
Youths' Entrepreneurial Behaviour and Intentions. Empirical Study on Students with Entrepreneurship Education

Nițu–Antonie Renata¹
Feder Emőke–Sződónia²

The research aimed to identify the psychological and behavioural characteristics as potential triggers of youths' entrepreneurial intentions within the context of rational action and planned behaviour theory. The empirical study proposed nine antecedents of entrepreneurial intentions for Romanian students with entrepreneurial higher education background. The results emphasized that behavioural variables (favourable subjective norms and attitude development, perceived behavioural control) influence entrepreneurial intentions in a higher degree than the psychological ones (propensity to risk-taking, self-confidence, need for achievement, innovativeness). Moreover, some psychological variables (locus of control and tolerance of ambiguity) have been identified as having insignificant influence on entrepreneurial intentions of the respondent students.

Keywords: entrepreneurial intention, entrepreneurial behaviour, psychological features, behavioural features, theory of reasoned action and planned behaviour.

¹ West University of Timișoara, Faculty of Economics and Business Administration, e-mail: nitu.renate@gmail.com

² West University of Timișoara, Faculty of Economics and Business Administration, e-mail: emoke.feder@feaa.uvt.ro

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I. Introduction

Entrepreneurial intention is emotionally determined by an individual's desire to act in order to create an activity previous to opportunity identification (Paquette, 2005). Cognitive factors' influencing the entrepreneurial intention regards the manner of how the individual perceives as feasible and necessary the activity creation, respectively the social support offered in the undertaken demarche (Ajzen, 1991; Shapero & Sokol, 1982). Once the entrepreneurial intention was triggered at attitudinal level, the individual should command the ability to recognize opportunities depending on information seeking, understanding and decoding on the basis of previously acquired knowledge. Factors influencing opportunity identification are related, on one hand, to individuals' information asymmetry because of their differentiated access to information through the belonging social networks (Shane & Venkataraman, 2000). On the other hand, an additional influencing factor is the individual capacity to absorb information (Cohen & Levinthal, 1990) in the sense of information understanding due to prior knowledge, which facilitates the decoding and thus the acquiring of new knowledge through learning (Ravasi & Turati, 2005). The opportunity identification triggers the necessity of assessment for adopting the exploitation decision through cognitive skill development of opting and practical implementation, respectively risk perception and estimation skills (Keh, Foo & Lim., 2002). The decision to exploit an identified and evaluated opportunity involves: (i) the analyses of available resources, generally at low level from financial, temporal and personal perspectives (Ravasi & Turati, 2001) and (ii) the search for new resources and the reconfiguration of existing resources necessary to develop new activities (Newbert, 2005).

New economic activities consist in creating of new firms and new activities within the already extant ones.

The proposed research theme is to identify the psychological and behavioural characteristics of youths, which can activate entrepreneurial intention in the framework of reasoned action and planned behaviour theory (TCP) (Fishbein & Ajzen, 1975; Ajzen, 1991, 2002). The main research objective of the study is to investigate the direct effects of psychological and behavioural factors upon entrepreneurial intention of students benefiting from entrepreneurial knowledge acquired through academic learning. The paper is divided into six parts, as follows: (i) introduction; (ii) literature review on entrepreneurial intention and role of reasoned action and planned behaviour theory, (iii) development of the conceptual model and included relationships as hypotheses; (iv) research methodology regarding model operationalisation, data collection and analysis; (v) results from the statistical analysis concerning sample structure, scales' psychometric properties and hypotheses analysis; (vi) conclusions drawn from research, implications of the attained results, completed with main research limitations and future directions.

II. Literature Review

From a cognitive perspective, intentions enjoy a central position in the study of human behaviour (Tubbs & Ekeberg, 1991), and those with social relevance are underneath the incidence of volitional control (Ajzen & Fishbein, 1980). It was demonstrated that intentions are predictors of volitional behaviour (Bagozzi, Baumgartner & Yi, 1989; Ajzen, 1991; Sutton, 1998). The individual's intention appears as a cognitive representation of actions implemented in order to achieve a certain objective (Bird, 1988; Tubbs & Ekeberg, 1991). At individual level, the entrepreneurial spirit is manifested in the creation of new firms or value enhancement within existing firms (Bird, 1988; Shane &

Venkataraman, 2000). Consequently, entrepreneurial intentions are cognitive representations of actions to be implemented by individuals in the context of creating a new or an existing firm (Fini, Grimaldi, Marzocchi & Sobrero, 2009).

The TCP theory (Fishbein & Ajzen, 1975; Ajzen, 1991, 2002) is generally used to explain the appearance of entrepreneurial behaviour, particularly with regard to firm creation. According to TCP, an individual's intention to adopt a certain behaviour is an immediate determinant of his/her behaviour and a predictor of his/her action involving as well a minimum level of planning. According to several authors, creating a firm as entrepreneurial objective is a planned behaviour and therefore intentional (Bird, 1988; Krueger, Reilly & Carsrud, 2000). Factors that determine an individual's intention depends on motivational factors: (i) personal attitude generated by a positive or negative evaluation of the target behaviour following to be adopted, (ii) social norms as a result of social pressure, (iii) perceived control over the target behaviour given by the available resources, opportunities, predicted obstacles and skills. An individual's inclination towards the target behaviour depends on favourable personal motivations. The actual intention materialisation is dependent on non-motivational factors too (resources, opportunities, skills). In other words, non-motivational and motivational factors influence the individual's control level over the intended behaviour. The intention's antecedents depend on the perceived information collected by the individual from the external environment. Exogenous variables refer to individual variables (age, gender, education) and to personality traits (locus of control, need for achievement, tolerance for ambiguity and

propensity for risk taking). They directly affect the individual's beliefs (attitudinal, normative, control) and indirectly intentions and behaviours (Ajzen, 1987; Bagozzi, Baumgartner & Yi, 1992).

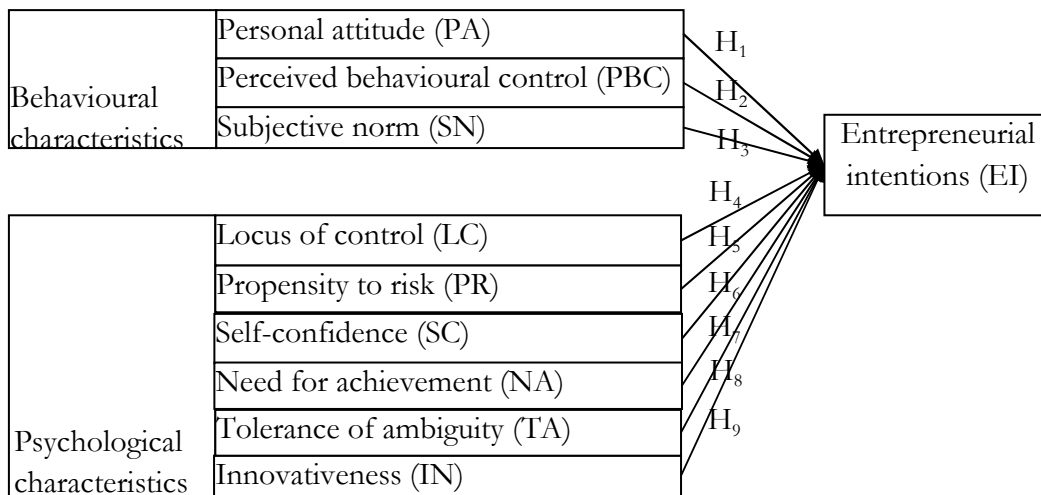
The TPC model enables understanding of entrepreneurial intention formation mode, which animates potential entrepreneurs to actually create a firm. Empirical research highlighted the usefulness of TCP as predictor of entrepreneurial behaviour (Kolvereid, 1996; Krueger, Reilly & Carsrud, 2000).

III. Conceptual Model and Research Hypotheses

The proposed research model (Figure 1) has been developed in order to examine and understand different attitudes, behavioural and personal characteristics which underlie entrepreneurial intentions of students who received entrepreneurial education within their undergraduate curricula. The model of entrepreneurial intention's antecedents is an extension of the TCP model complemented with factors identified in other research studies.

Figure 1.

Research model of entrepreneurial intention' antecedents



Model development was followed by assumption identification based on previous theoretical developments and empirical results. Thus, hypotheses regard the relationships between students' behavioural traits, psychological characteristics and entrepreneurial intention.

Operationally, behavioural characteristics are the motivational factors of the individuals, namely: favourable or unfavourable personal attitudes concerning the entrepreneurial behaviour (Kolvereid, 1996; Ajzen, 2002); subjective norms consisting of the individual's perception of on social pressure toward the idea of enterprising (Fishbein & Ajzen, 1975; Ajzen, 2002); perceived behavioural control referring to the individual entrepreneurial capability and perception of degree of control over own entrepreneurial behaviour (Fishbein & Ajzen, 1975; Ajzen, 2002). Hence, in order to examine the students' entrepreneurial intentions in terms of the behavioural characteristics

influenced by their entrepreneurial education (Tran & Paradi, 2011), the following research hypotheses were formulated:

H₁: Personal attitude positively influences entrepreneurial intentions.

H₂: Perceived behavioural control positively influences entrepreneurial intentions.

H₃: Subjective norms positively influence entrepreneurial intentions.

The psychological characteristics have been operationalised based on the personality traits from the TPC model (Fishbein & Ajzen, 1975; Ajzen, 1991, 2002), considered as antecedents of entrepreneurial intention by other authors too (McClelland, 1961; Cromie & Johns, 1983; Weber, Blais & Betz, 2002). Consequently, the scope of psychological characteristics comprises the following elements: need for achievement (McClelland, 1961; Fishbein & Ajzen, 1975; Ajzen, 1991, 2002); locus of control (Cromie & Johns, 1983; Ajzen, 1991, 2002); propensity to risk taking (Fishbein & Ajzen, 1975; Ajzen, 1991, 2002; Weber, Blais & Betz, 2002); tolerance of ambiguity (Fishbein & Ajzen, 1975; Ajzen, 1991, 2002); innovativeness and self-confidence (Robinson, Stimpson, Huefner & Hunt, 1991). Empirical results are ambiguous regarding the existence of a linkage between the individuals' need for achievement and their inclination towards new firm creation (Koh, 1996). Clearer causal relationship between locus of control and different populations of entrepreneurs has been empirically emphasized (Cromie & Johns, 1983; Cromie & O'Donoghue, 1992). Recent literature shows no empirical consensus on the risk-taking propensity with entrepreneurial profile. Individuals with entrepreneurial profile tend to assume greater risks levels than others (Koh, 1996), exclusively calculated risk-taking (Cromie &

O'Donoghue, 1992), while other researchers emphasized moderate risk-taking (McClelland, 1961) or risk avoidance as entrepreneurs' main task (Miner, 1990). Acting in risky, uncertain and information lacking environments, entrepreneurs must have a high tolerance for ambiguity (Koh, 1996). Self-confidence associated with locus of control, tolerance for ambiguity and innovativeness (Ho & Koh, 1992) appear as fundamental factors of entrepreneurial success (Koh, 1996). Therefore, six more research hypotheses were formulated:

H₄: Need for achievement positively influences entrepreneurial intentions.

H₅: Locus of control positively influences entrepreneurial intentions

H₆: Propensity to risk positively influences entrepreneurial intentions

H₇: Tolerance of ambiguity positively influences entrepreneurial intentions.

H₈: Self-confidence positively influences entrepreneurial intentions

H₉: Innovativeness positively influences entrepreneurial intentions.

Research hypotheses establishment imposed data collection and statistical verification of causal relationships included in the model.

IV. Research Methodology

The proposed research framework aimed to explain entrepreneurial intentions through several psychological and behavioural traits of the potential future entrepreneurs. Accordingly, the investigated population involved undergraduate and postgraduate students, key respondents being selected from the Faculty of Economics and Business Administration within the West University of Timisoara.

The applied research method is the questionnaire based sample survey. Hence data was collected from respondents by the mean of one wave self-administrated questionnaires in the 2012/2013 academic year. The questionnaire was assembled in a manner to include question blocks related to the constructs of behavioural and psychological features, entrepreneurial intention and demographic characteristics.

Operational clarity of the included constructs facilitates relationships testing in order to validate, reject or modify the model. Measurement model builds on frequently used operational scales: the construct for psychological traits developed by Koh (1996), the behavioural features and entrepreneurial intention constructs derived from Liñán and Chen (2009). The three main constructs are latent variables with multiple reflective items, appraised on 5 point Likert scales.

Data analysis algorithm regarding the measurement and structural model evaluation in SPSS 21 involved the next statistical techniques:

- (i) *descriptive statistics* to check data distribution normality includes mean, standard deviation, variance, skewness, kurtosis, Kolmogorov-Smirnov and Shapiro-Wilk tests;
- (ii) *scale reliability* was tested using the traditional α Cronbach, completed by composite reliability and average variance extracted;
- (iii) *factor analysis*: Bartlett test of sphericity, Kaiser-Meyer-Olkin test, factor loadings using Kaisen criteria (Eigenvalue>1), principal component analysis and varimax rotation;

- (iv) *validity analysis*: convergent validity by factorial loadings and discriminant validity by Pearson correlations significant at 0.05 level;
- (v) *hypotheses testing* was performed via regression analysis.

V. Empirical Research Results

Participation to the study was voluntary and respondents were assured confidentiality. Consequently, from the 400 available questionnaires given to students, a total of 317 were returned, but only 298 were properly completed, the rest have been eliminated from the sample. The response rate of 79.25% and the effective response rate of 74.5% are considered noteworthy compared to similar studies (Liñán & Chen, 2009; Ferreira, Raposo, Rodrigues, Dinis & do Paço, 2012).

In order to obtain a complete insight on the entrepreneurial intentions of the students, their triggers and influencing factors, a large diversity of respondents were included regarding their age, gender, educational background and available entrepreneur model in family. Questionnaire respondents varied between the age of 19 and 35, consisting mainly of 20 year old (20.46%), 21 year old (34.23%), 22 year old (13.08%) and 23 year old (22.82%) students. Additionally, the sample distribution oriented toward females (77.18%) is a particular feature of economics and business study domain in Romania.

Considering the stage of the respondents study level, 65.1% of students were studying at bachelor level, while 34.9% at master level. Regarding the respondents' major specialisation, at undergraduate level the preponderance studied Management (22.15%), Economics and International Business (17.79%), Tourism (12%), Marketing (9.4%), Accounting (5.03%) and Economic Informatics (0.34%).

level, the majority of the respondents followed European Management and Integration (12.08%), Human Resource Management (8.05%), Fiscal Administration (7.05%), Sales Marketing (6.04%) programmes.

The empirical analysis of collected data follows the 5 stage research investigation algorithm. First, the psychometric properties of the composite scales will be explored in order to calibrate and validate the measurement model through normality evaluation, scale reliability, factor and validity analysis, afterwards, the data examination will continue with the regression based hypothesis testing and relationship estimations for the structural model.

Tabel 1.

Scale descriptive statistics

	Min	Max	Mean	Standard Deviation	Variance	Skewness	Kurtosis
PA	2.20	5.00	3.9673	.51010	.260	-.365	.532
PBC	1.50	5.00	3.5050	.51227	.262	-.072	.762
SN	2.67	5.00	4.1300	.54842	.301	-.174	-.382
LC	2.43	4.57	3.5938	.40115	.161	.010	-.206
PR	1.33	4.17	3.1017	.42271	.179	-.379	.743
SC	2.33	4.83	3.4650	.46861	.220	.176	-.259
NA	2.00	4.83	3.5861	.44598	.199	-.216	.238
TA	1.50	4.00	2.5983	.39443	.156	.278	.447
IN	2.20	5.00	3.5740	.47095	.222	-.105	.179
EI	1.83	5.00	3.7161	.57820	.334	-.340	.162

Constructs operationalising the independent variables (IV) of behavioural features have the highest means of all the constructs included in the study, particularly the personal attitude (PA) and subjective norms (SN) registering values (3.9673; 4.13) above the average. Propensity to risk-taking (PR) and tolerance of ambiguity

(TA) registered the lowest means either around or below the cutting point value of 3 (3.1017; 2.5983), showing that the respondent students do not have risk propensity and are not tolerant to ambiguity.

The dependent variable (DV) of entrepreneurial intention (EI) has one of the highest means (3.7161), but also the largest standard deviation (.5782), meaning that the group heterogeneous in respect to their intentions to start a firm or behave entrepreneurially in the future.

The skewness analysis of the constructs determined that the majority is slightly negative exception LC and SC, but all the values are very limited, so skewness is almost absent, values being symmetrical distributed around the mean value. Regarding the kurtosis analysis, results are similar to the skewness analysis, values being very limited, slightly negative for SN, LC, SC and slightly positive for all the rest, determining in all the cases a normal or mesokurtic distribution.

Tabel 2.

Scale reliability and factor analysis

	EI	PA	PB C	SN	IN	LC	NA	PR	SC	TA	
α Cronbach (st)	.725	.606	.667	.546	.468	.421	.323	.408	.511	.369	
Composite reliability (CR)	.878	.850	.883	.889	.801	.763	.879	.809	.816	.796	
Average variance extracted (AVE)	.648	.677	.687	.829	.619	.581	.681	.676	.635	.663	
Factor loadings	Item 1	.670	.655	.681	x	.563	x	.834	x	x	.590
	Item 2	.609	.654	.550	.829	.537	.588	.634	.737	.613	.758
	Item 3	.680	x	.687	.829	.707	x	x	.642	.664	.641
	Item 4	.709	.685	.667		x	.541	.538	.648	.681	x
	Item 5	.545	.714	x		.668	.569	.736	x	.583	x
	Item 6	.676		.850			x	.665	x	x	x
	Item 7						.627				

The standardised α Cronbach, as the traditional scale reliability pointer, indicates the quality and purity level of the scales as measures of the considered constructs. Nunnally and Bernstein (1994) recommend .5 or .6 as sufficient values for α Cronbach, therefore EI, PA, PBC, SN and SC scales can be considered of acceptable and high

reliability, while the reliability of the others scales is much limited (IN, LC, PR scales have reliability over .4 and NA, TA over the value of .3).

Furthermore, in order to remove the limits of presumed equal error variance for α Cronbach, recent statistical evolvments proposed new measures for scale reliability: composite reliability (CR) measuring the degree of item contribution to construct formation and average variance extracted (AVE) as variance of the items composing the latent variable (Hair, Anderson, Tatham & Black, 1998), both having the cutting value of .5. For all scales modern reliability indicators are assured, with higher composite reliability for PA, PBC, SN, IN, NA, PR, SC and EI scales (values over .8) and average variance extracted for SN, PA, PBC, IN, NA, PR, SC, TA and EI scales (above .6).

Regarding factor analysis almost all the constructs are one-dimensional with over .5 factor loadings, except for the NA scale characterised by bi-dimensionality, excellence and challenges for further achievements.

Construct validity analysis the extent to which items and constructs are correlated to or distinguished from other measures. Cortina (1993) recommends testing only for the convergent and discriminant validity of the constructs. In this sense, convergent validity is virtually assumed by factor loadings, while significant Pearson correlations between items and constructs guaranteed for discriminant validity.

According to the research model and taking into account the determined variables, the study aimed to empirically estimate the following equation: $EI = f(PA, PBC, SN, LC, PR, SC, NA, TA, IN)$.

In order to test the validity of the research hypotheses linear regressions were conducted. Within the study, a hypothesis will be considered valid only if $p < .05$, β has relatively high values and t exceeds the critical value of the Student repartition, in this case 1.9679 for 297 degree of freedom, because of the 298 filled-in questionnaires.

Tabel 3.

Hypotheses testing through regression analysis

Hypotheses (IV \rightarrow DV)	Regression coefficient (β)	Student test (t)	Significance level (p)	Coefficient of determination (R^2)	Results
H ₁ : PA \rightarrow EI	.540	11.070	.000	.291	Supported
H ₂ : PBC \rightarrow EI	.435	8.347	.000	.189	Supported
H ₃ : SN \rightarrow EI	.331	6.061	.000	.110	Supported
H ₄ : LC \rightarrow EI	.108	1.869	.063	.012	Not supported
H ₅ : PR \rightarrow EI	.324	5.913	.000	.105	Supported
H ₆ : SC \rightarrow EI	.171	2.992	.003	.029	Supported
H ₇ : NA \rightarrow EI	.188	3.313	.001	.036	Supported
H ₈ : TA \rightarrow EI	.060	1.043	.298	.004	Not supported
H ₉ : IN \rightarrow EI	.346	6.375	.000	.120	Supported

The data analysis based on the research model (Table 3) indicates: (i) the existence of a positive relationship between PA (IV) and EI (DV), because $p < .05$ ($p = .000$), β has acceptable value ($\beta = .540$) and $t > 1.967$ ($t = 11.070$); (ii) the existence of a positive relationship between PBC (IV) and EI (DV), since $p < .05$ ($p = .000$), β has reasonable value ($\beta = .435$), while $t > 1.967$ ($t = 8.347$); (iii) the existence of a positive relationship between SN (IV) and EI (DV), in the conditions of $p < .05$ ($p = .000$), β has tolerable value ($\beta = .331$) and $t > 1.967$ ($t = 6.061$); (iv) the

existence of a positive relationship between PR (IV) and EI (DV), for the reason that $p < .05$ ($p = .000$), β has agreeable value ($\beta = .324$), whilst $t > 1.967$ ($t = 5.913$); (v) the existence of a positive relationship between SC (IV) and EI (DV), for the reason that $p < .05$ ($p = .003$), β has tolerable value ($\beta = .171$), whilst $t > 1.967$ ($t = 2.992$); (vi) the existence of a positive relationship NA (IV) and EI (DV), for the reason that $p < .05$ ($p = .001$), β has acceptable value ($\beta = .188$), whilst $t > 1.967$ ($t = 3.313$); (vii) the existence of a positive relationship between IN (IV) and EI (DV), for the reason that $p < .05$ ($p = .000$), β has satisfactory value ($\beta = .346$), whilst $t > 1.967$ ($t = 6.375$).

In all the mentioned cases, a significant but just acceptable degree of association can be detected between IVs and DV, explaining separately a small portion of DV variation ($R_1^2 = 29.1\%$, $R_2^2 = 18.9\%$, $R_3^2 = 11\%$, $R_5^2 = 1.5\%$, $R_6^2 = 2.9\%$, $R_7^2 = 3.6\%$, $R_9^2 = 12\%$). Overall, considered in a multivariate linear regression, 46.5% of EI owes to the cumulated influence of IN, NA, PA, PBC, PR, SC and SN variation.

In the case of hypothesis H_4 and H_8 , regression analysis proved the lack of relevance of the assumed relationships: (i) the existence of an insignificant relationship between LC (IV) and EI (DV), for the reason that $p > .05$ ($p = .063$), $t < 1.967$ ($t = 1.869$); (ii) the existence of an insignificant relationship between TA (IV) and EI (DV), for the reason that $p > .05$ ($p = .298$), $t < 1.967$ ($t = 1.043$), whilst β has a quite small value ($\beta = .060$). The two IVs, LC and TA, explain a minor and irrelevant portion of the DV variation ($R_4^2 = 1.2\%$, $R_8^2 = .4\%$).

VI. Research Conclusions, Limitations and Future Directions

Based on the empirical study, the present research identified the antecedents of entrepreneurial intentions in the case of Romanian students with entrepreneurial academic background. The research model is based on the TCP theory, a widely accepted academic framework with demonstrated utility in similar researches. Accordingly to the literature review, entrepreneurial intention is conditioned by the psychological and behavioural characteristics of the questioned students. The validated model of the direct effects removes only two hypotheses from the initial model, both regarding psychological features, as empirical data investigation proved the validity of H₁, H₂, H₃, H₅, H₆, H₇ and H₉ with strong and positive direct linkages, while in the current study context H₄ and H₈ were not significant.

The surveyed students showed entrepreneurial intention significantly dependent on psychological and behavioural characteristics. As well, research results illustrated that behavioural variables (PA, SN, PBC) have a greater influence on entrepreneurial intentions than psychological variables (PR, SC, NA, IN). Only two psychological variables (LC, TA) have insignificant influence on entrepreneurial intentions. A high level of locus of control variable indicate that a person believes that he/she controls the environment by the undertaken actions (Brockhaus, 1982), depending on the possessed knowledge and competences, on the acting political and socio-economic forces (Cromie, 2000) and the previously achieved experiences (Chell, Haworth & Brearley, 1991). As result of their tertiary education, the interviewed students were able to feel a certain power compared to the others, given that they have the knowledge

and competences required to perform certain activities. However, they could feel vulnerable to uncontrollable economic, social and political forces or some recent setbacks, with diminishing control effects. Cultures differ in through the manner that members of society can handle uncertain, unpredictable and ambiguous situations (Hofstede, 1996). Society members' with the tendency to avoid uncertainty feel threatened by ambiguous situations and exhibit low tolerance towards it. The Romanians high uncertainty avoidance cultural dimension index means that the society does not tolerate ambiguity, explaining the surveyed students' inclination to consider the ambiguity of the context in which they have to take decisions due to limited information, as barriers for their entrepreneurial intentions.

The undertaken research also presents a series of limitations. The first is generated by the considered sample narrowness, declining result generalisation on all entrepreneurially educated Romanian students. The second limit is given by the lack of necessary information to identify the effects of entrepreneurship education on entrepreneurial intentions of students. The third limit results from the collected information by not offer the possibility to perform a SWOT analysis on entrepreneurship education currently enjoyed by students in order to eliminate any possible curricula shortcomings.

Further research requires hypotheses confirmation on a nationwide expanded sample of students. Conducting a longitudinal study would allow to identify the role of entrepreneurship education on students' entrepreneurial intentions and to explain how their intentions turn into the action of new business creation.

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