and anticipating obstacles. The second model is an entrepreneurial model by Shapero. In comparison, TPB was developed in social psychology, the *Shapero's Entrepreneurial Event* (SEE) model, created as a deliberate model specifically for entrepreneurial research. This model is recognised as the first model that illustrates entrepreneurial intentions (Guerrero et al. 2008).

The entrepreneurial intentions and the decision to conduct business operations depend on a person's attitude towards entrepreneurial behaviour (entrepreneurship), how a human feels about social influences on entrepreneurship behaviour (subjective norms), and human perceptions about entrepreneurial control (perceived behavioural control) (Saad and Ariffin 2016). In short, participation in an EEP (entrepreneurship education program) arouses confidence in the individual's capacity (Krueger and Carsrud 1993). The individual capacity strengthens the human's knowledge of environmental factors, human confidence in their control and entrepreneurial intentions, and entrepreneurial behaviour. Moreover, entrepreneurial behaviour is ultimately becoming a consequence of performance (Dess et al. 1997). Most of the existing research about the effect of EEP to prospective entrepreneurs have been considered theoretical and less practical (Krueger and Brazeal 1994; Souitaris et al. 2007). Therefore, in our study, we used a planned behavioural theory approach to empirically analyse the effects of EEP on entrepreneurial behaviour and performance to make the study result become more practical.

SEE model stems from encouraging people's behaviour until creating an event of behaviour positively or negatively that might violate this passivity (Krueger et al. 2000). For example, a wage job loss because starting to be a new entrepreneur can be an adverse event that violates passivity. Meanwhile, winning the lottery can be a real cause for disturbing passivity (Krueger et al. 2000). This can be attributed to the fact that the lack of financing is a barrier to entrepreneurship (Rideout and Gray 2013). The SEE contains three elements that explain intentions towards entrepreneurship: perceived desire, tendency to act, and perceived worthiness (Krueger et al. 2000).

A strong desire influences a human to start his own business, which triggered by intrapersonal and extra-personal factors. This element is related to the behavioural and normative beliefs of the Ajzen model (Krueger et al. 2000). The tendency to act can be defined as the willingness to act based on a human decision. This goes further than one's attitude towards entrepreneurship and has been added to the model as an element of will (Krueger et al. 2000). According to Krueger et al.

(2000), the tendency to act is driven by the perception of control — the desire to control by taking action.

The last element of the SEE is considered eligibility. While the perceived desire is the desire of a person to start his own business, the perceived feasibility is an individual's awareness to set up a new business. Perceived feasibility has the highest explanatory power for SEE (Krueger et al. 2000). This element is related to the perception of behavioural control in TPB and derived from the concept of *self-efficacy* (Krueger et al. 2000). The research result conducted by Peterman and Kennedy (2003) stated that self-efficacy is an essential factor for understanding the effect of entrepreneurship education at the start of a new business. It is because 'self-efficacy' is related to a person's belief in entrepreneurship and more motivational than an 'interest' recognised as an entrepreneur's psychological trait. Moreover, entrepreneurship education plays an essential role in changing motivation, although it does not influence the three elements of each model. An important conclusion is the role of self-efficacy in the SEE model, which shows the weight of self-efficacy in this thesis.

Therefore, based on theories, we hypothesise that:

H4: There is an influence of entrepreneurial attitudes on entrepreneurial intentions.
H5: There is an influence of subjective norms on entrepreneurial intentions.
H6: There is an influence of controlled behaviour on entrepreneurial intentions.

From the explanation above, the research models for education and business student are shown in Fig. 1.

From this framework, it can be inferred that the main latent variable is entrepreneurship intention. In contrast, the observed variables are entrepreneurship attitude, perceived behaviour control, entrepreneurship education, subjective norm, and need for achievement and locus of control. In this study, the control variables are two factors of students' personality traits: the need for achievement (N.A.) and locus of control (L.C.). Several studies before showing personality traits were used as control variables in research that discussed factors influencing entrepreneurial intention (Karabuluta 2016; Demirtas et al. 2017; Farrukh et al. 2018; Yasir et al. 2019). Therefore, the need for achievement and locus of control are examined with the aim that the results of the analysis better explain the phenomenon optimally because other variables that also affect the dependent variable, the effect is interrupted. Second, the analysis will have a higher statistical power.

Methodology

The research method describes the type of research, data collection, and data analysis. This study is a quantitative study of faculty of business and economics students and faculty of humanities education students. The sampling method is the purposive sampling method or judgement sampling (Latan and Temalagi 2013). In the purposive sampling method, samples were selected by various specific criteria used by researchers Sekaran and Bogie (2009).

The research was conducted for 6 months (December 2018–May 2019) at Surabaya State University because the target data were extensive to provide representative and reliable results. The data collection method was with a questionnaire distributed to 450 students studying in the entrepreneurship class at the faculty of economics and education faculty. The advantages of this questionnaire method are (1) practical, in a shorter time can get a lot of data; (2) economical, in terms of fewer surveyors to collect the data; and (3) respondents can answer openly or freely and not affected by the opinion of the other respondent or researcher Sekaran and Bogie (2009). In this study, the sample is selected based on one criterion (*purposive sampling*): the student who enrols in entrepreneurship course in business and non-business (education) faculties. The sample is the third-year university students who enrol on an entrepreneurship course in their major. Therefore, they were 21–22 years old, 55% were female, and 45% were male students.

The rationale for gaining 450 samples is based on the total number of business students (250) and humanities education students (200) in the Universitas Negeri Surabaya in 2019, who enrolled in entrepreneurship courses. Besides, the usage of this large number of data aims to fulfil the requirement of the SEM method, which requires large datasets to be examined in unstructured problems in order to create a more reliable result of the study (Tarka 2017). The data analysis uses the SmartPLS for analysing discriminant validity and AMOS for testing the conceptual model.

Outer model analysis

The following presents an analysis of the outer research model.

Construct reliability tests were measured by composite reliability and Cronbach's alpha (Ghozali 2014). The construct is reliable if it has a composite reliability value of above 0.70 and Cronbach's alpha of above 0.60. Meanwhile, the average variance extracted (AVE) value sufficient to measure validity is 0.5. Based on the criteria in Tables 1 and 2, the output of the data shows that the results of all the outer model criteria are met so that it can be concluded that the research data has good validity and reliability. Therefore, it can proceed to the inner model analysis.

Furthermore, the discriminant validity is a reflexive measurement model calculated based on the Fornell-Larcker criterion value of the manifest variable for each latent variable. If the correlation between the latent variable and each indicator (its manifest variable) is greater than the correlation with the other latent variable, the latent variable can predict the

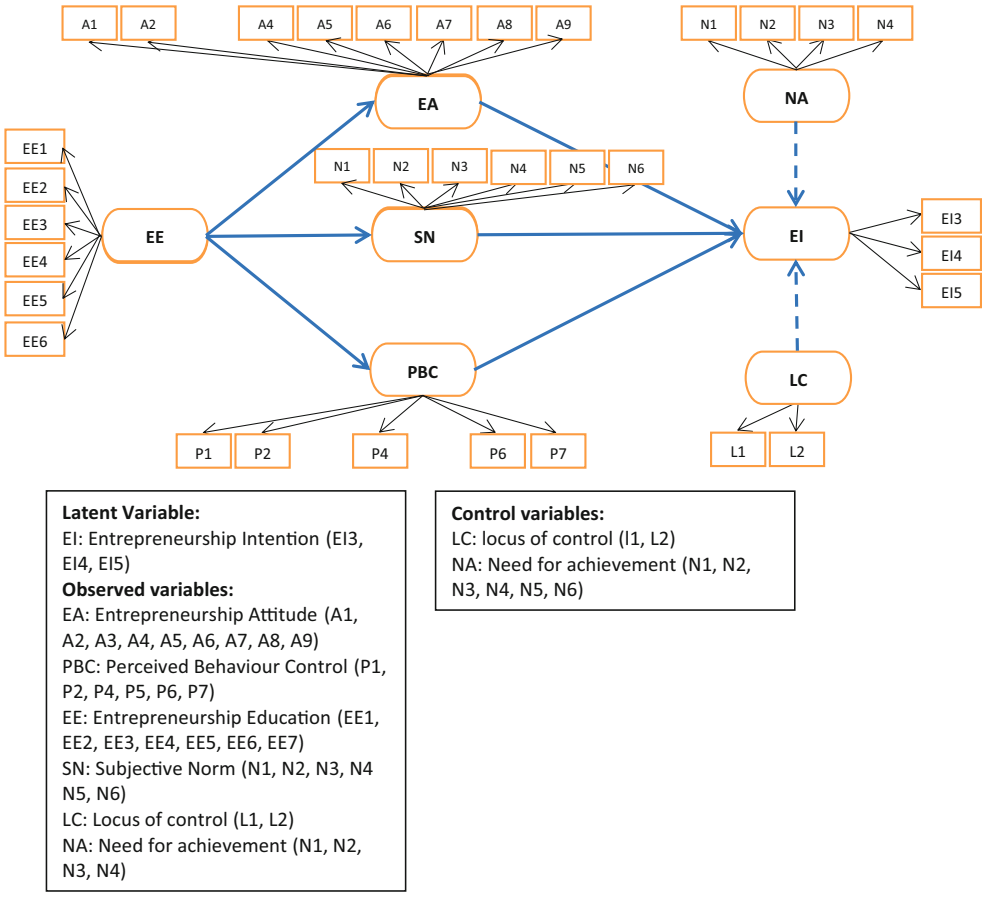

Fig. 1 Research model for education and business student (Krueger et al. 2000; Heuer and Kolvereid 2014; Demirtas et al. 2017; Yasir et al. 2019)

indicator better than the other latent variables, as explained in Tables 3 and 4.

From these results, it can be concluded that the Fornell-Lacker criterion can be seen that the root value of AVE correlation variable EI (business student), for example, is 0.765. This value is greater than the correlation value of EI and EA, which is equal to 0.524 and other variables. This also applies to other variables; the value of the root of AVE on the variable itself shows a greater number than the correlation between variables. Thus, the discriminant validity requirements with root of AVE have been fulfilled.

Inner model analysis

Inner model analysis/structural model analysis is carried out to ensure that the structural model that is robust and accurate. This method is an important tool for analysing data that is influenced by outliers so that a model that is resistant to outliers is produced.

The evaluation of the inner model can be seen from the goodness of fit index (GoF) in Figs. 2 and 3 and Table 5.

Hypothesis test

Based on the hypothesis testing in Table 6, all CR variable values tested get values above 0.7, and the correlation between variables is significant (Hair et al. 2010). It shows that there is a positive impact on entrepreneurship education and entrepreneurial attitude (H1 accepted), positive impact between entrepreneurship education on subjective norms (H2 accepted), and positive impact between entrepreneurship education on perceived behaviour control (H3 accepted). Furthermore, there is

Table 1 Cronbach's alpha, composite reliability, and AVE of education students

	Cut-off	EA	EE	IE	LOC	NFA	PBC	SN
Cronbach's alpha	> 0.6	0.87	0.81	0.87	0.81	0.80	0.89	0.86
Composite reliability	> 0.7	0.90	0.86	0.90	0.89	0.87	0.91	0.89
Average variance extracted (AVE)	> 0.5	0.51	0.52	0.56	0.73	0.63	0.61	0.60

Source: data processed by authors by SmartPLS

Table 2 Cronbach's alpha, composite reliability, and AVE of business students

	Cut-off	AE	EE	IE	LOC	NFA	PBC	SN
Cronbach's alpha	> 0.6	0.88	0.81	0.87	0.70	0.78	0.83	0.85
Composite reliability	> 0.7	0.90	0.86	0.90	0.83	0.86	0.87	0.89
Average variance extracted (AVE)	> 0.5	0.51	0.51	0.58	0.62	0.61	0.50	0.59

Source: data processed by authors by SmartPLS

a positive impact of entrepreneurial attitude on entrepreneurial intention (H4 accepted), positive impact of subjective norm on entrepreneurial intention (H5 accepted), and positive impact of perceived behaviour control on entrepreneurial intentions (H6 accepted).

Discussion/Analysis

The influence of entrepreneurship education on entrepreneurial attitudes

Based on statistical tests, it can be observed that entrepreneurship education has a significant and positive effect on entrepreneurial attitudes (accepted H1) and encourages entrepreneurship education for students and positively impacts student entrepreneurial attitudes. This research has supported the research of Martinez et al. (2010) who stated that entrepreneurship education is the process of the student to gain knowledge and skills for entrepreneurial activities and skills to set up new businesses. Entrepreneurship education is more about entrepreneurship in a broader sense, while entrepreneurship training is provided explicitly for the creation of companies. This study supports the previous research by Fayolle et al. (2006) that the entrepreneurship education program has a very positive but not significant effect on entrepreneurial intentions except on controlling its behaviour variable. Moreover, this study also supports the research conducted by Heuer and Kolvereid (2014) and Matlay et al. (2010) who stated positive and significant influence of entrepreneurship education on entrepreneurial attitudes.

Nevertheless, there is a difference in the study result between a sample from an education major and a business major in regression coefficient. The business student shows a stronger relationship compared to the education student sample. This phenomenon might be caused by an education student who is usually expected to become a teacher in an educational institution than become an entrepreneur (do Neto Roque et al. 2018). Therefore, the attitudes generated by business students are better at reflecting the influence of entrepreneurship education.

The influence of entrepreneurship education on subjective norms

Based on statistical tests, it can be observed that entrepreneurship education has a significant positive effect on subjective norms (accepted H2). This result supports the previous research about the positive impact of entrepreneurship education on student entrepreneurial attitudes. In entrepreneurship education, students are given assignments that must be completed according to the target lectures. It can be said that students do it as a subjective norm in doing as an entrepreneur. Subjective norms can be interpreted as perceived social pressure to do or do not behave (Ajzen 1991). The difference in the value of C.R. (higher on business students) proves that entrepreneurship education has a more significant influence

Table 3 Discriminant validity business student

	EA	EE	EI	LOC	NFA	PBC	SN
EA	0.714						
EE	0.598	0.715					
EI	0.524	0.625	0.765				
LOC	0.425	0.592	0.648	0.793			
NFA	0.529	0.424	0.291	0.237	0.784		
PBC	0.726	0.634	0.593	0.532	0.575	0.708	
SN	0.592	0.439	0.332	0.269	0.908	0.567	0.766

Source: Data processed by authors by SmartPLS

Table 4 Discriminant validity business student

	EA	EE	EI	LOC	NFA	PBC	SN
EA	0.713						
EE	0.911	0.724					
EI	0.879	0.884	0.752				
LOC	0.599	0.582	0.788	0.855			
NFA	0.631	0.598	0.799	0.970	0.794		
PBC	0.756	0.624	0.706	0.521	0.608	0.781	
SN	0.666	0.654	0.838	0.948	0.956	0.565	0.775

Source: Data processed by authors by SmartPLS

on subjective norms in business students. This proves that the internal locus of control of business students is stronger compared to education students. The coefficient values on business students show a stronger relationship compared to the sample of education students. This phenomenon may be due to business/non-educational students who are more concerned with entrepreneurship education. These students behave as entrepreneurs and have the confidence to become entrepreneurs.

The influence of entrepreneurship education on controlled behaviour

Moreover, entrepreneurship education also has a significant positive effect on controlled behaviour (accepted H3). The research conducted by Murugesan and Jayavelu (2015) stated that the TPB has a positive effect on entrepreneurial intentions. This research supports Heuer and Kolvereid (2014) about the role of education in the two other antecedents of intentions: subjective norms (perceived social pressure to create a business or not to start a business) and control of perceived behaviour (perceived easy or difficult business creation). Meanwhile, the calculation of regression coefficient values shows a higher value of the coefficient value of business students. This reflects the more significant influence of entrepreneurship education on perceived behaviour control of business students than education students. The coefficient values on business students show a stronger relationship compared to the sample of education students. This phenomenon may be due to business/non-educational students who are

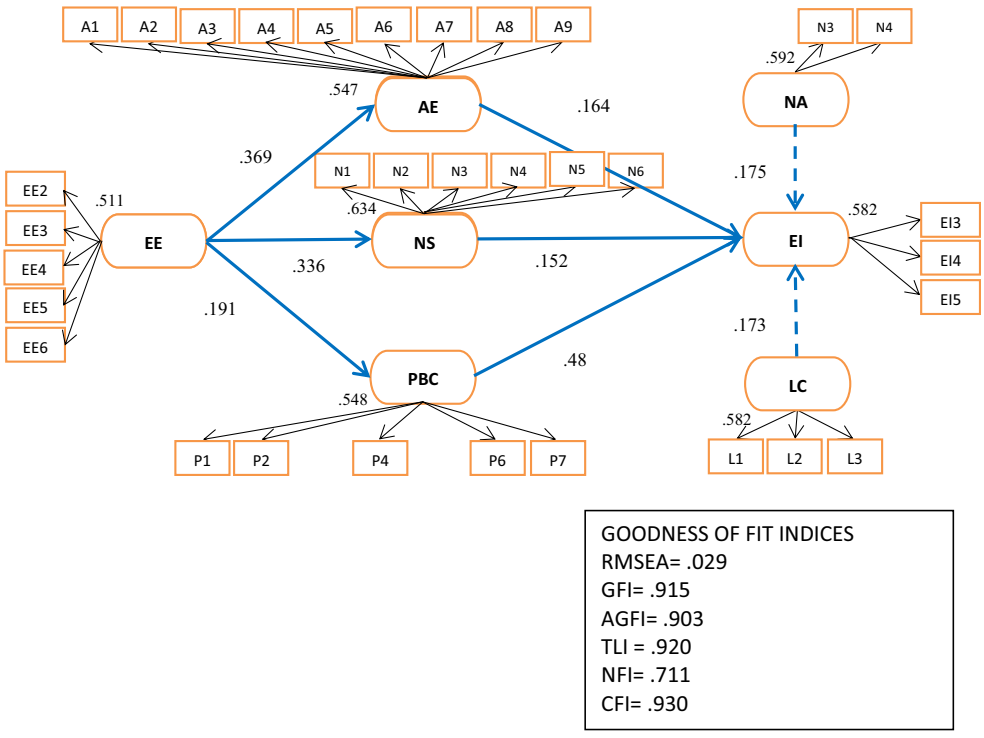

Fig. 2 Goodness of fit indices (business student). Source: data processed by authors by AMOS

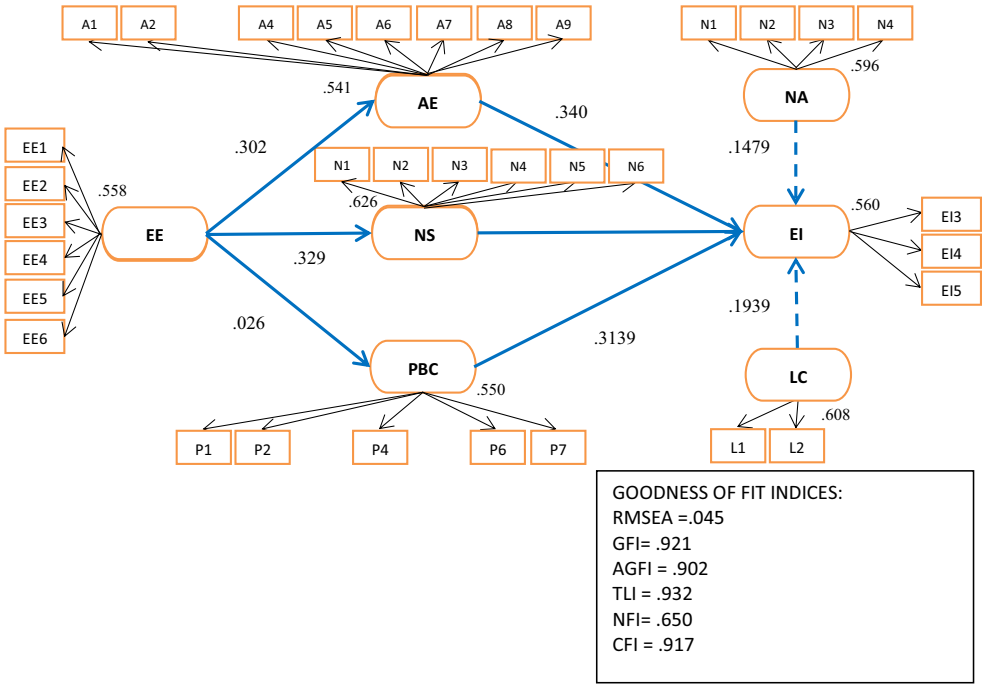

Fig. 3 Goodness of fit indices (education student). Source: data processed by authors by AMOS

more concerned with entrepreneurship education so that these students like and are responsible for becoming an entrepreneur. Therefore, students manage their actions to resemble an entrepreneur.

The influence of entrepreneurship attitudes on entrepreneurial intention

Furthermore, it can be observed that the entrepreneurial intention of students is influenced by student's attitudes (accepted H4). This is consistent with the findings of previous research, where people tend to stick to their intentions when it comes to their actual behaviour (Ajzen 2005; Kolvereid and Isaksen 2006). Naia et al. (2017) and Maresch et al. (2016) found that two variables (attitude and controlled behaviour) have a positive effect on entrepreneurial intention, while subjective norms harm entrepreneurial intentions. Moreover, based on calculating the regression coefficient value of entrepreneurship attitudes of education students (3.161) lower than business students (4.499). This proves that the entrepreneurship attitude of business students has a more significant influence on their entrepreneurial intention than the non-business/education student. The coefficient values on business students show a stronger relationship compared to the sample of education students. This phenomenon may be due to business/non-business students having a desire to become an entrepreneur so that they learn about the characteristics of an entrepreneur's attitude. In contrast, educational students are more likely to have the desire to become a teacher.

The effect of subjective norms on entrepreneurial intention/intention

Based on statistical tests, it can be observed that the subjective norms of students have a positive influence on student entrepreneurial intention (accepted H5). SEE model comes from the fact that encouraging people's behaviour to create an event passively, positively, or negatively will violate this passivity

Table 5 Summary of goodness of fit indices

The goodness of fit indices	Minimum	Value education	Value business	Result
RMSEA	< 0.050	0.045	0.029	Accepted
GFI	> 0.900	.921	.915	Accepted
AGFI	> 0.900	.902.	.903	Accepted
TLI	> 0.900	.932	.920	Accepted
NFI	> 0.900	.650	.711	Not accepted
CFI	> 0.900	.917	.930	Accepted

Source: data processed by authors

Table 6 Summary of data analysis results

Relationship between variables			Education		Business		Comparison of C.R.
			C.R.	Sig	C.R.	Sig	
P.B.	<--	EE	.758	+	2.753	+	Business
NS	<--	EE	3.233	+	2.980	+	Education
AE	<--	EE	2.641	+	3.763	+	Business
EI	<--	SN	3.268	+	3.172	+	Education
E.I.	<--	PB	3.555	+	2.949	+	Education
E.I.	<--	NA	2.192	+	2.085	+	Education
E.I.	<--	EA	3.161	+	4.499	+	Business
E.I.	<--	LC	2.164	+	1.414	+	Education

Source: data processed by authors

(Krueger et al. 2000). Whereas TPB was developed in social psychology, SEE was created as a deliberate model specifically for entrepreneurial research and illustrated entrepreneurial intentions (Guerrero et al. 2008). The statistical result indicates no different influence of subjective norm on the entrepreneurial intention for business student and education students. However, there is a wide gap in the regression coefficient value of business student and education students, about 3.26 and 3.12, respectively. This indicates that the influence of subjective norm on entrepreneurial intention is stronger for the business student than for the education student. The coefficient values on business students show a stronger relationship compared to the sample of education students. This phenomenon may be due to business/non-educational students having the confidence to become entrepreneurs to have a greater desire to become entrepreneurs. This belief may come from the entrepreneurial education given, family, or the campus environment where there are seniors or their friends who already have a business or desire to become an entrepreneur.

The influence of controlled behaviour on entrepreneurial intentions

Moreover, perceived controlled behaviour influences student entrepreneurial intentions (accepted H6). In this variable, the average value of entrepreneurial intention in business students is higher than for education students. This can be attributed to the fact that the lack of financing is a barrier to entrepreneurship (Rideout and Gray 2013). The SEE contains three elements that explain intentions towards entrepreneurship: perceived desire, tendency to act, and perceived worthiness (Krueger et al. 2000). The coefficient value of business students is more significant than that of education students. This shows that the perceived behaviour control of business students is more significant in influencing entrepreneurial intentions.

Based on the results of this study, although the recognition of opportunities is only the first step in the entrepreneurial process, the university should be aware the unique needs of non-business students will be the most different from the needs of business students. There are two arguments to support this statement and consistent with previous research by Drucker Peter (1996), Paffen (2004), Ehrhardt et al. (2004), and Fayolle et al. (2006). First, non-business students tend to have specialised knowledge of their chosen field domain, which leads them to the types of opportunities they recognise (Standish-Kuon and Rice 2002). Conversely, business students are taught to be more sensitive in utilising their personal and daily lives to generate business ideas. However, non-business students (or humanities education majors in this research) have the mastery of their fields, which makes it possible to generate new and innovative business ideas that become their competitive advantage compared to business students. Business students, in turn, may not be able to recognise opportunities directly from their education; that is, they do not have a 'logical product or service domain'. Second, non-business students have no prior knowledge or knowledge other than managerial and business and entrepreneurial processes. As a result, they may be less or differently aware of their entrepreneurial possibilities. Also, choices for certain studies are usually influenced by different personal interests, character traits, cognitive elements, and skills. However, by adopting the pursuit of opportunity as the main focus, entrepreneurship is no longer limited to new business. However, it is extended to different contexts, including intrapreneurship and entrepreneurship in the nonprofit sector, so that it still needs students from non-business backgrounds such as education to participate in it. Therefore, entrepreneurship education is still essential for non-business students, as their provisions create jobs following their fields. Still, the methods and curriculum must undoubtedly be distinguished from what is taught to business students. Entrepreneurship-based methods and curricula for non-business students must focus on the entire process, and

students will not only learn to find a business, business plan, and how to manage, develop, and grow their businesses. This is especially important for them, given that managerial experience and limited knowledge of non-business students.

Conclusion

Based on the study result, it can be concluded that entrepreneurship education in educational students and non-educational students has influenced student's entrepreneurial attitudes and behaviour. Data analysis states that the intention, perceived behaviour, and attitude of entrepreneurship towards entrepreneurial attitudes, and intentions in business students are higher than those of educational students. The limitations of this study are the objects of this study that are limited to university students in the education and business majors. It would be better if this research in the future could target students from various majors.

Non-business students are a large group of potential entrepreneurs. The background and motivation of their specialised knowledge require the development of a different program from the program for business students. Additionally, entrepreneurship courses are required for students recommended for non-business, and their expansion seems reasonable. For some reason, non-business students offer the target group potentially very attractive for entrepreneurial programs. First, non-business students are the majority of the student population, and therefore, they are an extensive collection of prospective employers. Second, non-business students have some characteristics promoting entrepreneurship that business students do not have. Mainly, they have specialised knowledge that is considered necessary for the recognition of business opportunities. The third factor that increases the relevance of entrepreneurship education for non-business students is the lack of awareness of the potential of starting a business as a career option. Awareness is a variable that can be influenced relatively easily through education. Indeed, when introduced to the field (perhaps for the first time), the intention of non-business students to start a business might be affected more strongly than business students because they have not considered an entrepreneurial career before. Therefore, entrepreneurship education at this time should be designed to be able to motivate potential entrepreneurs and help them to ensure the flow of ideas and critical entrepreneurs to the community. Entrepreneurship education for non-business students should receive increased attention from educators and policymakers. They might develop entrepreneurship courses and programs to encourage non-business students to pursue a career in entrepreneurship and establish and grow a successful company. Thus, the entrepreneurship-based curricula and teaching methods can be considered the determinant factors of entrepreneurial intention, attitude, and behaviour for future study.

Abbreviations EEP, entrepreneurship education program; GEI, global entrepreneurship index; SEE, Shapero's model of entrepreneurship model; SEM, structured equation model; TPB, theory of planned behaviour

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Availability of data and materials The datasets generated and/or analysed during the current study are available in https://drive.google.com/file/d/1oB_El_p62gfKkGibJFs3LVUbgd4his5X/view?usp=sharing.

Code availability The software that used in this study are SmartPLS 3.3.2 and AMOS.

Author contribution DW carried out the research framework, participated in the sequence alignment, and drafted the manuscript. HF carried out the design of study and statistical calculation. HH participated in collecting the data and performed the statistical analysis. IDC conceived the study and participated in its design and coordination and helped to draft the manuscript. All authors read and approved the final manuscript.

Declarations

Ethics approval and consent to participate Not applicable

Competing interest The authors declare no competing interests.

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