The Entrepreneurial Intentions of Students in Central and Eastern European Countries

Jelena Hartšenko
Tallinn University of Technology
Ehitajate tee 5, 19086 Tallinn, Estonia
E-mail: jelena.hartsenko@taltech.ee

Merle Küttim
Tallinn University of Technology
Ehitajate tee 5, 19086 Tallinn, Estonia
E-mail: merle.kuttim@taltech.ee

Abstract

Extensive studies on entrepreneurial intentions have confirmed its importance in the decision to embark on a career in entrepreneurship. Previous studies have emphasised different factors and their inter-connections that influence entrepreneurial intentions. The use of the theory of planned behaviour to explain entrepreneurial intentions has proved a powerful tool but considering the importance of different contexts and settings there is still a need for cross-cultural studies. This research contributes to the literature on entrepreneurial intentions by exploring the differences between the Central and Eastern European (CEE) and developed European countries participating in the survey in the GUESSS project. The results show the unique effect of attitudes to behaviour on entrepreneurial intentions in all European countries. Moreover, the results indicate a higher internal orientation in students from CEE countries and the lower importance of the judgement of other people in countries with relatively short-lived business experience. Finally, growing up in the environment of a family business, increases entrepreneurial intentions in CEE countries more than in developed European countries.

JEL classification codes: I23, L26, M13
Keywords: entrepreneurial intentions, theory of planned behaviour, CEE countries, students

1. Introduction

The development of modern societies relies heavily on entrepreneurship as one of the most powerful economic forces. Future entrepreneurial activities can greatly influence the well-being of entire populations, which makes it important to study the entrepreneurial mind-set, intentions and behaviour of young people, especially students, representing the entrepreneurs of tomorrow (Sieger, Fueglistaller & Zellweger, 2016). Entrepreneurship competence as a transversal competence is viewed as important irrespective of the field of study. The European Parliament and the Council suggests developing the sense of initiative and entrepreneurship (European Commission, 2006). More precisely, entrepreneurship competence consists of areas such as self-management, solving social situations, creative thinking and finding solutions, and acting on opportunities, which have become more widely viewed as key competences necessary for all students and also for society at-large (Venesaar et al., 2018).

The conceptual tools for analysing entrepreneurial intentions can be derived from the theory of planned behaviour, used widely in the entrepreneurial context (Kautonen, van Gelderen, & Fink, 2015; Krueger, Reilly, & Carsrud, 2000). The theory states that intentions are influenced by favourable or unfavourable attitudes to behaviour, subjective norms consisting of pressure to perform or not to perform the behaviour, and the perceived ease or difficulty of performing the behaviour or behavioural control (Ajzen 1991; Ajzen 2005). Additional factors that may impact the development of entrepreneurial intentions through the three main elements of the theory of planned behaviour include university context, family context, personal motives, and the social/cultural context (e.g. Sieger, Fueglistaller & Zellweger, 2014).

The motivation for our study is derived from the findings of previous studies stating that entrepreneurial intentions among students differ across countries, being higher in developing countries (especially, in Latin America) and lower in developed industrial countries (Sieger et al., 2016). Central and Eastern European countries (CEE countries) constitute a unique subset of emerging economies that, despite the economic discrepancies between the countries and their regions, can be identified as an innovative periphery (Eder, 2019). Furthermore, the overall rate of entrepreneurship activity, especially early-stage entrepreneurial activity, is higher in CEE countries than in more economically developed European countries, although it tends to decrease with economic development (GEM 2017/18). A study of student entrepreneurship in the Czech Republic, Hungary, Poland and Slovakia concluded that gender (being male), increasing age, intensity of entrepreneurship education, studying in a business-related field, and having entrepreneurial parents are significant drivers for student entrepreneurial intentions (Holienka, Gál & Kovačičova, 2017). There is, however, an overall need for cross-cultural studies in order to better understand the connections between different cultures and values, and entrepreneurial intentions (Liñán & Chen, 2009).

The aim of the current study is to compare the entrepreneurial intentions of university students in CEE countries with developed European countries participating in the survey. The survey is based on the Global University Entrepreneurial Spirit Students' Survey (GUESSS) project about entrepreneurship among students. The purpose of the GUESSS survey is to grasp the entrepreneurial intent and activity of students using a geographical and temporal comparison, and is led by the Swiss Research Institute of Small Business and

Entrepreneurship at the University of St. Gallen (KMU-HSG) in Switzerland (Sieger, Fueglistaller & Zellweger, 2011).

The current study is based on the GUESSS survey undertaken in 2016. The study is designed as a cross-sectional analysis and the sample consists of 53,914 students from 26 European countries[1] that have been grouped for the purpose of analysis by geographic location into two groups: CEE countries and developed European countries. Data analysis was conducted using linear regression (ordinary least squares, OLS). OLS regression was chosen as it allows us to identify the effects of a particular manipulation (Best & Wolf, 2015).

The results indicate several differences between CEE countries and developed European countries in terms of entrepreneurial intentions and their antecedents. Social norms are more likely to predict higher entrepreneurial intentions in developed European countries compared to CEE countries. This could be explained by the long history of entrepreneurship education programmes and start-up support measures in these countries that have contributed to positive overall attitudes towards entrepreneurship. However, a family background in entrepreneurship is likely to predict higher entrepreneurial intentions in CEE countries than in the remaining European countries. Family embeddedness manifests itself not only in the form of gaining entrepreneurship experience, but it allows access to human and financial capital, which is important in developing economies. Moreover, the results indicate a higher internal orientation among CEE students, showing the greater influence of an internal locus of control and self-determination in their behaviour. At the same time, attitudes to entrepreneurship describe a positive overall evaluation of entrepreneurial behaviour in CEE and developed countries. This could be explained by the fact that many European countries have implemented support for SMEs in various programmes, and becoming an entrepreneur is attractive in both developed and CEE economies. This study is one of the few that attempts to explore the differences between CEE and developed European countries regarding students who intend to start a business directly after completing their studies and 5 years later.

The article is structured so that the following section provides an overview of the theory of planned behaviour in the context of entrepreneurial intentions and studies conducted about student entrepreneurial intentions. The third section discusses the research design, sampling, data collection and data analysis. The results section indicates the main findings that are further discussed under the discussion and conclusion section. Finally, the contributions to existing literature and areas for further development are outlined.

2. Literature review

2.1. Theory of planned behaviour in the context of entrepreneurial intentions

Several theoretical approaches addressing the development of entrepreneurial intentions have been elaborated by previous studies. These include, for example, a model combining personal and contextual factors and self-efficacy (Bird, 1988; Boyd & Vozikis, 1994), a model of the entrepreneurial event (Shapero & Sokol, 1982; Krueger, 1993), the theory of planned

[1] 26 European countries include: Switzerland, Liechtenstein, Germany, Austria, France, Belgium, Finland, Hungary, Estonia, Luxembourg, Greece, Portugal, United Kingdom, Italy, Poland, Slovenia, Spain, Croatia, Albania, Czech Republic, Ireland, Lithuania, Macedonia, Norway, Slovakia, Sweden.

behaviour (Ajzen, 1991), a model of conviction that is related to personal variables for entrepreneurial intentions (Davidson, 1995; Autio et al., 1997), and a model of attitudes to entrepreneurial acts as mediators of the relationship between entrepreneurial self-efficacy and intentions towards new venture creation (Judge et al., 1998). Among these, Ajzen's Theory of Planned Behaviour (Ajzen, 1991; Ajzen, 2005) and Shapero's model of the entrepreneurial event (Karali, 2013) have been more often the focus of subsequent research.

The theory of planned behaviour was selected as the theoretical underpinning of the current study because since its introduction 26 years ago, it has been one of the most frequently cited and influential models employed for predicting human social behaviour (Ajzen, 2011). According to meta-reviews of previous studies, the two main components – attitudes and perceived behavioural control – have been shown to have a large effect on predicting intentions, while intentions and perceived behavioural control have a medium-to-large effect in predicting behaviour (Conner, 2015). The main criticisms of the theory of planned behaviour are twofold: i) some researchers deny the importance of consciousness as a causal agent and fail to see the theory as adequately explaining human social behaviour, ii) others agree with the theory's basic assumptions, but question its sufficiency or explore its limitations (Ajzen, 2011). As a result, individual applications of the theory have also contributed to extending the theory.

According to the theory of planned behaviour (Ajzen, 1991; Ajzen, 2005), entrepreneurial intentions that are found to predict entrepreneurial behaviour are influenced by attitudes towards behaviour, subjective norms and perceived behavioural control. Attitudes to behaviour indicates the extent to which a person has a favourable or unfavourable appraisal of the behaviour in question, while subjective norms refer to the perceived social pressure to perform or not to perform the behaviour, and perceived behavioural control means the perceived ease or difficulty of performing the behaviour together with previous experiences as well as expected obstacles (Ajzen, 1991, 2005).

In the context of entrepreneurial behaviour, the theory of planned behaviour has been refined to include career choice intentions in general (and entrepreneurial intentions in particular) that are influenced by the attitude towards entrepreneurship, subjective norms and perceived behavioural control (Sieger et al., 2014). The additional factors that are found to impact the evolution of entrepreneurial intentions through the three main elements of the theory of planned behaviour have also been investigated in previous studies and these include the university context, family context, personal motives, social/ cultural context, etc. Contextual factors can be further divided into individual (family entrepreneurial background, age, gender) and environmental characteristics (university environment, uncertainty avoidance) (Shirokova, Osiyevskyy & Bogatyreva, 2016; Sieger et al., 2014).

The model of entrepreneurial intentions based on the theory of planned behaviour has been revised in consecutive studies as the antecedents of entrepreneurial intentions are interlinked and hierarchical. The theory has been extended by adding new variables and examining moderation effects (Conner, 2015). Social norms have been seen as having an effect on both attitudes to entrepreneurship and perceived behavioural control (Liñán & Chen, 2009). Gender and previous work experience have also been included as moderators of entrepreneurial intentions (Soria-Barreto et al., 2017).

2.2. Overview of studies of entrepreneurial intentions

Entrepreneurial intentions have been understood differently in previous studies, having been found to denote: i) active entrepreneurship in terms of owning a business or becoming self-employed, ii) nascent entrepreneurship including those who have considered establishing their own business and those who have taken more specific steps in that regard, and iii) a collection of broader personal orientations, dispositions, desires, or interests that might lead to venture creation or towards more general entrepreneurial behaviour (Thompson, 2009). Therefore, in narrower terms, entrepreneurship means the creation and development of new businesses, and according to a broader perspective, it characterises the day-to-day activity of value-creation in society (e.g. Blenker et al., 2011; Lackeus, 2015; Venesaar et al., 2018).

International comparisons of student expectations of becoming an entrepreneur across 50 countries have shown that entrepreneurial intentions are higher in developing countries (especially, in Latin America), while developed industrial countries tend to have a lower share of intending founders (e.g. Sieger et al., 2016). There is, however, a general pattern of development from "first employee, then entrepreneur", in all countries irrespective of the level of economic development (Ibid., 2016).

Kautonen et al. (2015) have stated that attitude towards entrepreneurship, social norms and perceived behavioural control explain around 30–45% of the variance in entrepreneurial intentions, indicating the explanatory power of these constructs. Attitudes have been observed to exhibit a dissimilar effect on the intention of undertaking a business in different countries, being more important for example in Spain than in the UK (Sancho et al., 2018). Attitudes towards entrepreneurship have been found to play an important role as moderators of business intentions for Spanish students, since the direct effect of the perceived control of behaviour on intentions increases as attitudes increase (Ibid., 2018). A positive relationship between attitudes and intentions has also been found in the international student sample (e.g. Küttim et al., 2014). In summary, attitudes are believed to act as mediators of influences of personal background factors and situational variables on Entrepreneurial intentions (EI) (Krueger et al. 2000). This is supported by empirical findings that attitudes towards entrepreneurship mediate the relationship between EI and more distal variables, such as perceived behavioural control and social support (subjective norms) (Palmer et al., 2019). This leads to the following hypothesis:

H1: Attitudes towards entrepreneurship are positively related to entrepreneurial intentions in developed European and CEE countries.

The effects of the remaining two main components of the theory of planned behaviour differ. Perceived behavioural control (PBC) is modelled as a factor contributing to intention in the theory of planned behaviour (Ajzen, 1991), but may also serve as a direct predictor of behaviour. PBC can be seen as an individual (or endogenous) factor for attitudes, whereas subjective norms is a situational (or exogenous) factor (Palmer et al., 2019). The differentiation between the internal and external locus of control is important for explaining how employees approach work, both attitudinally and behaviourally (Ng, Sorensen & Eby, 2006). Souitaris, Žerbinati and Al-Laham (2007) have found of an entrepreneurship education programme has an insignificant effect on perceived behavioural control due to possible high levels of self-confidence at the start of the programme. Other studies have found perceived behavioural control to be positively connected with entrepreneurial intentions (Küttim et al., 2014; Palmer et al., 2019).

The role of subjective norms in the theory of planned behaviour has been traditionally weak, playing a different role in more individualistic and collective cultures (Liñán & Chen, 2009). Subjective norms have been found to exert a positive influence on perceived behavioural control (Sancho et al., 2018). There are cases, however, where social norms are not significant, as in less economically developed contexts perceived social pressure has been found to lose its relevance for entrepreneurial intention (Soria-Barreto et al., 2017). Yet there is a strong case for facilitating an entrepreneurially friendly culture, as valuing entrepreneurship as a career option in society-at-large increases the likelihood of it being valued by the more immediate environment of individuals (Liñán & Chen, 2009). In terms of different country groups, the Global Entrepreneurship Monitor has indicated that cultural and social norms tend to be more important for entrepreneurship activity in economically developed countries, being higher in innovation-driven countries than in efficiency-driven countries, where most of the CEE countries belong (GEM, 2017/18). This leads us to develop the following hypotheses:

H2: The positive relationship between social norms and entrepreneurial intentions is stronger for students in developed European countries than for students from CEE countries.

H3: The positive relationship between perceived behavioural control and entrepreneurial intentions is stronger for students in CEE countries than for students from developed European countries.

Previous studies have shown that studying entrepreneurship contributes positively to the development of entrepreneurial intentions (Izquierdo & Buelens, 2008; Lüthje & Franke, 2003; Peterman and Kennedy, 2003; Kolvereid & Moen, 1997; Souitaris et al., 2007; Fayolle, Gailly & Lassas-Clere, 2006; Küttim et al., 2014; Soria-Barreto et al., 2017; Hartšenko & Venesaar, 2017). This finding should, nevertheless, be interpreted with caution, as the content and context of entrepreneurship education programmes in different institutions, regions and countries could differ widely (Fayolle et al., 2006). A more detailed analysis of the effect indicates that in the Austrian context entrepreneurship education increases entrepreneurial intentions, but the intentions of science and engineering students are negatively affected by subjective norms, whereas those of business students are not (Maresch et al., 2015). For science and engineering students in the UK, entrepreneurship education has been demonstrated to raise some attitudes and overall entrepreneurial intentions (Souitaris et al., 2007).

In terms of family background, students having an entrepreneurial family background in Austria and Liechtenstein were found to lead to higher scores in entrepreneurial intentions and its antecedents (subjective norms, perceived behavioural control, and dominance, i.e. striving for autonomy and power) (Palmer et al., 2018). Similar results have been obtained based on an international sample, as having or having had self-employed parents has a weak positive effect on entrepreneurial intentions both right after and five years after studies (Küttim et al., 2014). According to Zellweger, Sieger and Halter (2011), students with a family business background are optimistic about their efficacy in pursuing an entrepreneurial career. Sieger and Minola (2017) have studied the effects of family embeddedness on entrepreneurial intentions, which may manifest itself in enhanced recognition of opportunities, encouragement, the prospect of better firm performance, and facilitated access to critical resources like cheap labour, knowledge, emotional support, business contacts, and financial capital. According to the Global Entrepreneurship Monitor, access to finance is higher in innovation-driven countries compared to efficiency-driven countries,

where most of the CEE countries belong (GEM, 2017/18). This leads to the following hypothesis:

H4: A family background in entrepreneurship is more likely to predict higher entrepreneurial intentions in CEE countries compared to European countries.

Regarding gender, a moderating effect of gender on entrepreneurial intentions has been found as skills impact entrepreneurial intentions differently for men and women in Chile and Columbia, where the former tend to be overconfident and the latter often lack self-confidence for running a business (Soria-Barreto et al., 2017). The results of a survey with business students in Belgium indicate that the effect of gender on entrepreneurial intentions is mediated via personal attitudes and perceived behavioural control, as female students valued entrepreneurship more as a means of retaining autonomy and balancing work and family life and attributed more importance to having adequate knowledge and capabilities for entrepreneurship (Maes, Leroy & Sels, 2014).

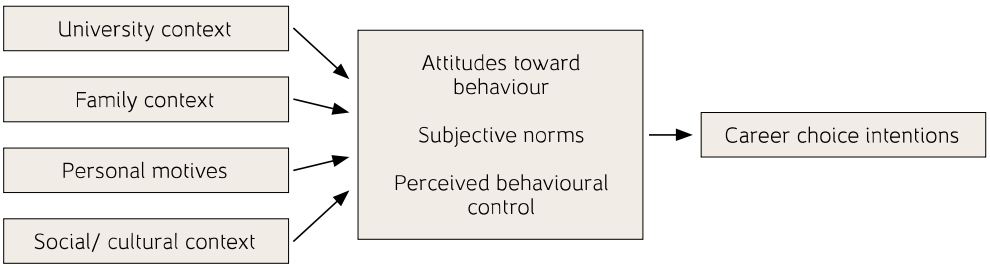
Level of study relates to a widely found time-lag between entrepreneurial intentions and behaviour, especially concerning undergraduates (Souitaris et al., 2007). There might be gender differences as female MA and PhD students have been found to exhibit higher levels of entrepreneurial intentions than males in Estonia and Hungary (Hartšenko & Venesaar, 2017). However, studies have also found bachelor students to be more interested in entrepreneurship than higher-level students both right after studies and five years after studies (Küttim et al., 2014).

Study field has yielded mixed results. Studying business and economics has been found to be negatively related to entrepreneurial intentions in the international sample of students (Küttim et al., 2014). Then again, Austrian students who have previously received a business education have been found to acquire and more likely process the knowledge related to entrepreneurship profiting more from entrepreneurship education (Maresch et al., 2015).
In regard to age, the older the students are, the more likely they are to have stronger entrepreneurial intentions (Küttim et al., 2014). Also, in other studies young college students with working experience have been found to be less interested in starting their company in the future (Soria-Barreto et al., 2017). Older students with a family background in entrepreneurship, strong positive attitudes to entrepreneurship and high self-efficacy have been found to be more likely to have higher entrepreneurial intentions (e.g. Hartšenko & Venesaar, 2017).

It may be concluded from an overview of previous studies that the theory of planned behaviour has been applied on numerous occasions in the study of entrepreneurial intentions with different outcomes. The results reflect the diversity in the sampling, and entrepreneurship education, university and country contexts that all influence and moderate the relationship between entrepreneurial intentions and its antecedents.

The theoretical framework for the current study is based on the application of the theory of planned behaviour in the GUESSS survey (Sieger et al., 2014) (Figure 1).

Figure 1. Theoretical framework of the study



Source: Sieger et al., 2014

According to the framework, attitudes towards behaviour, subjective norms and perceived behavioural control act as antecedents for career choice intentions, including the intention to become a founder. These are in turn influenced by the university context, family context, personal motives of students and social/cultural context. This framework allows us to take into account the wider context of the student, consisting of both individual and environmental factors (Shirokova et al., 2016; Sieger et al., 2014), which allows us to offer a more comprehensive explanation of the development of entrepreneurial intentions.

3. Methodology

3.1. Sample

The secondary data were obtained from the Global University Entrepreneurial Spirit Students' Survey (GUESSS). GUESSS collects data in many countries every 2 years. This is done through a centrally managed online survey which includes validated and up-to-date measurement instruments (GUESSS, 2019). GUESSS is a research project about the context of entrepreneurship and its goal is to observe the entrepreneurial intentions and activity of students over the long term. In accordance with the aim of our analysis, we limited the sample geographically to European countries. We focused on a sample of CEE (Estonia, Poland, Hungary, Slovenia, Slovakia, Czech Republic, Lithuania, Macedonia, Croatia, Albania) and other European countries. Features shared by CEE countries were taken into account to improve external validity. Some specific features of CEE countries include: short developmental period under a market economy and being in a stage of transition from an efficiency-driven to an innovation-driven economy.

The respondents that are already entrepreneurs or were in the past are excluded from the sample. We also excluded observations with missing values for any item from the dependent and independent variables. According to the theoretical model, we focus on career choice intentions and our sample consists only of students who want to become a founder directly after completing their studies and 5 years later. This left us with the sample of 15,180 individuals from 26 countries (10 CEE countries and 16 European countries) and 498 universities.

Most of the students in the sample were female 57.1% and the rest were male (42.9%). The average age of the students was 24 years (SD 4.2). The sample for the study was grouped for

the purpose of analysing on the basis of geographic location in two groups. A considerable proportion of the students with entrepreneurship education experience was in CEE countries. The proportion of students with a family background in entrepreneurship was lower in CEE countries than in the other European countries. Most of the respondents were bachelor level students (73%).

3.2. Measures

Our dependent variable indicates the intention to start and run a business. In the questionnaire, the entrepreneurial intentions of students are operationalised using a 7-point Likert scale. Students were offered 6 statements (items) to assess: *I am determined to create a business in the future, I will make every effort to start and run my own business, I have the strong intention to start a business someday, My professional goal is to become an entrepreneur, I have very seriously thought of starting a business, and I am ready to do anything to be an entrepreneur.* An average score on all items was calculated for the analysis. The reliability of the scale is confirmed as Cronbach's alpha is greater than 0.8 (Table 1).

The explanatory variables in our analysis can be grouped into several categories. The list of dependent and independent variables and statements that were measured on a 7-point Likert scale are presented in Appendix 1.

- **First**, the demographic attributes included gender (male=1, female=0), age in years, field of study (Law, Business and Economics (LEBS)=1, non-business=0), level of study (Bachelor=1, Master/PhD=0).
- **Second**, the individual human and social capital characteristics included entrepreneurial skills (*Managing innovation within a firm, Commercialising a new idea or development, Building up a professional Network, Successfully managing a business, Being a leader and Communicator, Creating new products and services, Identifying new business opportunities*), entrepreneurship education (voluntary/obligatory course=1, no course=0), programme learning (*enhanced my practical management skills in order to start a business, increased my understanding of the actions someone has to take to start a business, increased my understanding of the attitudes, values and motivations of entrepreneurs, enhanced my ability to identify an opportunity, enhanced my ability to develop networks*) and having parents as entrepreneurs (at least one of parents=1, none=0).
- **Third**, variables assessing the perceived institutional support included university environment (*There is a favourable climate for becoming an entrepreneur at my university, At my university, students are encouraged to engage in entrepreneurial activities, The atmosphere at my university inspires me to develop ideas for new businesses*), and students' individual perception of the uncertainty avoidance level in society (*In my society most people lead highly structured lives with few unexpected events, Societal requirements and instructions are spelled out in detail so citizens know what they are expected to do, Orderliness and consistency are stressed, even at the expense of experimentation and innovation*).
- **Last**, the TPB elements include attitude towards entrepreneurship, subjective norms and perceived behavioural control. Questions have been measured on a 7-point Likert scale (1=strongly disagree to 7=strongly agree):
  1) The attitude towards entrepreneurship (ATE) corresponds to the degree to which the

student has positively or negatively valued the option to become an entrepreneur compared to other occupational options. In this study, five different statements about being an entrepreneur are included: *Being an entrepreneur would entail great satisfactions for me, Among various options, I would rather become an entrepreneur, A career as an entrepreneur is attractive for me, If I had the opportunity and resources, I would become an entrepreneur, Being an entrepreneur implies more advantages than disadvantages to me.*

2) Subjective norms (SN) indicate a respondent's perception about being an entrepreneur, which is influenced by the judgement of other people. Three statements are used to show how much the student cares about the opinion of parents, friends/fellow students and other important people.
3) With regard to previous research about EI and the theory of planned behaviour (Shirokova et al., 2016) locus of control (PBC) refers to the related dispositional psychological trait and is taken into account to test perceived behavioural control. The following statements are included: *When I make plans, I am almost certain to make them work, I can pretty much determine what will happen in my life, I am usually able to protect my personal interests.*

Furthermore, we included a dummy variable CEEC (CEE countries=1, other European countries=0).

3.3. Data analysis

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS Statistics 20) and STATA 13. The results of the descriptive statistics are presented in Table 1. All variables have been calculated as an average of several sub-questions that were measured on a 7-point Likert scale.

Table 1. Average score, standard deviation and Cronbach's alpha for selected variables

	Mean	Std. Deviation	Cronbach's Alpha	N of Items
Entrepreneurial intentions (EI)	5.283	1.316	0.92	6
Attitude towards behaviour (ATE)	5.650	1.107	0.90	5
Subjective norms (SN)	5.838	1.022	0.74	3
Locus of control (PBC)	5.343	1.033	0.72	3
Entrepreneurial skills (ES)	4.920	1.100	0.89	7
Programme learning (PL)	4.037	1.492	0.90	5
University environment (EU)	4.024	1.574	0.89	3
Uncertainty avoidance (UA)	4.454	1.189	0.72	3

The reliability of the scale is confirmed as Cronbach's alpha is greater than 0.7 for the selected variables. The correlation matrix is presented in the following Table 2.

Table 2. Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 EI	1	.371**													
2 PBC	.371**	1													
3 ATE	.749**	.431**	1												
4 SN	.276**	.262**	.323**	1											
5 CEEC	0.005	.066**	.016*	0.005	1										
6 ES	.496**	.464**	.476**	.272**	-.034**	1									
7 PL	.217**	.206**	.194**	.191**	.073**	.344**	1								
8 UE	.164**	.182**	.146**	.201**	.025**	.245**	.702**	1							
9 UA	.135**	.164**	.179**	.053**	-.043**	.178**	.090**	.072**	1						
10 EE	.152**	.076**	.142**	.055**	.300**	.156**	.337**	.240**	.021**	1					
11 Bachelor	.021**	-.018*	-0.001	.021**	-0.004	-.016*	-0.004	.019*	-0.009	-.069**	1				
12 LEBS	.111**	.023**	.112**	.046**	.067**	.101**	.226**	.137**	.033**	.270**	0.006	1			
13 Family	.070**	.025**	.050**	.069**	-.057**	.060**	0.008	0.004	-0.014	-0.006	-0.015	.016*	1		
14 Gender	-.116**	-.021*	-.103**	.030**	.108**	-.097**	-0.011	-0.003	-.045**	-0.012	0.007	.035**	0.003	1	
15 Age	.049**	.032**	.055**	-.032**	-.123**	.070**	0.005	-.021*	0.009	-0.002	-.346**	-.046**	-.060**	-.081**	1

Note: ** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The highest correlation coefficient between the dependent and independent variables is 0.749 (between entrepreneurial intentions and ATE). The highest correlation coefficient between the studied constructs is 0.7 (between programme learning and university environment) implying only 39% of the shared variance. This removes concerns about possible multicollinearity.

To validate the measurement model for the scales employed, a confirmatory factor analysis was performed. All indicators have square loadings higher than 0.4 indicating a satisfactory reliability. For the convergent validity, an Average Variance Extracted (AVE) number of over 0.5 was deemed an appropriate finding (see Appendix 1).

The empirical analysis of the theoretical framework was performed using a hierarchical OLS regression. Adding interaction terms to a regression model expands the understanding of the relationships among the variables in the models and allows more hypotheses to be tested.

In empirical work in economics it is common to report standard errors that account for the clustering of units. Typically, the motivation given for the clustering adjustments is that unobserved components in outcomes for units within clusters are correlated (Abadie et al., 2017). In our case, the idiosyncratic characteristics of individual universities where the data were collected might make the observations within each of them non-independent. This non-independence of observations within clusters will overstate the effects of the standard OLS estimation, leading to type I errors; the cluster-robust inference employed in our analysis eliminates this threat (Shirokova et al., 2016). To control for possible heteroskedasticity in

the OLS estimation, we employed heteroskedasticity-robust standard errors adjusted for university clusters, as the observations (students) are nested within the universities.

The average Variance Inflation Factor (VIF) indices for regression models were in the range 1.2 – 1.79, below the recommended maximum of 5, eliminating possible multicollinearity concerns.

The results of the hypothesis testing using the hierarchical OLS regression analysis are presented in Table 3. The testing was performed in three steps: the whole sample (Model 1), CEEC effect (Model 2) and CEEC interactions effects (Model 3); and separately CEEC (Models 4, 5), and developed European countries (Models 6, 7).

Table 3. OLS regression results for entrepreneurial intention

	All sample			CEEC		European countries	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	EI	EI	EI	EI	EI	EI	EI
ATE	0.851***	0.777***	0.790***	0.830***	0.761***	0.865***	0.787***
	(0.0121)	(0.0129)	(0.0180)	(0.0156)	(0.0168)	(0.0180)	(0.0191)
SN	0.0399***	0.0164**	0.0310***	0.0195*	-0.00349	0.0538***	0.0302***
	(0.00796)	(0.00746)	(0.00994)	(0.0107)	(0.0106)	(0.0108)	(0.00983)
Locus of control	0.0694***	0.00644	-0.0204	0.118***	0.0504***	0.0398***	-0.0214
	(0.0104)	(0.0108)	(0.0141)	(0.0148)	(0.0139)	(0.0137)	(0.0149)
CEEC		-0.0120	-0.0133				
		(0.0238)	(0.117)				
EN skills		0.196***	0.196***		0.186***		0.205***
		(0.0115)	(0.0114)		(0.0160)		(0.0160)
EN education		0.0699***	0.0705***		0.0216		0.106***
		(0.0181)	(0.0181)		(0.0305)		(0.0223)
Programme learning		0.0144**	0.0135*		0.0122		0.0108
		(0.00729)	(0.00719)		(0.0118)		(0.00915)
University environment		0.00545	0.00591		0.0158		0.000663
		(0.00697)	(0.00688)		(0.0118)		(0.00852)
Uncertainty avoidance		-0.0186***	-0.0187***		-0.0243***		-0.0151*
		(0.00575)	(0.00579)		(0.00802)		(0.00803)
Bachelor		0.0908***	0.0901***		0.103***		0.0832***
		(0.0189)	(0.0189)		(0.0270)		(0.0266)
Business field		0.0303*	0.0305*		0.0384		0.0238
		(0.0181)	(0.0180)		(0.0300)		(0.0223)
Family		0.0765***	0.0555***		0.119***		0.0514***
		(0.0141)	(0.0181)		(0.0219)		(0.0181)
Gender		-0.0869***	-0.0816***		-0.0907***		-0.0829***
		(0.0139)	(0.0183)		(0.0220)		(0.0182)
Age		0.00372	0.00389		0.0171***		-0.00307
		(0.00250)	(0.00249)		(0.00446)		(0.00257)
CEEC#ATE			-0.0308				
			(0.0226)				
CEEC#SN			-0.0351**				
			(0.0146)				
CEEC*Locus of control			0.0688*** (0.0189)				
CEEC* Family			0.0534* (0.0287)				
CEEC* Gender			-0.0110 (0.0284)				
Constant	-0.127*	-0.372***	-0.383***	-0.167**	-0.676***	-0.123	-0.220*
	(0.0690)	(0.0891)	(0.117)	(0.0728)	(0.120)	(0.108)	(0.124)
N	15180	15180	15180	6340	6340	8840	8840
R-sq	0.565	0.591	0.591	0.588	0.613	0.549	0.577
F	2932.8	1084.2	1037.0	2866.7	1255.2	1234.0	476.1

Note: Standard errors in parentheses; * p<0.10, **p<0.05, *** p<0.01.
Heteroskedasticity-robust standard errors clustered at the university level.

As can be seen from Table 3, hypothesis 1, regarding the positive impact of attitudes to entrepreneurship prove significant in relation to entrepreneurial intentions (all models). Higher self-efficacy shows that becoming an entrepreneur and successfully managing a business is attractive in developed countries as in CEEC.

Hypotheses 2 and 3 were tested. Our findings suggest that the interaction effects of two TBP elements: subjective norms and locus of control, with CEEC were found to be significant in model 3. The interaction effect of locus of control for entrepreneurial intentions is stronger in the CEE countries. It shows a higher internal orientation or belief that students can influence their lives in the CEE countries. In developed European countries, students with more external locus of control believe that their future is determined more by the external environment. However, the interaction term between the CEE countries and subjective norms negatively affected this relationship. This means that the opinions of others are less important in CEE countries. In regard to attitudes to behaviour (ATE), the coefficient of the interaction term appeared to be insignificant showing the unique effect of ATE on entrepreneurial intentions in Europe.

Hypothesis 4 was supported. As indicated by Table 3, growing up in a family business increases entrepreneurial intentions in CEE countries more than in developed European countries (interaction term in model 3, model 5 and 7). At the same time, students with a family background of entrepreneurship have greater intentions to start their own business across the entire sample.

In regard to the control variables, there is a clear influence of gender on intentions. Being female decreases entrepreneurial intentions in total, which is in line with the previous research in other countries. However, there was a positive significant effect in terms of programme learning, entrepreneurial education and skills in models 2 and 3. Participants in entrepreneurship education and programme learning with higher entrepreneurial skills are more likely to intend to start and run their own business compared to non-participants in European countries. This shows that entrepreneurship education and entrepreneurial skills are key determinants of entrepreneurial intentions and activities. Moreover, entrepreneurial skills are significantly and positively related to entrepreneurial intentions in both country groups. Therefore, building up these skills seems to be a relevant way to boost student entrepreneurial intentions. At the same time, the university environment shows an insignificant connection with entrepreneurial intentions.

Bachelor students are more likely to have greater entrepreneurial intentions than students from a higher level of study (MA or PhD). Uncertainty avoidance shows a negative effect in relation to entrepreneurial intentions in the CEE and more developed European countries. Contrary to one previous study (Küttim et al., 2014), studying Law, Business and Economics has been found to be positively related to entrepreneurial intentions in the full sample of students, but an insignificant effect is found in the sub-samples. This is in line with the previous GUESSS report (Sieger et al., 2011) where Business and Economics students (the sample of 26 countries) were classified as the most entrepreneurial students.

4. Discussion

In terms of the elements of the theory of planned behaviour model, this research confirms that an entrepreneurial attitude is the main driver of entrepreneurial intentions in both the CEE and developed European countries. The effects of the remaining two main

components of the theory of planned behaviour differ. Social norms are a significant driver of entrepreneurial intentions in developed European countries, but insignificant in CEE countries. This could be explained by the long history of entrepreneurship education programmes and start-up support measures in these countries that have contributed to positive overall attitudes towards entrepreneurship. At the same time, locus of control is a strong driver of entrepreneurial intentions in CEE countries but is not significant in developed European countries. In addition, the interaction effect of locus of control on entrepreneurial intentions indicates the same pattern, that it is higher in CEE countries than in developed European countries. This finding indicates the difference between developed and developing market economies. A specific feature of CEE countries is short experience under a market economy and being in the stage of transition. We conclude that students who have shown the intention to choose an entrepreneurship career after graduation or 5 years later in CEE countries, are more self-confident and have a strong motivation to realise their intentions.

The analysis supports previous findings that an entrepreneurial family background is conducive to student entrepreneurial intentions, as this variable is significant in all the models. This result confirms the results of previous studies (e.g. Zellveger et al., 2011; Sieger, Fueglistaller & Zellweger, 2019).

The findings regarding gender are not very surprising because previous studies have also shown that men dominate in entrepreneurship (Kolvereid & Moen, 1997; Küttim et al., 2014; Sieger et al., 2016; Hartšenko & Venesaar, 2017). It is important for policy makers to overcome these gaps and encourage more women to start and run their own businesses.

The results of previous research generally support the positive effect of entrepreneurship education on entrepreneurial intentions (e.g. Solesvik, 2012; Pittaway & Cope, 2007; Linan & Fayolle, 2015), although some previous studies have also shown a negative effect (e.g. Oosterbeek, Praag & Ijsselstein, 2010). The results of the current study confirm the importance of entrepreneurial skills and education in developed European countries, but not in CEE countries. It is a surprising finding that students in CEE countries did not mention the role of universities and the impact of entrepreneurship education in the realisation of their intentions. This is an indication of the need to develop education policies to increase the impact of the entrepreneurial attitudes of students on entrepreneurial intentions through the development of entrepreneurship education.

The study has several limitations. The first limitation is its reliance on self-reported data. Previous applications of the theory of planned behaviour show that the intention-behaviour link is stronger in studies using self-reported data (Kautonen et al., 2015). Another limitation is that we studied university students from those countries who participated in the study, which does not provide a comprehensive overview of entrepreneurial intentions in all CEE countries. Due to the very different response rates in the selected countries, the results of the study should be interpreted with caution. Last, it is also worth bearing in mind that the CEE countries in the sample have very different levels of development – Estonia and Slovenia are classified among innovation-driven countries being in one group with developed European countries (e.g. GEM, 2016/17). The other CEE countries (Poland, Hungary, Slovenia, Czech Republic, Lithuania, Macedonia, Croatia, Albania) are partly divided into a group of efficiency-driven countries. Therefore, the results of this analysis provide an overview of a selection of CEE countries, but at the same time, point out differences from developed European countries, showing also the need for new studies without this limitation.

5. Conclusion

The results of the current research contribute to a better understanding of the factors influencing the entrepreneurial intentions among students in CEE countries with a relatively short experience of entrepreneurship, using the cognitive profiles of different groups of students. The features of the CEE countries have been outlined by analysing the similarities and differences between CEE and developed European countries in terms of the effect of factors influencing the entrepreneurial intentions among students. The sample includes students from 26 countries who intend to start their own enterprise either right after graduation or 5 years later.

This study is one of the few studies that attempts to explore the differences between CEE and developed European countries regarding students who intend to start a business directly after completion of their studies and 5 years later. At the cultural level, the difference suggests that in CEE countries students are more inclined to take social action to better their lives, whereas in the cultures of developed European countries students are more dependent on institutions such as authorities and governments. On the contrary, social norms are more likely to predict higher entrepreneurial intentions in the developed European countries. This could be explained by the long history of entrepreneurship education programmes and start-up support measures in these countries contributing towards positive overall attitudes to entrepreneurship. Understanding this difference is important because the internal locus of control and social norms are a part of entrepreneurial behaviour. Moreover, empirical evidence shows this importance increases the impact of entrepreneurship education and the role of universities in CEE countries with their relatively short experience of developing a market economy. There is a need to support entrepreneurial activity; for example, by integrating EE into curricula, employing action-based learning and mentoring or giving students experience in companies. It can, therefore, be expected that university students might benefit from entrepreneurship education and an entrepreneurial university environment. Moreover, building up entrepreneurial skills seems a relevant way to boost student entrepreneurial intentions. The findings of this study have important implications for education policy makers in the economies of the CEEC to encourage graduates to pursue their entrepreneurial intentions.

References

Abadie, A. & Athey, S., & Imbens, G., & Wooldridge, J. (2017). When Should You Adjust Standard Errors for Clustering? *NBER Working Paper No. 24003*

Ajzen, I. (1991). The Theory of Planned Behaviour. *Organizational Behaviour and Human Decision Processes, 50*(2), 179-211.

Ajzen, I. (2005). *Attitudes, Personality and Behaviour.* New York: Open University Press.

Ajzen, I. (2011). The theory of planned behaviour: reactions and reflections. *Psychology and Health, 26*(9), 1113-1127.

Autio, E., Keeley, R. H., Klofsten, M., & Ulfstedt, T. (1997). Entrepreneurial intent among students: testing an intent model in Asia, Scandinavia and USA. In: Paul D. Reynolds (Ed.), *Frontiers of Entrepreneurship Research, Proceedings of the seventeenth annual Entrepreneurship Research Conference* (pp. 133-147). Wellesley, Mass.: Babson College.

Best, H., & Wolf, C. (2015). Logistic regression. The Sage Handbook of Regression Analysis and Causal Inference (pp. 153-172). London: Sage publication, Inc.

Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. *Academy of Management Review, 13*(3), 442-453.

Blenker, P., Korsgaard, S., Neergaard, H., & Thrane, C. (2011). The questions we care about: Paradigms and progressions in EE. *Industry and Higher Education, 25*(6), 417–427.

Boyd, N. G., & Vozikis, G. S. (1994). The influence of self-efficacy on the development of entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice, 18*(4), 63-77.

Conner, M. (2015). Extending not retiring the theory of planned behaviour: a commentary on Sniehotta, Presseau and Araújo-Soares. *Health Psychology Review, 9*(2), 141-145. 10.1080/17437199.2014.899060.

Davidsson, P. (1995). Determinants of entrepreneurial intentions. In: *RENT XI Workshop*, Nov 23 to 24 1995, Piacenza, Italy.

Eder, J. (2019). Innovation in the periphery: A critical survey and research agenda. *International Regional Science Review, 42*(2), 119-146.

European Commission (2006). Key competences for lifelong learning. Recommendation of the members of the European Parliament and the Council (2006/962/EC; 18 December). Brussels: Commission of the European Communities. Retrived from https://eur-lex.europa.eu/legal-content/ET/TXT/HTML/?uri=CELEX:32006H0962&from=EN.

Fayolle, A., Gailly, B., & Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programmes: a new methodology. *Journal of European Industrial Training, 30*(9), 701–720. http://dx.doi.org/10.1108/03090590610715022

GEM. (2016/17). Global report. Retrieved from December 18, 2019 https://www.gemconsortium.org/report.

GEM. (2017/18). Global report. Retrieved from December 20, 2019 https://www.gemconsortium.org/report.

GUESSS (2019). Retrieved from December 20, 2019. http://www.guesssurvey.org/goals/

HaridusSilm (2016). *Higher education. General statistics*. Retrieved from November 11, 2016 http://www.haridussilm.ee/.

Hartšenko, J., & Venesaar, U. (2017). Impact of Entrepreneurship Teaching Models on Students' Entrepreneurial Intentions: The Case of Estonia and Hungary. *Research in Economics and Business: Central and Eastern Europe, 9*(1), 72-92.

Holienka, M., Gál, P., & Kovačičova, Z. (2017). Drivers of student entrepreneurship in visegrad four countries: Guesss evidence. *Central European Business Review, 6*(2), 2017

Izquierdo, E., & Buelens, M. (2008). Competing models of entrepreneurial intentions: the influence of entrepreneurial self-efficacy and attitudes. Presentado en Internationalizing Entrepreneurship Education and Training, IntEnt2008 Conference, 17–20 Julio 2008, Oxford, Ohio, USA. Este artículo obtuvo el Best Paper Award, 3rd rank.

Judge, T. A., Erez, A., & Bono, J. E. (1998). The power of being positive: The relation between positive self-concept and job performance. *Human Performance, 11*(2-3), 167-187.

Karali, S. (2013). The impact of entrepreneurship education programs on entrepreneurial intentions: An application of the theory of planned behaviour. Master Thesis. Erasmus University of Rotterdam.

Kautonen, T., M. van Gelderen, & Fink, M. (2015). Robustness of the Theory of Planned Behavior in Predicting Entrepreneurial Intentions and Actions. *Entrepreneurship Theory and Practice, 39*(3), 655–674.

Kolvereid, l., & Moen, Ø. (1997). Entrepreneurship among business graduates: does a major in entrepreneurship make a difference? *Journal of European Industrial Training, 21*(4), 154–160.

Krueger, N. (1993). The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship Theory and Practice, 18*(1), 5-21.

Krueger, N., M. D. Reilly, & Carsrud, A. L. (2000). Competing Models of Entrepreneurial Intentions. *Journal of Business Venturing, 15*(5–6), 411–432.

Küttim, M., Kallaste, M., Venesaar, U., & Kiis, A. (2014). Entrepreneurship education at university level and students' entrepreneurial intentions. P*rocedia-Social and Behavioral Sciences, 110*, 658-668.

Lackéus, M. (2015). *Entrepreneurship in education: What, why, when, how.* Entrepreneurship, OECD.

Liñán, F., & Chen, Y. W. (2009). Development and cross–cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship theory and practice, 33*(3), 593-617.

Liñán, F., & Fayolle, A. (2015). A systematic literature review on entrepreneurial intentions: citation, thematic analyses, and research agenda. *International Entrepreneurship and Management Journal, 11*(4), 907-933.

Lüthje, C. & Franke, N. (2003). The 'making' of an entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT. R&D Management, 33(2), 135–147. http://dx.doi.org/10.1111/1467-9310.00288

Maresch, D., Harms, R., Kailer, N., & Wimmer-Wurm, B. (2016). The impact of entrepreneurship education on the entrepreneurial intention of students in science and engineering versus business studies university programs. *Technological forecasting and social change, 104*, 172-179.

Maes, J., Leroy, H., & Sels, L. (2014). Gender differences in entrepreneurial intentions: A TPB multi-group analysis at factor and indicator level. *European Management Journal, 32*(5), 784-794.

Ng T. W. H., Sorensen K. L., & Eby L. T. (2006). Locus of control at work: a meta-analysis. *Journal of Organisational Behaviour, 27*(8), 1057–1087.

Oosterbeek, H., van Praag, M., & Ijsselstein, A. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivations. *European Economic Review, 54*(3), 442–454

Palmer, C., Fasbender, U., Kraus, S., Birkner, S., & Kailer, N. (2019). A chip off the old block? The role of dominance and parental entrepreneurship for entrepreneurial intention. *Review of Managerial Science*, 1-21.

Peterman, N. E., & Kennedy, J. (2003). Enterprise education: influencing students' perceptions of entrepreneurship. *Entrepreneurship: Theory and Practice, 28*(2), 129–144. http://dx.doi.org/10.1046/j.1540-6520.2003.00035.x

Pittaway, L., & Cope, J. (2007). Entrepreneurship education: A systematic review of the evidence. *International small business journal, 25*(5), 479-510.

Sancho, L. M. P., Martín-Navarro, A., & Ramos-Rodríguez, A. R. (2018). Will they end up doing what they like? The moderating role of the attitude towards entrepreneurship in the formation of entrepreneurial intentions. *Studies in Higher Education, 43*, 1-18. DOI: 10.1080/03075079.2018.1539959.

Shirokova, G., & Osiyevskyy, O., & Bogatyreva, K. (2016). Exploring the intention-behavior link in student entrepreneurship: Moderating effects of individual and environmental characteristics. *European Management Journal, 34*(1), 1-14. 10.1016/j.emj.2015.12.007.

Sieger, P., Fueglistaller, U., & Zellweger, T. (2011). Entrepreneurial Intentions and Activities of Students across the World. International Report of the GUESSS Project 2011. St. Gallen: Swiss Research Institute of Small Business and Entrepreneurship at the University of St. Gallen (KMU-HSG).

Sieger, P., Fueglistaller, U., & Zellweger, T. (2014). Student entrepreneurship across the globe: a look at intentions and activities. St. Gallen: Swiss Research Institute of Small Business and Entrepreneurship at the University of St. Gallen (KMU_HSG).

Sieger, P., Fueglistaller, U., & Zellweger, T. (2016). Student Entrepreneurship 2016: Insights from 50 Countries. St. Gallen/Bern: KMU-HSG/IMU.

Sieger, P., & Minola, T. (2017). The family's financial support as a "poisoned gift": A family embeddedness perspective on entrepreneurial intentions. *Journal of Small Business Management, 55*(S1), 179-204.

Sieger, P., Fueglistaller, U., Zellweger, T., & Braun, I. (2019). Global Student Entrepreneurship 2018: Insights From 54 Countries. St.Gallen/Bern: KMU-HSG/IMU.

Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. *Encyclopedia of entrepreneurship*, 72-90. Available at SSRN: https://ssrn.com/abstract=1497759

Solesvik, M. (2012). Entrepreneurial competencies in emerging economy context. The 17th Nordic Conference on Small Business Research, Helsinki.

Soria-Barreto, K., Honores-Marin, G., Gutiérrez-Zepeda, P., & Gutiérrez-Rodríguez, J. (2017). Prior exposure and educational environment towards entrepreneurial intention. *Journal of Technology Management & Innovation, 12*(2), 45-58.

Souitaris, V., Zerbinati, S., & Al-Laham, A. (2007). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing, 22*(4), 566–591. http://dx.doi.org/10.1016/j.jbusvent.2006.05.002

Thompson, E. R. (2009). Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric. *Entrepreneurship Theory and Practice, 33*(3), 669–694. http://dx.doi.org/10.1111/j.1540-6520.2009.00321.x

Venesaar, U., Täks, M., Arro, G., Malleus, E., Loogma, K., Mädamürk, K., & Toding, M. (2018). Ettevõtluspädevuse mudel ettevõtlusõppe arendamise alusena (Entrepreneurship competence model as the basis for the development of entrepreneurship education). *Estonian Journal of Education, 6*(2), 118-155.

Zellweger, T., Sieger, P., & Halter, F. (2011). Should I stay or should I go? Career choice intentions of students with family business background, *Journal of Business Venturing, 26*(5), 521-536.

Appendix. Confirmatory Factor Analysis results

Latent variable	Indicator	Loading	Indicator reliability	Composite reliability	AVE
Attitude towards behaviour	Being an entrepreneur would entail great satisfactions for me.	0.92	0.8464	0.7755	0.9450
	Among various options, I would rather become an entrepreneur.	0.912	0.8317		
	A career as entrepreneur is attractive for me.	0.908	0.8245		
	If I had the opportunity and resources, I would become an entrepreneur.	0.892	0.7957		
	Being an entrepreneur implies more advantages than disadvantages to me.	0.761	0.5791		
Subjective norms	Reaction: Your friends	0.875	0.7656	0.6810	0.8647
	Reaction: Your fellow students	0.815	0.6642		
	Reaction: Your close family	0.783	0.6131		
Locus of control	When I make plans, I am almost certain to make them work.	0.848	0.7191	0.6330	0.8377
	I can pretty much determine what will happen in my life.	0.782	0.6115		
	I am usually able to protect my personal interests.	0.754	0.5685		
Entrepreneurial intentions	I am determined to create a business in the future.	0.912	0.8317	0.7754	0.9539
	I will make every effort to start and run my own business.	0.91	0.8281		
	I have the strong intention to start a business someday.	0.903	0.8154		
	My professional goal is to become an entrepreneur.	0.885	0.7832		
	I have very seriously thought of starting a business.	0.856	0.7327		
	I am ready to do anything to be an entrepreneur.	0.813	0.6610		
Entrepreneurial skills	Managing innovation within a firm	0.824	0.6790	0.5976	0.9121
	Commercialising a new idea or development	0.815	0.6642		
	Building up a professional network	0.8	0.6400		
	Successfully managing a business	0.763	0.5822		
	Being a leader and communicator	0.748	0.5595		
	Creating new products and services	0.736	0.5417		
	Identifying new business opportunities	0.719	0.5170		

University environment	There is a favourable climate for becoming an entrepreneur at my university.	0.92	0.8464	0.7829	0.9153
	At my university, students are encouraged to engage in entrepreneurial activities.	0.885	0.7832		
	The atmosphere at my university inspires me to develop ideas for new businesses.	0.848	0.7191		
Uncertainty avoidance	In my society, most people lead highly structured lives with few unexpected events.	0.857	0.7344	0.6412	0.8424
	In my society, societal requirements and instructions are spelled out in detail so citizens know what they are expected to do.	0.782	0.6115		
	In my society, orderliness and consistency are stressed, even at the expense of experimentation and innovation.	0.76	0.5776		
Programme learning	...enhanced my practical management skills in order to start a business.	0.857	0.7344	0.6859	0.9160
	...increased my understanding of the actions someone has to take to start a business.	0.85	0.7225		
	...increased my understanding of the attitudes, values and motivations of entrepreneurs.	0.824	0.6790		
	...enhanced my ability to identify an opportunity.	0.823	0.6773		
	...enhanced my ability to develop networks.	0.785	0.6162		

Source: Authors' calculations