

Drivers of entrepreneurship and the role of education in Romania

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Abstract: The paper aims to contribute to the better knowledge and understanding on entrepreneurship education and its role in supporting the development of entrepreneurial intentions in Romania. Analyzing the role of entrepreneurship education on influencing decision to of starting up a business is on the rise worldwide, a lot of importance being put on the importance of entrepreneurship education in supporting diversification of careers and transitions from unemployment or inactivity to self-employment. The empirical evidences for Romania, even if they are already addressed by several papers mainly focused on entrepreneurship education in universities still provide a lot of food for quantitative and qualitative analyses. The paper uses the data provided by Flask Eurobarometer 354 to depict the profile of Romanians that were involved in entrepreneurship education, but also to define an index on perceived effects of education in order to link the participation to entrepreneurial programs to the decision of individuals to start-up their own business. The findings on the profile of those ever engaged in entrepreneurship education in Romania points out to the structural inequalities embedded in the Romanian educational system, but also emphasize the rapid extension of the curriculum in this direction. Education is perceived as very important in building up attitudes and knowledge that support entrepreneurial intentions.

Key words: entrepreneurship, education, drivers of entrepreneurship, Romania, quantitative analyses

JEL: I25, M20, P46

1. Introduction

Entrepreneurship is the “power engine” of an economy development and competitiveness (Alberti, et al., 2004; Lackeus, 2015), leading to innovation and growth (Marinescu, et al., 2017; Toma, et al. 2017; Boldureanu, et al., 2020). Moreover, entrepreneurship can be an attractive career option, as well as a step in transitions from inactivity to the labor market (Huber, et al., 2012). Nevertheless, freelancing can be mixed with being employee, contributing to higher incomes and job satisfaction among active population.

So, during the last decades the focus on developing educational programs and to include knowledge of entrepreneurship at different levels of education was constantly increasing (Marinescu and Toma, 2013). Even if a lot of educational policies and programs targeted entrepreneurship education, there are still no clear evidences on the role of education in encouraging entrepreneurship (Hussain, 2015; Boldureanu, et al., 2020). But, the contribution of entrepreneurship education to develop skills and knowledge, irrespective of how these are used in the benefit of society – in the form of business creation or development, or in the form of intrapreneurship initiatives - is not under debate.

Entrepreneurship education can cover a wide range of activities and courses with very heterogeneous features, addressing both the development of new business, but also the development of the existing ones. The demand for entrepreneurship education is increasing, governments, businesses and people asking for skills and knowledge that could lead to career diversification of different groups that can have privileged or disadvantaged positions on the labor market in certain periods of time. So the focus

of educational system on entrepreneurship education was facilitated on the one hand by the public policies promoted in the field, but nevertheless by the increasing importance of correlating educational programs with labor market needs. But the assessment of the effects of initial entrepreneurship education on society is still scarce and fragmented, as it is still very difficult to measure the educational outputs of such courses and programs (McMullan and Gillin, 2001; Alberti, et al., 2004; European Commission, 2016).

The aim of the paper is to better understand the role of entrepreneurship education in supporting people decision to set up their own business in Romania. In order to do this, I firstly draw the profile of those following courses or activities about entrepreneurship during their initial education, and then I analyze the effects of entrepreneurship education on different drivers of entrepreneurship. In Romania, by constructing an index of perceived effectiveness of education. Mainly the most important limitation of the study derives from the latest available data provided by the Eurobarometers carried out on entrepreneurship behavior, namely 2012. Even if we could suppose that the share of people involved in entrepreneurship education increased during the last couple of years, the findings suggest that the profile or the influence on entrepreneurial intentions could keep the similar pattern. Also, data available do not hold information on the participation to entrepreneurial training through continuing vocational programs or on the number of hours or different quality aspects of the programs they were involved in, so more in-depth analyses cannot be performed.

The present paper is organized in five parts with the following logic: it starts

emphasizing the current importance given to entrepreneurship as well as to entrepreneurship education and research; the literature review is summarizing mainly the results from other papers addressing entrepreneurship education in Romania; the third part present the research questions as well as the analyzing methodology that was employed, while the last two parts presents the results and discuss them in the specific context of Romanian educational system.

2. Literature review

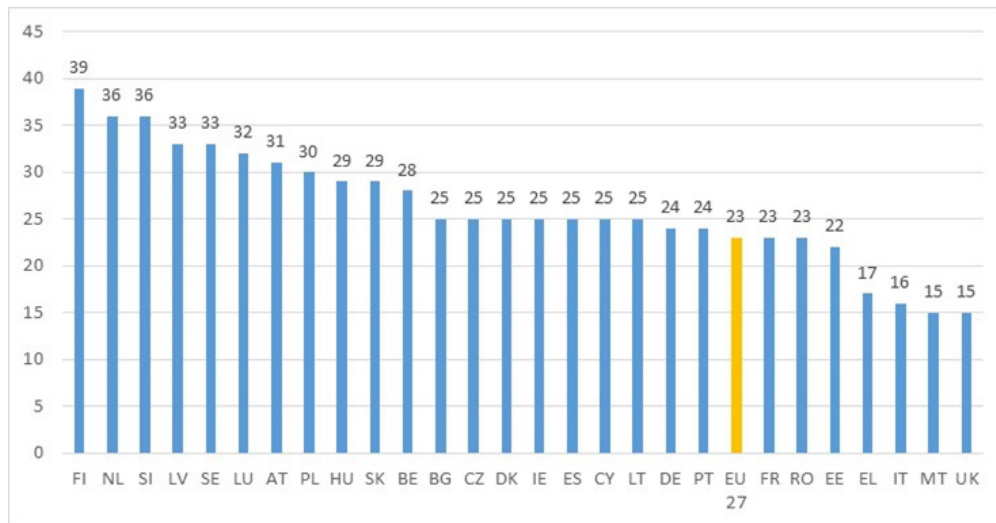
Even if a lot of educational policies and programs targeted entrepreneurship education, there are still no clear evidences on the role of education in encouraging entrepreneurship (Hussain, 2015; Boldureanu et al., 2020). But with respect to the effects of entrepreneurship education on the level of skills and knowledge and on supporting the development of career values, career choices and entrepreneurship initiatives a lot of evidences are already available. Entrepreneurship education contributes not only to the development of cognitive skills and knowledge, but also to develop non-cognitive skills such as personal traits and attitudes – perseverance, grit, pro-activity, creativity, self-efficacy beliefs, etc. Moreover some of the papers suggested that the benefits of entrepreneurship education on cognitive skills could be neutral, while the effects on non-cognitive skills are more valuable (Huber, et al., 2012). Other researchers argue that investigating only the effects related to starting-up a business is a rather narrow approach in investigating the contribution of entrepreneurship education to the society, a lot of other contributions being minimized or overlooked, such as

effects on increasing motivation and interests among pupils and students (Lackeus, 2015).

Previous studies pointed out to the mix of factors that can support the entrepreneurial behavior, both economic context, entrepreneurial culture, legal regulations and financial opportunities, but also the level of skills and knowledge are among the drivers of entrepreneurialism (Toma, et al., 2014; Zamfir, et al., 2018). For Romania, men aged 25-39 as well as women aged 15-24, that were engaged in entrepreneurship education have a higher probability of displaying an entrepreneurial behavior (Mocanu, 2020). Other papers emphasizes the importance of role models, mainly for youngsters still in education and still in process of making decisions with respect to their career patterns (Boldureanu, et al., 2020).

According to the findings of Flash Eurobarometer 354 (European Commission, 2012), when data were collected, at EU27 level, only 23% of the respondents declared they were involved in entrepreneurship education, Romania being close to the EU average. Among European countries, men, those still studying or that followed university education, as well as those under the age group of 15-24 were more probable to be involved in entrepreneurship education (European Commission, 2012). But it has to be mentioned that no item on courses taken after leaving full-time education under continuing vocational training were not prompted up.

Figure 1: Share of people involved in courses and activities about entrepreneurship at school or university (%), 2012



Source: Flash Eurobarometer 354 (European Commission, 2012)

In Romania, the history of entrepreneurship education is quite short, first steps being taken at secondary level of education starting with 2002, but universities proved to be more committed to the aim of integrating knowledge on entrepreneurship in as much as possible academic programs (Leovadaris, et al., 2016; European Commission, 2017; Lina, et al., 2019; Boldureanu, et al., 2020).

3. Research methodology

The methodological approach for reaching the above mentioned scientific aims is based on a mix of quantitative techniques. The data for Romania that I used were provided by the Flash Eurobarometer 354, collected during the 2012 by TNS Political & Social (European Commission, 2013) among EU countries and 12 other countries from around the world. The dataset for Romania

contains information for a representative sample of 1006 individuals with 15+ years old interviewed all over the country. For the analyses employed I used the unweighted dataset.

The table below presents the mix of quantitative techniques that I used in order to discuss the paper objectives. Analyses were performed using SPSS 23, and for reasons of providing more coherence to the paper, analyzing techniques will be more thoroughly presented (when needed) for each subsection of the following section.

Table 1: The mix of methods

Research question	Method / Technique
What is the profile of those following entrepreneurship activities during initial education?	Classification methods / Decision tree
What are the perceived effects of school education on different drivers of entrepreneurship behavior?	Descriptives
What is the perceived effectiveness of education?	Reliability test / Cronbach alpha
What are the links between perceived effectiveness of education and entrepreneurship intentions?	One-way ANOVA

4. Results and discussions

4.1. Profiling those that had entrepreneurship courses and activities during initial education

As said before, classification techniques were used to draw the profile of those engaged in courses and activities related to entrepreneurship during their education. The answers to the question Q10 "At school or university, have you ever taken part in any course or activity about entrepreneurship – that is turning ideas into action, developing your own projects?" were used to define the dependent variable. Several variables, such as gender, parents' occupations, area of residence, development region, age, age when stopped full-time education were considered as independent variables for the model, but the technique keeps only the most relevant for the final output. The CRT growing method was used to develop the decision tree, parent nodes being set up to 50 cases and child nodes to 30 cases. The model depicts a decision tree with a depth of 4 levels and comprises 15 nodes, out of which 8 nodes are terminal, the overall percentage of correct

classification being 79.5%. The final model is presented below in the Figure 2.

Age is the strongest predictor for the probability of taking part to courses and activities about entrepreneurship during school or university, with those under 26 years old displaying the highest probability, almost three times higher than those with 26+ years old. Findings are in accordance to other studies on the importance that entrepreneurship education gained during the last decade, but in the particular case of Romania, the findings points to how recent there were made steps in order to include entrepreneurship education in curriculum.

At the second level of decision tree, age when stopped full-time education and fathers' occupation are found. For the youngest, those coming from families where father is not in paid employment display o lowest probability to be engage in any type of entrepreneurship education during school or university. For those aged 26+ years old, the age when stopped full-time education splits the group in between those leaving education after high school and those continuing it to university. The predictor points in that in fact

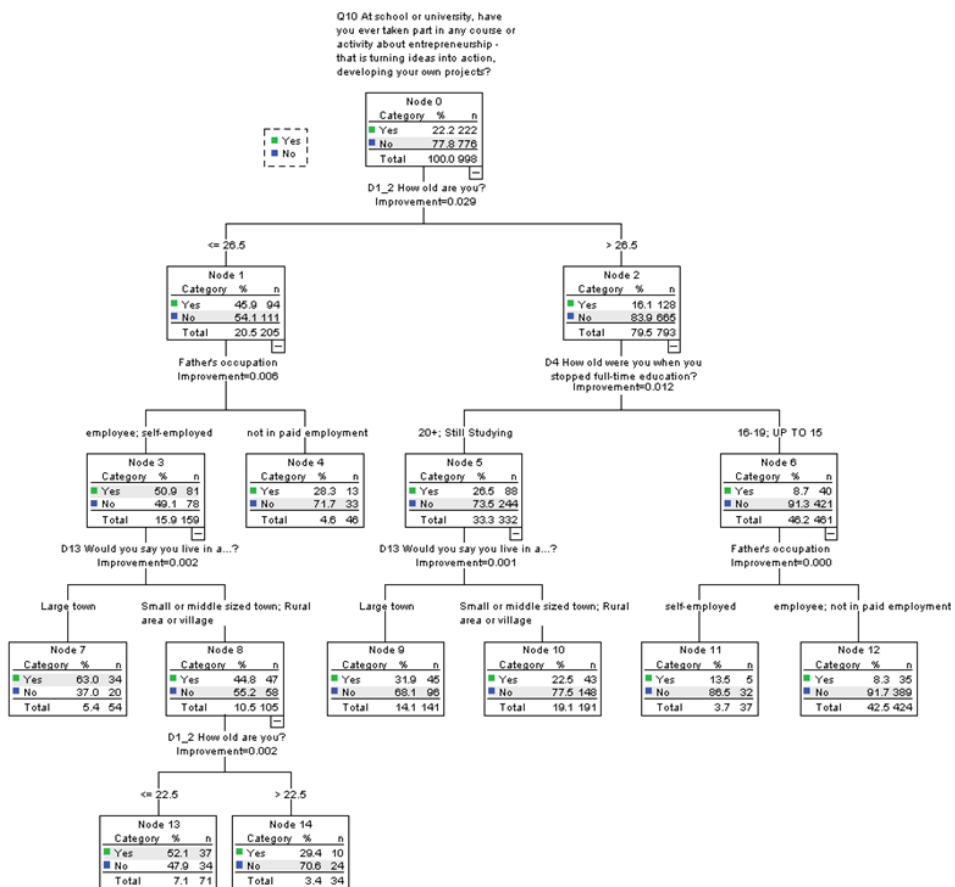
entrepreneurship education is rather found at university level, but small steps are done to implement it to lower levels of education.

At the third level we find other two predictors of the probability to follow some type of entrepreneurship education during school, namely area of residence and father's occupation. For those leaving education before reaching the age of 19 years old, fathers' occupation is the predictor for being engaged in entrepreneurship education, those having a self-employed father having a higher probability to be part of an educational profile that

aims to develop entrepreneurship behavior. For all other subgroups area of residence is the third predictor as importance. For most of the respondents under above mentioned subgroups, living in a large city increases the probability to be engaged in entrepreneurship education during schooling years.

At the last level of the decision tree we find again age of the respondents as a predictor, lower the age, and lower the probability to be involved in activities and courses about entrepreneurship during education.

Figure 2: Tree-based model of participants to entrepreneurship education in Romania



Source: Author's own calculations on the Romania dataset of Flash Eurobarometer 354

The mix of factors shaping the profile engaged in entrepreneurship are in accordance to the findings of other studies in field, pointing to the higher probability of the youngest to benefit from new developed curriculums in entrepreneurship in initial education. But the mix of area of residence and father's occupation as a proxy for the socio-economic background seems to be more related to the inequalities embedded within the structure of the Romanian educational system.

4.2. Perceived effects of school education on drivers of entrepreneurship behavior

Even if there clear evidences of the importance of entrepreneurship education in supporting people decision to become entrepreneur cannot be traced, some hints on the perceived / subjective effects are available. The survey collected the people opinion on how school education can improve the sense of initiative, can improve the image of entrepreneurs at society level but also the personal interest of becoming entrepreneur, and last but not least can contribute substantially to the skills and knowledge needed for running a business.

Table 2: Please tell me if you totally agree, tend to agree, tend to disagree or totally disagree with each of the following statements?(%)

	Totally agree	Tend to agree	Tend to disagree	Totally disagree	DK
My school education is helping/has helped me to develop my sense of initiative and a sort of entrepreneurial attitude	49.6	22.9	8.3	16.3	3.0
My school education is helping/has helped me to better understand the role of entrepreneurs in society	43.7	24.5	10.3	18.1	3.4
My school education is making/has made me interested in becoming an entrepreneur	35.7	23.4	11.9	25.3	3.7
My school education is giving/has given me skills and know-how to enable me to run a business	38.9	21.7	12.3	24.3	2.9

Source: Author's own calculations on the Romania dataset of Flash Eurobarometer 354

Generally Romanians consider that school has positive effects on some drivers of entrepreneurialism. These perceptions are rather stable in time, and when it comes to Romania, the answers are among the most positive among European countries and on an increasing trend of enthusiasm (European Commission, 2012; Dragomir and Panzaru, 2015). So, entrepreneurship education has a huge support in Romania being considered very important in educating youth about entrepreneurialism.

4.3. Constructing the index of perceived effectiveness of education

In order to proceed to more analyses on the effects of school education on drivers of entrepreneurship. I aim to construct an index of perceived effectiveness of education, One-way ANOVA being then used in order to highlight links between entrepreneurship education and entrepreneurialism. First,

Cronbach Alpha coefficient was used to investigate the internal consistency in the set on indicators measuring opinions in supporting the effectiveness of education and how well a single-dimensional object is measured. The results for applying the Cronbach Alpha are presented in the table below, its value being above the cut-off value of 0.7 that is usually accepted as cut-off value.

As the results are leading to a high consistency in the set of indicators, the second step of the procedure consists in recode the indicators and then to construct the index by simply adding the scores for all the answers provided by respondents. The recode consisted in giving the following values to the scale points: 3 = totally agree, 2 = tend to agree, 1 = tend to disagree and 0 = totally disagree. So the index will take the values in between 0 and 12. The variable thus constructed is continuous and allows for the use of one-way ANOVA.

Table 3: The empirical results of Cronbach Alpha

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.858	0.859	4

Source: Author's own calculations on the Romania dataset of Flash Eurobarometer 354

For the dataset of Romania, the index takes the values in between 0 and 12, with a mean of 7.6 and a median of 9. As the index measures the perceived effectiveness of education, it is natural to expect that those following courses and activities about entrepreneurship during initial education display a statistically significantly higher value of the indexes. To check for this assumption and to validate the relevance of the index a T-test for independent samples was applied, the dependent variable is the value of the new defined index. Results of the T-test are presented in the following tables.

The average value of the index for those that followed some form of entrepreneurial

education is 8.73, higher than the average of those that never were involved in such educational programs. The results of Levene's test indicate a significant value for F, so variances are not homogeneous. According to the scientific literature, the condition of homogeneous variances can be overlooked, as t-test provide rather robust results (Labar, 2008). The results of the t-test and statistically significant and support the premise that the average value of the index for those being involved in entrepreneurship education is significantly higher as against those that were never involved.

Table 4: The empirical results of T-test for independent samples: group statistics

Being engaged in school education about entrepreneurship	N	Mean	Std. Deviation	Std. Error Mean
Yes	220	8.73	3.285	0.221
No	700	7.24	4.041	0.153

Source: Author's own calculations on the Romania dataset of Flash Eurobarometer 354

Table 5 The empirical results of T-test for independent samples: Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Conf Int. of the Difference	
								Lower	Upper
Equal variances assumed	29.999	.000	4.997	918	.000	1.496	.299	.909	2.084
Equal variances not assumed			5.561	445.250	.000	1.496	.269	.967	2.025

Source: Author's own calculations on the Romania dataset of Flash Eurobarometer 354

4.4. Effectiveness of education and drivers of entrepreneurship behavior

In order to analyse the links between perceived effectiveness of education and different drivers of entrepreneurialism, I will use one-way ANOVA. Also, as proxy for the drives for entrepreneurship I use the item addressing the steps that respondents already took in becoming self-employed. The results for one-way ANOVA procedure that was applied are presented in the following tables.

So, the analyses on the variation of perceived effectiveness of education in relation to the steps that were already taken in order to become self-employed were analysed. The index register the highest average value of

8.89 for those they are in process of taking steps, and the lowest average value of 7.42 for those taking no steps. Results presented in table 6 indicate that there is a significant effect of taking steps to become self-employed on the perceived effects of entrepreneurial education at the $p < 0.05$ for the three conditions [$F(2,923) = 5.56, p = 0.011$]. As the results for the test are significant, the post-hoc Tukey test was used again to evidence where significant differences exist. Post hoc comparisons using the Tukey test indicated the single significant difference between those that are in process of taking steps and those doing nothing in this direction. Not significant results were evidenced for those that already stated a business of their own.

Table 6: The empirical results of one-way ANOVA: If respondents already took specific steps to become entrepreneurs

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	139.061	2	69.531	4.562	.011
Within Groups	14068.486	923	15.242		
Total	14207.548	925			

Source: Author's own calculations on the Romania dataset of Flash Eurobarometer 354

Table 7: Post-hoc comparisons using the Tukey test: If respondents already took specific steps to become entrepreneurs

		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Yes, you started/took over a business	Yes, you are taking steps to start/take over a business	-1.083	.560	.129	-2.40	.23
	No	.391	.318	.437	-.36	1.14
Yes, you are taking steps to start/take over a business	Yes, you started/took over a business	1.083	.560	.129	-.23	2.40
	No	1.474*	.507	.010	.28	2.66
No	Yes, you started/took over a business	-.391	.318	.437	-1.14	.36
	Yes, you are taking steps to start/take over a business	-1.474*	.507	.010	-2.66	-.28

*. The mean difference is significant at the 0.05 level.

Source: Author's own calculations on the Romania dataset of Flash Eurobarometer 354

5. Conclusions

Entrepreneurship education is a subject treated with a lot of enthusiasm by decision makers, scientists and students. Even if entrepreneurship education is rather new included as a systematic approach in the curriculum development, the findings of its effects on shaping attitudes and motivations and encouraging. Romanian research on the topic still has some gaps to fill in, trying to use as much as possible the comparative datasets and information available as open data. So the aim of the paper was to provide contributions to the better knowledge and understanding on entrepreneurship education and its role in supporting the development of entrepreneurial attitudes and intentions.

The profile of the Romanians declaring they were involved in entrepreneurship education during schooling years points to a mix of factors such age, age when leaving education, socio-economic background of the family and area of residence that usually shapes the educational system in Romania,

the opportunities and inequalities that are reproduced, and that are not usually under the control of pupils and students.

In order to analyze the effects of education on entrepreneurial intentions, I make use of an index, defined by using the opinions of the respondent regarding different potential benefits of entrepreneurship education. Trust in the effectiveness of entrepreneurship education is highest among those that are doing the first steps in setting up a business and slightly lower among those that already set up a business of their own. So, education is perceived as very important in building up attitudes and knowledge that support entrepreneurial intentions, irrespective of their final results.

Findings of the paper point to the importance of increasing the access of pupils from small urban and rural areas to education of quality. Thus, entrepreneurship behavior could be supported in the regions where is the most need of economic initiative and development.

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