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Influence of Educational Factors on the Entrepreneurial Potential of Students as a Prerequisite for Economic Development

Mladen Subotic[1], Mia Maric[1], Branislav Dudic[2*], Slavica Mitrovic Veljkovic[3], Djordje Celic[3], Aleksandra Peric[3]

[1] University of Novi Sad, Faculty of Education in Sombor, Sombor, Serbia
[2] Comenius University Bratislava, Faculty of Management, Slovakia
[3] University of Novi Sad, Faculty of Technical Sciences, Serbia

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ABSTRACT

The primary objective of this study is to examine the influence of various educational factors on the entrepreneurial potential of university students as a prerequisite for the stability of business and economic systems, especially in EU candidate countries. Education is crucial for developing entrepreneurial skills and potential entrepreneurs who contribute to the development of national economies. The research sample comprised students from two non-EU countries and one EU member state. Data were collected from a total of 1,008 university students across these three countries. The instruments utilized in the study were the Questionnaire on Entrepreneurial Traits (QET) and the Scale of Entrepreneurial Potential (SEP). Different educational factors were analysed in this research: entrepreneurial education, different educational profiles, and the influence of faculties with a supportive environment toward entrepreneurship. Canonical discriminant analysis confirmed the significance and structure of differences among students who belong to faculties with different: a) orientations toward entrepreneurship, b) types of faculties, and c) experiences of previous entrepreneurial education compared with those who did not receive such education, considering their performance across the dimensions of the Entrepreneurial Traits Model (QET) and the Entrepreneurial Potential Model (SEP). Results from this research could shed light on the development of entrepreneurship and the importance of this phenomenon, which proves to be crucial for the regional economy.

1. Introduction

This research focuses on the student population as the highly educated part of the society, considering them to be the base of entrepreneurial potential. The student population constitutes the most valuable human capital of a nation. Considering that, students represent the most educated segment of society.

* *Corresponding author.*
E-mail address: branislav.dudic@fm.uniba.sk

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Entrepreneurial education is a factor that impacts student innovation in a positive way by creating and fostering an environment that is prerequisite for future development of entrepreneurial activity which then impacts the development of the economic system as a consequence [1]. Recent research [2] also confirm that entrepreneurial education impacts the innovation of students that leads to formation of different entrepreneurial activities that result in start-up creation. Very similar Chilean study shows that medical students that had entrepreneurial education show increase in their problem-solving abilities and rise in their entrepreneurial intent [3].

The policy implications of Global Entrepreneurship Monitor [4], [5] regards education as one of the key prerequisites for fostering and enhancing entrepreneurial development. People with less and no education are not likely to start any entrepreneurial activity. Hoffman *et al.,* [6] conclude in their research that entrepreneurial innovativeness is closely connected to the education level of the individual. Global Entrepreneurship Monitor - GEM [4] determined that entrepreneurship training may not exert a significant influence on the increase of entrepreneurial activity, if there is no satisfactory environment that helps nourish and foster entrepreneurship. O'Shea *et al.,* [7] show that organization and environment of the university significantly impacts behavior of students. It is necessary to build a supportive climate and an environment that encourages entrepreneurship at universities, but rather recognize entrepreneurial potential of students [8].

This implies that extensive social context needs to be considered and investigated in developing countries [4]. Individuals can be influenced by the situational factors, which are in connection to their private lives [9]. Student's entrepreneurial intent is strongly connected to the way entrepreneurship is regarded by the society [10]. Positive perception of entrepreneurship is crucial in a society, even in a form of positive environment towards entrepreneurial activity [11]. Franke and Lüthje [12] in their research conclude that students who lack supportive environment for the development of entrepreneurship at their universities have less developed entrepreneurial potential than students who feel that their universities foster and support entrepreneurial oriented environment.

According to Wennekers *et al.,* [13] who quoted The Economist, 2009 (p. 3), "The entrepreneurial idea has gone mainstream, supported by political leaders on the left as well as on the right, and accordingly entrepreneurship has become a key policy issue worldwide" (p. 221). Entrepreneurs are not born, they are formed. They are created through a process that begins with modeling a potential for entrepreneurship. Educators and policy makers could provide assistance to potential entrepreneurs who will better anticipate and use opportunities in their surroundings [14].

In this research, we aim to examine how educational factors affect the advancement of students' entrepreneurial capacity. The general objective of the study is to analyze the influence of several educational components—including faculty type, participation in entrepreneurship-related courses, and the entrepreneurial orientation of faculties—and to determine their importance for fostering entrepreneurial potential within the student population [15].

The aim of this research was to explore how different educational factors influence the entrepreneurial potential of students, as conceptualized through the dimensions of the two models presented—QET and SEP. This study offers both theoretical and practical insights into understanding the role and significance of relevant educational influences in fostering and enhancing the entrepreneurial abilities of young people being trained for various careers in today's society, applicable to both developed countries and those undergoing transformation and rapid socioeconomic growth.

This type of research is needed because the development of entrepreneurship is directly linked to the development of the countries economy. The data that we receive from this and similar research papers could potentially help heal and boost the economies of the EU candidate countries

that still need to reach the EU candidate status. Also, the importance of this type of research lies in the fact that there is a lack of literature studying this phenomenon in the EU candidate countries.

In this paper we will focus on the influence of educational factors on the development of entrepreneurship potential of university students. Organization of the paper will be divided in the core sections as follows: in the introduction part we will explain the importance of the research and provide the groundwork information on the importance of educational factors for the development of entrepreneurial potential of students. Following is the segment where the theoretical framework of the entrepreneurial potential will be additionally analyzed, using the appropriate and recent literature in the scientific field. Next sector of the paper is reserved for the methodology, displaying the way this research on the impact of educational factors on the development of entrepreneurial potential of student population was conducted. The results of the research display factors that significantly contribute to the entrepreneurial potential of student population. The discussion part will follow with the extensive interpretation of the research results about the educational factors significance for the development of entrepreneurial potential and its impact in the development of the economy. In the conclusion part we will summarize the findings, the results of the research and also focus on the implications in the context of the recommendation for the most suitable entrepreneurial educational practice and guidepost for the future research in this field.

2. Theoretical Framework

Norris Krueger observes that the society needs to be interested not only in the quantity but also in the quality of the potential entrepreneurs, and implies that this knowledge can help us understand the necessity to build a positive environment for potential entrepreneurs [14]. Building supportive environment is necessary but can be extremely challenging having in mind that the market is extremely volatile and starting an entrepreneurial activity implies the need for entrepreneurial education to equip students with the ability to respond, think, and act entrepreneurially, thereby unlocking their entrepreneurial potential and effectively managing the uncertainties and complexities of the market [16], [17], [18].

In accordance with the theoretical assumptions a collection of personal traits that form the basis of entrepreneurial potential was determined. Schumpeter [19] perceives an entrepreneur as in individual who creates a new business that contributes to the development of economy. According to authors Gerry *et al.,* [20] who focused on the definition of entrepreneurial potential, employing the approach proposed by Carland *et al.,*[21] view of an entrepreneur; they state that an entrepreneur is “an individual (student) who (accepts the possibility that he or she might) establish and manage a business for the principal purposes of profit and growth” (p. 358).

The Questionnaire of Entrepreneurial Traits (QET) and the Scale of Entrepreneurial Potential (SEP) were utilized in this study. The QET model comprises six principal dimensions: originality and creativity, achievement orientation and acceptance of challenges, entrepreneurial self-confidence, assertiveness and communication, positive attitudes toward entrepreneurship, and interest in and knowledge of entrepreneurship.

The SEP model, on the other hand, assesses entrepreneurial potential through several aspects, including intellectual abilities, self-assurance, motivation, social interaction, constitution, emotional stability, extroversion, and organizational competence. This model evaluates participants’ scores across these dimensions, where higher results indicate a stronger manifestation of entrepreneurial potential.

Among the contextual variables that significantly influence the development of entrepreneurship, entrepreneurial education plays a major role. According to the Lisbon Strategy,

one of the core objectives of European policy is to generate millions of new jobs by fostering entrepreneurial potential and activity. Considering this, entrepreneurial education in Europe is seen as a crucial factor in forming entrepreneurial culture and entrepreneurial activity [22], [23]. Programs that promote cooperation between universities and different fields of industries have been used extensively [24]. Student profession choices and training at universities have a significant influence on students' advancement of entrepreneurship potential and activity [20].

Entrepreneurship education along with positive university environment towards entrepreneurship can positively influence entrepreneurial activity and entrepreneurial potential of individuals [25], [26]. Research done in China revealed that different educational base provides differences in the expression of entrepreneurial activity of Chinese students. Universities should create and implement different flexible methods depending on different educational base of their students [27]. The results of research carried out on 37,285 individuals also shows that there is a significant connection between entrepreneurship education and entrepreneurial potential [28].

Kolvereid and Moen [29] as well as Basu and Virick [30] and Pittaway and Cope [31] in their studies, conclude that development of entrepreneurial potential of students rises significantly if they attend courses from the field of entrepreneurship. After participating in entrepreneurial education program, participants showed significantly greater will and desire for entrepreneurship, reporting that the change in their view towards entrepreneurship is a result of their attendance of educational courses [32]. Martin *et al.,* [33] in their research provided evidence that specific entrepreneurial education helps develop entrepreneurship and that individuals improve their entrepreneurial skills.

Souitaris *et al.,* [34] as well as Lindh, and Thorgren [35] concluded in their research that educational programs in entrepreneurship increase the level of entrepreneurial potential, strengthen entrepreneurial intentions among students and represent a foundation for development of entrepreneurship. Wider range of entrepreneurship courses and more improved entrepreneurship education is much needed in the modern world of knowledge societies [36]. Von Graevenitz *et al.,* [37] in their study find entrepreneurial courses to be helpful to students in giving them guidelines for the right choice for future career. They believe that students receive valuable information on these courses and find out if they would or would not become a good entrepreneur. Also, these authors find this to be a very positive dimension of entrepreneurship education in providing information for potential entrepreneurs and helping them in making the right decision. They conclude that bad entrepreneurship is not helpful for the economy and that entrepreneurship education can prevent this and help students from making a mistake that could be bad for them and the economy. Karimi *et al.,* [38] in their research done on students from six universities in Iran found that elective courses from the field of entrepreneurship were more influential on the rise of entrepreneurial intentions of students than compulsory subjects were. They concluded that entrepreneurship education impacts entrepreneurial potential of students significantly. Furthermore, they suggest improvement of the entrepreneurial content in order for students to receive adequate knowledge from this field and to be able to identify chances and form new enterprise and capitalize eventually.

Franke and Lüthje [12] in their comparison of German speaking and American student population concluded that the lower level of entrepreneurship potential among students in Munich and Vienna are linked to their less characteristic entrepreneurship education. To find out how effective their entrepreneurship courses are, universities should not only pay attention to the level of satisfaction of their students with those courses, but they should assess how inspiring those programs are [12]. The American educational system was first in the world to introduce such an education system that offers student courses in entrepreneurship and creates an inspiring environment that has impact and stimulates the development of entrepreneurship [39]. Bell [40] in his book "Engines of Innovation"

emphasizes that the Entrepreneurial University in the Twenty-First Century, proposes that academic society must change its traditional approach to education, and through creation of innovative entrepreneurial oriented campuses could help solving the main economic problems of the society. Bell states that University of MIT helped create 5000 companies that made 230 billion of dollars annually [40]. Study by O'Shea *et al.,* [7] implies that organizational characteristics of the university influence significantly the behavior of students.

The results that reflect in significant development of entrepreneurship in the last decade in USA by Kuratko [41], could be positively related to a unique and specific educational system that preserves a long tradition of developing and fostering entrepreneurship [42]. World leading companies such as Microsoft, Google, Yahoo are a result of an educational system that develops entrepreneurship. The Stanford University is the generator of innovativeness and entrepreneurship development, which helped in the creation of famous Silicon Valley and also in total 39,900 companies since the year of 1939. If we would to observe this University as a country, it would be the tenth richest country in the world [43]. Goldfarb and Henrekson [44] in their research state that Sweden as most of the EU countries trail behind USA in the number of newly opened companies, and as one of the main reasons they see non-stimulating academic environment. Chinese universities have gone through some major changes that led to an increase in the entrepreneurial potential of Chinese students, and this is mostly related to the change in the educational [27]. Li *et al.,* [45] consider that in order to achieve entrepreneurial development it is crucial to create a stimulating environment [46]. Furthermore, they add in their research that education is one of main pillars of entrepreneurship in China. The modern academic society should cooperate more with the private sector while the universities must use the Bologna process in order to improve the creativity of their campuses and be prepared for constant challenges in the social surroundings [18], [47].

The research gap indicates that there is limited literature specifically examining the impact of education on the development of entrepreneurial potential. Most existing studies tend to focus on immediate entrepreneurial intentions and other skills that influence entrepreneurial actions, rather than the long-term development of entrepreneurial capacity. Additionally, it is important to note that the majority of research exploring the influence of educational factors on entrepreneurship originates from developed countries, with a notable lack of studies from developing nations.

3. Research methodology

The purpose of this research is to analyze the role of different educational factors in shaping the entrepreneurial potential of university students. The instruments employed in this research included the Questionnaire on Entrepreneurial Traits (QET), whose authors are Gracanin and Coso [48] and the Scale of Entrepreneurial Potential (SEP), which was created for the purposes of this research by the authors of this work.

These two models were employed to maximize the reliability and representativeness of the results, to comprise as many variables as possible that measure entrepreneurial potential. Three groups of educational factors were analyzed: entrepreneurial education – operationalized by the variable of attending the courses from the field of entrepreneurship, different educational profile - operationalized by the variable of the type of faculty, and the influence of a supportive educational environment towards entrepreneurship, as measured through the variable of the faculty's entrepreneurial orientation.

In this paper we hypothesize that students from different faculties and professional orientations show variations in the expression of particular dimensions within the QET and SEP entrepreneurial potential models. Moreover, that the students who come from universities with developed entrepreneurial orientation, as well as students that had the opportunity to attend courses, in the

domain of entrepreneurship, they simultaneously exhibit more advanced and diverse traits associated with entrepreneurial potential.

3.1 Data collection and descriptive statistics

The research sample consisted of students representing three countries: Serbia, Bosnia and Herzegovina, and Belgium. Participants were drawn from three universities and eleven faculties. The study involved a total of 1,008 students, of whom 589 were male and 419 were female. The study was carried out in compliance with ethical standards, with approval obtained from the relevant institutions and the anonymity of all participants ensured. The data collected were used solely for research purposes. It can be concluded that participants clearly understood the instructions, and no issues were encountered during the data collection process.

3.2 Instruments

In this research, two instruments were employed: the Scale of Entrepreneurial Potential (SEP), developed by the authors specifically for this study, and the Questionnaire of Entrepreneurial Traits (QET) designed by Gracanin and Coso [48]. The SEP measures entrepreneurial potential across eight subscales, namely intellectual abilities, self-confidence, motivation, social relations, constitution, emotionality, extroversion, and organizational skills. The intellectual abilities subscale evaluates adaptability in various situations, the capacity to tackle problems autonomously, decision-making skills, and a readiness for learning and self-improvement. The self-confidence subscale captures courage in expressing personal opinions, whereas the constitution subscale pertains to physical fitness, energy levels, and endurance. Organizational skills reflect a preference for management and strong planning abilities, and the openness subscale measures risk-taking propensity, receptiveness to novelty, and creativity. The motivation subscale encompasses competitive spirit, perseverance, initiative, goal achievement, ambition, persistence, dedication, and diligence. Emotionality evaluates self-control, stress resilience, emotional stability, and optimism, while social relations assess leadership aspirations, communication skills, social dominance, teamwork orientation, adaptability, conflict resolution, and the ability to influence social environments. The SEP inventory comprises 34 items aimed at assessing respondents' scores across these dimensions, with higher total scores reflecting greater entrepreneurial potential. This inventory was specifically created for the present study, grounded in theoretical frameworks and prior research on entrepreneurial traits. All responses were collected using a 5-point Likert scale, ranging from strongly agree to strongly disagree. Confirmatory factor analysis confirmed the factor structure of the questionnaire. In this study, the instrument exhibited satisfactory reliability, with Cronbach's α values ranging from 0.751 to 0.756 across subscales.

The Questionnaire of Entrepreneurial Traits (QET), which evaluates entrepreneurial self-efficacy and attitudes toward entrepreneurship, was developed by Gracanin and Coso [48]. The QET inventory consists of 58 items and is structured into six subscales: entrepreneurial unconventionality and creativity, achievement orientation and challenge acceptance, entrepreneurial self-efficacy, assertiveness and communication, enthusiasm for entrepreneurship, and interest in entrepreneurship and related knowledge. The total score is calculated by summing the scores across all subscales, with higher scores reflecting greater entrepreneurial potential. Sub-scale 1 – Unconventionality and Creativity reflects an individual's tendency to approach problems in innovative and nontraditional ways, including a willingness to take risks, perception of personal creativity, and self-confidence in applying these traits. Subscale 2 – Focus on Achievement and Challenge Acceptance relates to an individual's motivation to pursue innovative solutions for difficult

tasks, embracing challenges and engaging in tasks with uncertain outcomes in terms of success. Subscale 3 – As the largest and most critical subscale, Entrepreneurial Self-Efficacy assesses the level of confidence individuals have in their entrepreneurial competencies, overall perseverance, entrepreneurial inclination, and leadership qualities. Subscale 4 – Assertiveness and Communication assesses two key traits that are particularly valuable in entrepreneurial endeavors. Sub-scale 5 – Positive Attitudes Toward Entrepreneurs and Interest in Entrepreneurship reflects an individual's favorable perception of entrepreneurs and entrepreneurial activity, as well as their personal willingness to pursue entrepreneurship. Sub-scale 6 – Self-Perceived Knowledge about Entrepreneurship evaluates an individual's perception of their own understanding of entrepreneurship and the extent of recent learning in this domain. All responses were collected using a 5-point Likert-type scale, ranging from strongly agree to strongly disagree. Confirmatory factor analysis confirmed the factor structure of the questionnaire. In this study, the instrument demonstrated satisfactory reliability, with Cronbach's α values ranging from 0.732 to 0.805 across sub-scales.

4. Data analysis

The data processing and analysis were performed utilizing Statistica and SPSS (20.0) software. To examine the presence and strength of relationships between variables, descriptive statistics and canonical discriminant analysis were employed.

4.1 Impact of the type of faculty

4.1.1 QET - the type of faculty

Canonical discriminant analysis was performed to examine the significance and structure of differences among students from different faculty types, based on their scores across the dimensions of the QET scale. These results are shown in Tables 1 and 2.

Table 1
Measure of the significance of the discriminant function in the separation of groups

Function	Λ	% includes variance	Rc	Λ_W	χ^2	df	p
1	0.073	83.2	0.260	0.919	84.840	12	0.000
2	0.015	16.8	0.120	0.986	14.578	5	0.012

Table 2
Structural matrix and the value of the discriminant function in group centroids

	Function	
	1	2
Positive attitude towards entrepreneurs and interest in the entrepreneurship	0.761*	0.268
Assertiveness and communication	-0.145	0.807*
Entrepreneurial self-efficacy	0.004	0.761*
Focus on achievement and meeting the challenges	0.297	0.586*
Unconventional and creativity	0.062	0.489*
Knowledge	0.480*	0.485*
Function in the group centroids		
Engineering	0.129	0.081
Social studies	-0.379	-0.059
Economics	0.439	-0.324

* Statistically significant structural coefficient

The students from the Faculty of Economics compared to students from the faculties of social studies achieved greater scores on the sub-scales measuring favorable perceptions of entrepreneurs and engagement with entrepreneurship, self-perceived knowledge, and focus on achievement and challenge acceptance (ΛW=0.919, χ2 (df=12) = 84.840, p<0.01).

The students from the faculty of economics compared to the students from the engineering faculties, and natural sciences faculties have higher scores on the assertiveness and communication, entrepreneurial self-efficacy, focus on achievement, meeting the challenges, unconventional and creativity (ΛW=0.986, χ2 (df=5) = 14.578, p<0.05).

The success of these two functions in the classification of respondents was 40.6%. The worst classified were students belonging to natural and engineering sciences.

4.1.2 SEP - the type of faculty

Canonical discriminant analysis was utilized to investigate the significance and structure of differences among students from various faculty types, with respect to their scores on the dimensions of the SEP scale. The results are presented in Tables 3 and 4.

Table 3
Measure of the significance of the discriminant function in the separation of groups

Function	Λ	% includes variance	Rc	Λ_W	χ^2	df	p
1	0.036	62.3	0.186	0.945	56.803	16	0.000
2	0.022	37.7	0.146	0.979	21.507	7	0.003

Students from the faculty of economics compared to students from the faculties of social studies have a lower score on the dimensions of organizational abilities and intellectual capacity, and a higher score on openness (ΛW=0.945, χ2 (df=16) = 56.803, p<0.00).

Students from the faculty of economics compared to the students from the engineering faculties, and natural sciences faculties obtained lower scores on the dimensions intellectual abilities, social relations, constitutions, openness and emotionality (ΛW=0.979, χ2 (df=7) = 21.507, p<0.05).

Table 4
Structural matrix and the value of the discriminant function in group centroids

	Function	
	1	2
Organizational skills	-0.434*	0.126
Motivation	-0.265*	0.260
Intellectual abilities	-0.298	0.755*
Social relations	-0.016	0.514*
Constitutions	0.275	0.436*
Openness	0.297	0.346*
Emotionality	-0.022	0.300*
Self-confidence	0.225	0.243
Function in the group centroids		
Engineering	-0.132	0.063
Social studies	0.281	0.014
Economics	-0.090	-0.456

* Statistically significant structural coefficient

The performance of these two functions in the classification of participants was 42.5%, while the poorest classified were students studying natural and engineering sciences.

4.2 Attending courses in the field of entrepreneurship

4.2.1 QET - attending courses in the field of entrepreneurship

Canonical discriminant analysis was performed to examine the significance and structure of differences between students who participated in entrepreneurship courses and those who did not, based on their scores across the dimensions of the QET scale. These results are presented in Tables 5 and 6.

Table 5
Measure of the significance of the discriminant function in the separation of groups

function	Λ	% includes variance	Rc	Λ_W	χ^2	df	p
1	0.105	100.0	0.308	0.905	100.031	6	0.000

Students who have attended the course from the field of entrepreneurship in relation to the students who did not, obtained a higher score throughout all subscales of the QET (ΛW=0.905, χ2 (df=6) = 100.031, p<0.01). The biggest differences were on the dimension of knowledge and attitudes, and other dimensions followed according to the following order: focus on achievement and meeting the challenges, assertiveness and communication skills, entrepreneurial self-efficacy, unconventionality and creativity. The effectiveness of this function in the classification of participants was 64.6%.

Table 6
Structural matrix and the value of the discriminant function in group centroids

	Function
Knowledge	0.771*
Positive attitudes towards entrepreneurs and interest in entrepreneurship	0.663*
Focus on achievement and meeting the challenges	0.430*
Assertiveness and communication	0.336*
Entrepreneurial self-efficacy	0.327*
Unconventionality and creativity	0.324*
The function in the group centroids	
Attended courses from the field of entrepreneurship	0.527
Did not attend courses from the field of entrepreneurship	-0.199

* Statistically significant structural coefficient

4.2.2 SEP - attending courses from the field of entrepreneurship

Canonical discriminant analysis was employed to examine the relevance and configuration of differences between students who participated in entrepreneurship courses and those who did not, with respect to their scores across the QET scale dimensions. The results are shown in Tables 7 and 8.

Table 7
Measure of the significance of the discriminant function in the separation of groups

Function	Λ	% includes variance	Rc	Λ_W	χ^2	df	p
1	0.033	100.0	0.178	0.968	32.275	8	0.000

Students who have attended the course from the field of entrepreneurship in relation to the students who did not, obtained a higher score on all the dimensions of the SEP scale except on the dimension of emotionality (ΛW=0.968, χ2 (df=8) = 84.840, p<0.01). The biggest differences were in the dimensions of organizational skills, social relations, motivation, constitution, openness, self-confidence and ultimately on intellectual abilities.

Table 8
Structural matrix and the value of the discriminant function in group centroids

	Function
Organizational skills	0.860*
Social relations	0.776*
Motivation	0.659*
Constitution	0.500*
Openness	0.478*
Self-confidence	0.422*
Intellectual abilities	0.393*
Emotionality	0.142
Function in group centroids	
Attended courses from the field of entrepreneurship	0.294
Did not attend courses from the field of entrepreneurship	-0.111

* Statistically significant structural coefficient

4.3 Entrepreneurial orientation of the faculty

4.3.1 QET - entrepreneurial orientation of the faculty

Canonical discriminant analysis was conducted to identify the significance and structure of differences among students from faculties with varying levels of entrepreneurial orientation, based on their scores on the dimensions of the QET scale. These results are shown in Tables 9 and 10.

Table 9
Measure of the significance of the discriminant function in the separation of groups

Function	Λ	% includes variance	Rc	Λ_w	χ^2	df	p
1	0.044	100.0	0.205	0.958	43.057	6	0.000

Table 10
Structural matrix and the value of the discriminant function in group centroids

	Function
Positive attitudes towards entrepreneurs and interest in entrepreneurship	0.779*
Entrepreneurial self-efficacy	0.529*
Focus on achievement and meeting the challenges	0.457*
Knowledge	0.384*
Assertiveness and communication	0.302*
Unconventionality and creativity	-0.080
The function in the group centroid	
Entrepreneurial-oriented environment of the faculty	0.186
Not entrepreneurial-oriented environment of the faculty	-0.236

* Statistically significant structural coefficient

The students whose faculties are entrepreneurial-oriented in relation to the students whose faculties are not, obtained elevated scores on all dimensions of the QET scale except unconventionality and creativity (ΛW=0.958, χ2 (df=6) = 43.057, p<0.01). The greatest differences were in the positive attitudes towards entrepreneurs and interest in entrepreneurship, then on the entrepreneurial self-efficacy, focus on achievement and meeting the challenges. Following were differences on the dimension of knowledge and in the end differences on assertiveness and communication skills. The success of this function in categorizing respondents was 58.1%.

4.3.2 SEP - entrepreneurial orientation of the faculty

Canonical discriminant analysis was conducted to assess the significance and structure of differences among students from faculties with varying degrees of entrepreneurial orientation, based on their scores across the dimensions of the SEP scale. The results are presented in Tables 11 and 12.

Table 11
Measure of the significance of the discriminant function in the separation of groups

Function	Λ	% includes variance	Rc	Λ_w	χ^2	df	p
1	0.039	100.0	0.146	0.983	25.314	7	0.002

Students whose faculties are entrepreneurial-oriented in relation to the students whose faculties are not, have higher scores on dimensions of organizational abilities, motivation, intellectual abilities and constitution (ΛW=0.983, χ2 (df=7) = 25.314, p<0.05). The success of this function in categorizing respondents was 58.2%.

Table 12
Structural matrix and the value of the discriminant function in group centroids

	Function
Organizational skills	0.651*
Motivation	0.634*
Intellectual abilities	0.546*
Constitution	0.380*
Social relations	0.244
Self-confidence	0.168
Openness	-0.023
Emotionality	0.011
Function in the group centroids	
Entrepreneurial-oriented environment of the faculty	0.137
Not entrepreneurial-oriented environment of the faculty	-0.174

* Statistically significant structural coefficient

5.5 Discussion

The significance of education in cultivating the entrepreneurial potential of young individuals is indisputable, however, some educational factors, are to a large extent ignored in practice and the impression is that there is not enough effort put in the planning and implementation of modern educational strategies in developing countries [4], [10], [27]. The main objective of this research was to assess how different educational factors influence the entrepreneurial potential of the student population. In accordance with the theoretical assumptions that shape the individual characteristics forming the foundation of entrepreneurial potential [6], [19], [21]. In line with previous research,

which researched educational factors which contribute to the development of the individual features which incline a young individual toward entrepreneurial activity [17], [23], [49]. Basic presumption was that the students, who are educated in the different faculties, belong to different educational profiles, had previous entrepreneurial education, or attended subjects from entrepreneurship, as well as students, which originate from the faculties that are oriented towards entrepreneurship and those which substantially do not possess such an orientation, mutually differ in the level of development of the entrepreneurial potential, meaning they achieve different results on the QET and SEP models of entrepreneurial potential.

The investigation confirmed the initial hypothesis, and found that students who come from different faculties have differently developed entrepreneurial potential, and moreover young people who come from traditional entrepreneurial-oriented faculties and those that attended courses in entrepreneurship within their formal education exhibit higher entrepreneurial potential compared to their peers who belong to different educational backgrounds and during their previous education did not have the opportunity to attend classes in the field of entrepreneurship. These findings support the significance of education in cultivating entrepreneurship as well as for the growth of the entrepreneurial potentials and capacities of the young population. This in turn empowers the employability, competitiveness, the growth of the regional economy and the development of transitional societies as a whole [18], [26], [50].

When it comes to the effect of the type of faculty and educational profile on the development of entrepreneurial potential of the student population, canonical discriminant analysis showed differences between students from different faculties in scores on the dimensions of entrepreneurial potential model QET. Students of Economics compared to the students from the faculties of social sciences have developed positive attitudes towards entrepreneurs and interest in entrepreneurship, knowledge and focus on achievement and acceptance of challenges. This finding is expected when considering the nature of education in the field of economics, which is focused on the transfer of knowledge and skills that are related to dealing with entrepreneurship [1], [12], [15]. Young people who entered the Faculty of Economics have previously developed knowledge (gained through formal education if coming from secondary schools of economics) and previous interests, which predisposed them to choose economics, a propensity for taking risks and accepting challenges, which is also one of the potential traits that has defined them for choosing the economics profile [5], [20], [51].

Faculties, through teaching contents and methods, support the continued growth and enhancement of knowledge, skills and interests [18], [23], [26]. The students of social sciences lack the entrepreneurial characteristics, primarily due to their previous characteristics and interests that led them choose social professions that are not aimed at developing entrepreneurial potentials. Even though their education does not provide a framework for the development of entrepreneurial potential, it creates a wide range of opportunities for improvement of entrepreneurial potential, given the current dynamics of the labor market and the wider range of possibilities for practicing their profession [25], [28], [46].

Also, the students from the field of economics compared to the students of engineering and natural sciences have developed dimensions of assertiveness and communication skills, entrepreneurial self-efficacy, focus on achievement, meeting the challenges, unconventionality and creativity. The students from the field of economics compared to the students from natural sciences and engineering are in advantage regarding the development of entrepreneurial potential. They are more communicative, willing to fight for their needs, rights, views and opinions. In terms of entrepreneurial experience, they have a higher performance and efficiency, are more focused on achievement, tend to take on risk, they possess an unconventional approach and are more creative.

One of the reasons for choosing economic sciences is probably their pervasive and expansive nature, which includes initiative and risk propensity [17], [44], [47]. On the other hand, young people that choose to study natural sciences and engineering faculties possess calmer nature, they are more systematic, aimed at stable and known forms [6], [21], [40]. This finding suggests that it is necessary to develop entrepreneurial potential in students of natural sciences and engineering through formal and informal education, primarily due to the modern labor market that requires constant progress, change and poses new challenges for all professions [27], [28], [40].

Canonical discriminant analysis is a type of multivariate analysis whereby factors are formed, not on the basis of correlation of independent variables, but on the basis of their discriminability, so that similarity within groups and differences between groups is as large as possible. Discriminant analysis seeks to identify variables that effectively separate two or more naturally occurring groups. It is a question of applying factor analysis to the intergroup and intra-group variance of the sample of respondents [52].

The canonical discriminant analysis was used to determine the differences between the students from distinct types of faculties and their scores on the dimensions of the model of entrepreneurial potential SEP. The students from the faculty of economics scored lower on the dimensions of organizational abilities and intellectual capacity, and obtained higher score on openness compared to the students from the faculties of social sciences. Also, the students of economics compared to the students of natural sciences and engineering faculties have a lower score on the dimensions of intellectual abilities, social relations constitutions, openness and emotiveness. Here the results are not so unambiguous, and we can also acknowledge that the students of natural sciences, social sciences and engineering faculties have developed specific entrepreneurial potential, and even more advanced than those who opted for the economics profession. Furthermore, they possess a certain intellectual, organizational and socio-emotional entrepreneurial capacities that are even more distinct from those of the students from the faculties of economics. However, it seems that primarily their interests are different and openness to ideas is aimed in other directions, such as the arts, science, etc., and not towards entrepreneurship in the narrow sense of the word [6], [27], [28].

Here the results are clear and unambiguous showing that students who have attended the subjects from the field of entrepreneurship compared to the students that did not, have more developed all the dimensions of entrepreneurial potential model, QET. The biggest differences were in knowledge and attitudes, and on the focus on achievement and meeting the challenges, assertiveness and communication skills, entrepreneurial self-efficacy, unconventionality and creativity. This finding highlights the undoubted importance and role of entrepreneurial education, which not only contributes to the individual's acquisition of knowledge and entrepreneurial skills, but also leads to the development of the whole personality of individuals - their ideas, attitudes, interests, motivation, socio-emotional and communication capacities that are necessary for successfully dealing with entrepreneurship [2], [23], [32]. Precisely such a result suggests the introduction of entrepreneurship education at different levels of education (preschool, primary, secondary schools, universities) and within different educational backgrounds (grammar schools, secondary vocational schools, social sciences and humanities, natural sciences, engineering sciences, etc.), and not only in the framework of the field of economics, such as economic vocational schools and faculties [15], [29], [31].

The canonical discriminant analysis was also used to determine the differences between the students that attended and students that did not attend courses from the field of entrepreneurship education according to their scores on the dimensions of entrepreneurial potential model of SEP. The students who have attended the courses from the field of entrepreneurship education compared to

students who did not, had more developed all the dimensions of the SEP model, except emotionality. The greatest differences were in organizational skills, social relations, motivation and the constitution, then on the dimension of openness, and confidence and at the end on the dimension of intellectual abilities. Thus, in the context of this model the role of entrepreneurship education in the development of entrepreneurial potential among young people is clearly confirmed, which strongly shows that entrepreneurship education contributes to the development of intellectual and organizational skills, motivation for entrepreneurship, openness, development of social skills and self-confidence of youth. All these traits are necessary prerequisites for efficient and successful engagement in entrepreneurship [5], [30], [33].

Once again, the role of education in the development of entrepreneurship proved its importance and revealed its influence in the development of the whole personality of young people and raising their overall capacity and resources in order to successfully address future professions they choose, which does not necessarily have to be within the traditional entrepreneurial framework of professions [15], [36], [38].

Concerning the impact of entrepreneurial orientation of the faculty, canonical discriminant analysis determined differences between students from faculties with different attitude towards entrepreneurship in their scores on the dimensions of the model QET. Students whose faculties are entrepreneurial-oriented compared to students whose faculties are not entrepreneurially oriented have more expressed all the dimensions of QET model except unconventionality and creativity. The biggest differences are in the positive attitudes of entrepreneurs and interest in entrepreneurship, then on the dimension of entrepreneurial self-efficacy, focus on achievement and meeting the challenges, the dimensions of knowledge and communication skills and assertiveness.

The canonical discriminant analysis confirmed the difference between the students from the faculties with different orientation towards entrepreneurship in the level of expression of dimensions of the model SEP. Students whose faculties are entrepreneurial-oriented compared to students whose faculties are not, have more developed dimensions of organizational skills, motivation, intellectual abilities and constitution. Therefore, based on these results, it can be concluded that the entrepreneurial orientation of faculties and paying attention through the contents and methods of development of entrepreneurial capacity of students is an important educational factor. This approach effectively contributes to the improvement of the most essential elements of the entrepreneurial potential of young people [23], [38], [42], as viewed from the dimensions of both models QET and SEP.

The Entrepreneurial orientation of the faculty, encouragement and improvement of entrepreneurial education, not only through specific subjects, contributes to the development of intellectual and organizational skills. Furthermore, it improves knowledge, motivation and interest for entrepreneurship in young people, focus on the achievement and meeting the challenges, the experience of self-efficacy and the expectation of success in terms of students dealing with entrepreneurship, the development of social and communication skills of young people. All of above-mentioned points to the importance of encouragement young people and greater openness to entrepreneurship in the broadest sense, in all of the faculties, not just those that are traditionally entrepreneurially oriented like the faculties from the field of economics [7], [12], [43].

6. Conclusion

The goal of this research was to examine the effect of various educational factors on the development of the entrepreneurial potential of the student population, which was rationalized through the dimensions of the two presented models—QET and SEP. This research has its theoretical and practical implications in the field of elucidating the role and importance of relevant educational

factors in the field of development and promotion of the entrepreneurial potential of young people who are educated for various professions in modern society, both in developed countries and in countries that are in the process of transformation and more intensive socio-economic development. From the theoretical aspect, the obtained results on the relationship between educational factors and the investigated dimensions of entrepreneurial potential are important for the further development and improvement of conceptual models dealing with entrepreneurial potential, especially in the domain of those characteristics that can be developed through the educational process at different levels. In a practical sense, those educational factors that have proven to be significant factors in the entrepreneurial potential of the young population, it is necessary to systematically encourage and monitor their action within the framework of training young people for entrepreneurial activity. The most significant practical results of this research indicate that entrepreneurship education should form an essential part of education at every level and within different academic profiles.

When it comes to the specific contributions of this research, this study indicates a significant influence of educational factors, such as the type of faculty and educational profile, early education in the field of entrepreneurship, as well as the entrepreneurial orientation of faculty in a broad sense, and in terms of the development of the entrepreneurial potential of the student population. As shown by the findings of this study, following courses within the domain of entrepreneurship and the entrepreneurial orientation of the faculty leads to the development of cognitive, motivational, socio-emotional and innovation capacity of young people, operationalized by the relevant dimensions of the QET and SEP models in this research. These characteristics represent the key elements of entrepreneurial potential and are a prerequisite for the commitment and successful entrepreneurship, so observed in the context of the educational implications and practical guidelines for improving the process of youth employment and harmonization of education policies to the requirements of the labor market of modern economies, it is necessary to create appropriate teaching subjects from the domain of entrepreneurial education, which would be represented within different educational profiles and at different levels of education, and it is necessary to create appropriate teaching subjects from the domain of entrepreneurial education, which would be represented within different educational profiles and at different levels of education, and to generally encourage the entrepreneurial orientation of different faculties, so that young people are adequately prepared for entrepreneurial action in different professional spheres.

Through future research, it would be expedient to examine how different educational factors are related to the characteristics of entrepreneurial potential at younger ages, primarily among the high school population. In addition, it would be desirable to carry out longitudinal research, which would deal with monitoring the effect of various educational factors on the development of entrepreneurial competencies in a long, continuous time interval, from an even earlier age, that is, from early school age, through high school, all the way to college. Also, examining the interaction of educational factors with other individual and social factors would give a more complete and broader picture of the complexity of all factors that participate in the development of the entrepreneurial potential of young people. In general, encourage the entrepreneurial orientation of different faculties, so that young people are adequately prepared for entrepreneurial activity in different professional spheres.

Through future research, it would be expedient to examine how different educational factors are related to the characteristics of entrepreneurial potential at younger ages, primarily among the high school population. In addition, it would be desirable to carry out longitudinal research, which would deal with monitoring the effect of various educational factors on the development of entrepreneurial competencies in a long, continuous time interval, from an even earlier age, that is, from early school

age, through high school, all the way to college. Also, examining the interaction of educational factors with other individual and social factors would give a more complete and broader picture of the complexity of all factors that participate in the development of the entrepreneurial potential of young people.

Young entrepreneurs represent the base, a foundation of a strong economy. Different educational programs that promote entrepreneurship provide crucial role in developing entrepreneurial knowledge and skills that can help students in the future to recognize opportunities in the market. Having been exposed to entrepreneurial education such as business simulation and mentorship helps build entrepreneurial mindset their creativity, innovativeness that helps them start and develop businesses and contribute to overall economic well-being.

Author Contributions

Individual contributions of authors: Conceptualization, M.S. and M.M.; methodology, M.S. and M.M.; software, D.C.; validation, M.S., M.M. and A.P.; formal analysis, S.M.; investigation, M.S.; resources, M.S.; data curation, M.S.; writing—original draft preparation, M.S. and M.M.; writing—review and editing, M.S. and M.M; visualization, M.S.; supervision, M.M.; project administration, B.D.; funding acquisition, B.D. All authors have read and agreed to the published version of the manuscript.

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Data Availability Statement

Data supporting reported results can be obtained on request sent by email from the first author.

Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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