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The Impact of School Education and Family Environment on Pupils' Entrepreneurial Spirit and Attitude to Entrepreneurship

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Abstract

The interest in education for entrepreneurship in primary and secondary schools constantly rises and it arouses a need to examine its impact on certain entrepreneurial characteristics. Not much research focusing on this topic has been conducted as yet. Research usually shows its positive impact on the intention to do business. In this study, we examined the mutual relation of five variables: pupils' entrepreneurial spirit, pupils' attitude to entrepreneurship, the school education focus on entrepreneurship, teachers' influence and the influence of their relatives-entrepreneurs. To collect data, we used ASTEE questionnaire. The researched sample consisted of 268 pupils from primary and secondary schools in the Czech Republic. Only medium or small correlation values were found between the researched variables, which means that the formation of pupils' entrepreneurial spirit and attitude to entrepreneurship is not principally influenced by the learning content about entrepreneurship and by teachers. The findings can support the opinion that education for entrepreneurship and preparation for entrepreneurship is more effective in a thought-out entrepreneurial ecosystem.

Keywords: *entrepreneurial spirit, attitude to entrepreneurship, relatives-entrepreneurs, teachers encouraging entrepreneurial spirit, school entrepreneurship education*

Introduction

Education for entrepreneurship is a relatively new educational field and its comprehensive theory is still being formed. Nowadays, its importance is undisputable and leads to dramatic changes in its implementation, which also necessitates a high quality of its research (Morris, Liguori, 2016). The beginnings of the education for entrepreneurship can be found several decades ago in form of entrepreneurship training at universities. At present, it is considered to be a part of lifelong learning and entrepreneurship has become one of the key competences which all learners should acquire. "Sense of initiative and entrepreneurship refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. This supports individuals, not only in their everyday lives at home and in society, but also in the workplace in being aware of the context of their work and being able to seize opportunities, and is a foundation for more specific skills and knowledge needed by those establishing or contributing to social or commercial activity. This should include awareness of ethical values and promote good governance". (Recommendation, 2006). In the 2014/2015 school year, out of 38 researched education systems in EU countries, 11 had a specific strategy for the education for entrepreneurship, 18 had a broader strategy and 9 did not have any strategy (Entrepreneurship education at school in Europe, 2016). The Czech Republic is one of the countries with a broader strategy for the education for entrepreneurship. As for its implementation, it is included in the compulsory school curriculum at primary and secondary schools, as in other 14 countries. The topic of entrepreneurial spirit and entrepreneurship is not taught as a separate subject. In primary schools, it is included in the field of People and the world of work, which is taught in grades 6- 9 at primary schools in the subject of the same name or Handicrafts, roughly around 10 lessons. The learning content about entrepreneurship focuses on "types and structures of organisations, most common forms of businesses and small and private businesses" (RVPZV, 2016). In the first four grades in 8-grade grammar schools (grades 6- 9), this educational field can be included in the subject Civic education. In 4-grade grammar schools (grades 10- 14), which provide a secondary general education, the competence of entrepreneurship is included in the six key competences and it is mainly acquired within the educational field also called People and the world of work, included in the topic of "market economy". The whole educational field People and the world of work is often integrated into the subject Social Studies. It can be only guessed that approximately 10 lessons are devoted to the topic of entrepreneurial spirit and entrepreneurship in this subject

during four-year studies. Entrepreneurship education is similarly implemented at secondary technical and vocational schools, with some differences for the specific fields of study. In the teaching outputs, it is mentioned that “a pupil distinguishes and compares the practical use of individual forms of businesses and assesses which form is the best in a given situation, assesses advantages and risks of doing business compared to employment and states how to set up one’s own business” (RVPG, 2007). Undoubtedly, the teaching of other subjects also contributes to shaping the sense of initiative and entrepreneurship.

In the past, the education for entrepreneurship was a subject of many projects within the scope of EU operational programmes, which showed its positive effects (Malach, 2015). However, the effects of standard school education focusing on the development of entrepreneurial spirit have not been researched yet and are not sufficiently known. The aim of the study was to carry out a pilot survey measuring the impact of school education at primary and secondary schools on pupils’ entrepreneurial spirit and their attitude to entrepreneurship compared with the impact of pupils’ relatives who are entrepreneurs, using standard evaluation tools. The findings could be used to change curriculum arrangements of entrepreneurship development and to strengthen teachers’ role in this regard.

Unlike other competences, the key competence of entrepreneurship and initiative has not been purposely evaluated at national or international levels (Developing key competences, 2012). Within the scope of GEM national reports for the Czech Republic, based on expert opinions, their authors (Lukeš, Jakl, 2011; Lukeš, Jakl and Zouhar, 2014) express their very critical views on the quality of school education focusing on entrepreneurship. They also note that “education does not focus on the development of attitudes and skills necessary for entrepreneurship, and self-reliance and initiative are rather suppressed than encouraged in children especially at primary and secondary schools. School teachers do not have any other work experience and their narrowly focused pedagogical education is a barrier to innovation”. Also abroad, the effects of specialised courses are examined more often than entrepreneurship education provided by school, and research carried out at universities prevails. Based on the analysis of previous studies, Rosendahl-Huber, Sloof and van Praag (2012) observed that spending money on the development of entrepreneurial skills at the age of 20 is too late, and the investments into pre-school and primary education have higher returns than investments in secondary and university education. In the research sample of 2000 randomly selected pupils from grade 9 at primary schools, Vestergaard, Moberg and Jørgensen (2012) identified clear significant differences between commonly-taught pupils and pupils who were “given” an entrepreneurship edu-

cation. The differences were related to their view of the future, their ambitions and their awareness of the relation to school and society. Pupils' attitudes to entrepreneurship are of high level- 95% of them view entrepreneurship as something positive and 53% view it as a career opportunity. In these indicators, there were no identified differences between pupils taught in a common way and pupils who were provided with education for entrepreneurship.

Moberg and Stenberg (2013) examined the effects of education for entrepreneurship and they summed up the research results into five conclusions: 1. Pupils who took part in education for entrepreneurship have higher work and educational ambitions than pupils who did not participate. 2. Part of the pupils (2.4%) already do activities aimed at starting a business. 3. The education for entrepreneurship has a positive impact on pupils' intentions to start their own business. 4. There is an increase in pupils' entrepreneurial activities outside of school. Many more pupils become leaders or initiators of leisure time activities after taking part in an education for entrepreneurship. 5. The development of entrepreneurship focusing on the enhancement of non-cognitive and general skills has a positive impact on pupils' relation to school and education, they look forward to school more, they feel a relation to their classmates and support from their teachers.

The prevailing opinion that education for entrepreneurship is the main factor in the formation of entrepreneurial spirit in an individual has also its opponents. They believe that "entrepreneurs are born" while relying on arguments stating that the most important characteristics of an entrepreneur, i.e. an ability to bear risks and tolerate uncertainty and lack of clarity, are inherited (Fisher, Koch, 2008). At the same time, the proposition that entrepreneurship can be learnt admits that from the genetic point of view, people have different inclinations towards entrepreneurship and different sets of skills and inherited intellectual abilities. This can mean that not every person can learn to do business. On the other hand, it is in classrooms where people can discover their passion for entrepreneurship with certainty. As for general skills, if people start to learn and they have interest and certain talents which enable them to become entrepreneurs with bigger or smaller probability, it is possible to raise their qualifications to become entrepreneurs through learning (Lange, 2013). Looking for answers to questions regarding the strength of the impact of an individual's inherited dispositions and acquired characteristics for starting and doing business attracted some authors so much that they conducted research into adoptive and biological parents in Sweden, which was supposed to assess the impact of external factors and hereditary characteristics which direct people to become entrepreneurs. Lindquist, Sol and Van Praag (2012) confirmed already published findings that parents' entrepreneurship

increases the probability that a child will start to do business up to 60%. They also found out that this impact is equally significant no matter whether the parents are biological or adoptive. The effect of “after-birth factors” is approximately twice as big as the effects of “pre-birth” factors. Extensive research on more than five thousand respondents showed that entrepreneurs have an important impact on children and youth. 46% of those who know an entrepreneur personally want to start a business, while only 31% of those who do not know any want to do so (Young Entrepreneurs, 2010). Melovic (2013) found out that students whose parents are entrepreneurs more often think about setting up their own company (12.4%) than children whose parents do not do business (5.1%). Attitudes to entrepreneurship are significantly influenced by the family, be it their example as well as their support. These attitudes directly predict the intention to do business (Fini, Grimaldi, Marzocchi and Sobero, 2009). Attitudes to entrepreneurship are also influenced by gender (Pittaway and Cope, 2006).

In the education for entrepreneurship, a key role is also played by teachers from all stages of education (Entrepreneurship education: Enabling teachers, 2011). The report states that the education for entrepreneurship as a new educational challenge has to be approached by teacher training and education. In this regard, there appear requirements to define teachers’ roles in a new way; they should fundamentally increase their responsibility not only regarding pupils’ knowledge but mainly regarding the development of their skills and formation of their attitudes and assumptions and also their behaviour. It is often pointed out that teachers who encourage entrepreneurial spirit in their pupils and develop their aptitudes to entrepreneurship have to also possess entrepreneurial, personal and didactic competences so that they could serve as an example for their pupils and teach entrepreneurship as facilitators of education and coaches in a school entrepreneurial environment (YEDAC Teachers guideline). The teacher’s role changes from an educator standing in front of the class to a person who leads the students as one of them. The teacher should focus on organising and facilitating educational activities, motivating students to actively participate in education and then taking a role of an advisor guiding students in various activities. In this way, students’ activity and behavioural skills will be developed. One of the thirteen recommendations for the “maximisation” of the effects of the education for entrepreneurship states that “teachers are key factors and can inspire students as behaviour models and mentors” (Entrepreneurship Education. A road to success, 2015). Entrepreneurship teachers should have basic knowledge of entrepreneurship, education for entrepreneurship, open-minded opinions on entrepreneurship as well as entrepreneurial competences, personal competences

and relevant didactic competences (YEDAC Teachers guideline). As for their university training, relevant output from teaching regarding knowledge, skills and attitudes has already been formulated (SEECCEL).

We have not found any research, or more precisely a comparison of impacts of school education and teachers on pupils' entrepreneurial spirit and their attitudes to entrepreneurship and an examination of relatives-entrepreneurs' impact on these researched targeted categories.

Research methodology

To answer the research questions and confirm hypotheses, we used an ASTEE questionnaire, which was done online. The ASTEE questionnaire is a result of the ASTEE project (Assessment Tools and Indicators for Entrepreneurship Education), whose aim was to create a set of measuring instruments for the assessment of entrepreneurial skills, knowledge, attitudes and thinking in pupils and students from the whole Europe (Moberg et al., 2014). The authors of the article used two levels of the questionnaire, i.e. the primary level, which is for pupils from primary schools, and the secondary level for students from secondary schools (about 17 years old). The questionnaire was validated in 13 countries (the United Kingdom, Sweden, France, Germany, etc.). Besides demographic items, there are also items with statements and respondents express how much they (dis)agree with them on a scale from 1 to 7. These statements are always given in the text that provides answers to the formulated research questions. The investigators of the ASTEE project pointed out five particularly important criteria in the field of the diagnostics of the entrepreneurship education: skills, knowledge, thinking, and mutual interconnectedness with education and with a future career. In accordance with the intention of the study, we chose five factors and examined mutual relations between them. They were individuals' entrepreneurial spirit (or mindset), their attitude to entrepreneurship, their relatives-entrepreneurs, teachers supporting entrepreneurial spirit and entrepreneurship education (cf., Figure 1).

The research sample consisted of pupils from primary schools (grade 8, aged 13–14) and secondary schools (grade 3, aged 17–18) from the Moravian-Silesian region in the Czech Republic. The data were collected from April to June 2016 at eight schools. More information about the research sample is presented in Table 1.

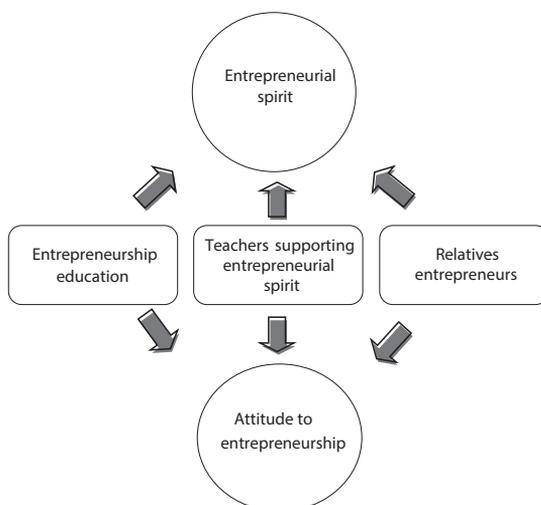


Figure 1. Research variables

Table 1. Research participants

Category	Number	% out of all participants
Primary school pupils	179	66.8
Secondary school students	89	33.2
Women	105	39.2
Men	163	60.8
Total	268	100.0

Research results

The research results are introduced by a research question and a corresponding hypothesis. In the hypotheses, there are assumptions, which express the relations between variables related to processes and effects of the education for entrepreneurship at primary and secondary schools. The values of the calculated Pearson correlation coefficient (PCC) are shown in Table 2. The average values of variables, their standard deviations and the significance of their differences by a t-test for individual subgroups of the research sample are presented in Tables 3 and 4.

Table 2. Pearson correlation coefficient in the researched variables

Researched variables	Attitude to entrepreneurship	Relatives' influence	Teachers' influence	Education for entrepreneurship	Entrepreneurial spirit
Attitude to entrepreneurship	1				
Relatives' influence	.172**	1			
Teachers' influence	.059	.017	1		
Education for entrepreneurship	.107	.060	.639**	1	
Entrepreneurial spirit	.191**	.128*	.258**	.211**	1

Legend: *-correlation at the significance level 0.05, **-correlation at the significance level 0.01

Research question 1: *Is there a relation between the level of pupils' own perceived entrepreneurial spirit and their evaluation of the process focus level of the education for entrepreneurship?*

The assumed finding was formulated in hypothesis 1: *The higher the evaluation of the process focus level of the education for entrepreneurship is, the more they feel their own entrepreneurial spirit.* In other words, the more school education focuses on essential goals of the education for entrepreneurship, the higher pupils' entrepreneurial spirit is.

Given that the value of the correlation coefficient between variables did not reach the median value (PCC=0.201), it is not possible to confirm the first hypothesis. Therefore, it is not possible to say if a school taught a pupil to think creatively, create new ideas and how to put thoughts into practice, it means they influenced pupils' level of entrepreneurial spirit represented by their self-assessment of their ability to come up with new ideas, come up with a new or different solution and find new ways to proceed. The observed median value of the level of entrepreneurial spirit was 4.16 in the school pupils and 4.96 in the secondary school students (maximum 7) and the difference observed was statistically significant in favour of the secondary school students. However, we did not find any significant difference in the level of entrepreneurial spirit between the boys and the girls. The calculated median value of the process focus level of the education for entrepreneurship was 4.33 in the primary school pupils and 3.40 in the secondary school students and the difference observed was statistically significant in favour of the primary school pupils. The primary school pupils thus evaluated the work of their schools

much better regarding the shaping of entrepreneurial spirit. In addition, we did not observe any significant difference in the evaluation of the focus level between the boys and the girls.

Research question 2: *Is there a relation between pupils' perceived level of their own entrepreneurial spirit and their perceived level of teachers' influence?* The assumed finding was formulated in hypothesis 2: *The higher pupils' evaluation of teachers' impact regarding entrepreneurship, the higher their own entrepreneurial spirit perceived.* In other words, the bigger the teachers' effort to shape essential entrepreneurial characteristics (which was defined as a mean of values of pupils' agreement with statements, i.e. teachers encouraged them in their leisure time activities, they listened to pupils' ideas and taught them that making mistakes is human), the higher the level of pupils' entrepreneurial spirit. The value of the correlation coefficient between variables almost reached the median value (PCC=0.258), so it is possible to confirm hypothesis 2. It is possible to note that teachers to a certain degree influence pupils' level of entrepreneurial spirit. The calculated median value of the teachers' impact on the pupils' development of their entrepreneurial spirit was 4.77 in the primary school pupils and 3.19 in the secondary school students (maximum 7) and the difference observed was statistically significant in favour of the primary school pupils. The primary school pupils thus evaluated the impact of their teachers on the formation of their entrepreneurial spirit much better.

Research question 3: *Can pupils' perceived level of their own entrepreneurial spirit be influenced by their relationship with people who are entrepreneurs?* The assumed finding was formulated in hypothesis 3: *The perceived level of their own entrepreneurial spirit increases with the closeness of pupils' relationship with relatives who are entrepreneurs.* The closer the pupils' relation with a person who is an entrepreneur, the higher the level of their own entrepreneurial spirit. (Relatives' impact was assessed using a scale: 1 = no relative is an entrepreneur; 2 = a relative except for parents is an entrepreneur; 3 = one or both parents are entrepreneurs).

The PCC value between these variables is 0.128, which does not confirm hypothesis 3. Thus, it was not proved in the research sample that the higher the level of the pupils' relationship with a relative-entrepreneur, the higher the level of their entrepreneurial spirit. Pupils can be influenced slightly more by parents who are entrepreneurs than other relatives. The secondary school students have more entrepreneurs in their extended families, or they are better informed about them than the primary school pupils, which is also relevant when comparing the boys and girls. The impact of relatives who are entrepreneurs on the pupils' entrepreneurial spirit is lower in comparison with school education and teachers' impact.

Research question 4: *Is there a relation between pupils' claimed attitude to entrepreneurship and their evaluation of the process focus level of the education for entrepreneurship?* The finding was formulated in hypothesis 4: *The higher pupils' evaluation of focusing on essential goals in the education for entrepreneurship, the higher the value expressing the level of pupils' agreement with positive effects of entrepreneurship, called here an attitude to entrepreneurship.* The low correlation between the variables observed ($PCC=0.107$) does not confirm this hypothesis. Therefore, it is not possible to attribute a significant influence of school education on the pupils' attitudes to entrepreneurship. However, data for these attitudes expressed as the mean of values of the pupils' agreement with three statements (starting a business is valuable, fun and positive) were the same for the primary and secondary school pupils (4.67), and show the pupils' positive attitudes to entrepreneurship. There were no differences in attitudes between the boys and girls.

Research question 5: *Is there a relation between pupils' attitudes to entrepreneurship and their perceived teachers' influence?* The answer is offered in hypothesis 5: *The higher value pupils ascribe to teachers' influence in the field of entrepreneurship, the higher the value expressing pupils' level of agreement with the positive effects of entrepreneurship (attitude to entrepreneurship).* In other words, the bigger teachers' efforts in shaping essential entrepreneurial characteristics, the higher the value expressing pupils' positive attitude to entrepreneurship. A very low correlation between these variables ($PCC=0.059$) does not confirm this hypothesis. Even though the value expressing teachers' influence oscillates around 4 in given sub-groups of the selected sample, it does not have a significant relation to pupils' attitudes to entrepreneurship. This finding can be explained by a fact that the majority of teachers do not have any personal experience with entrepreneurship and there is only a little time devoted to entrepreneurship in the curriculum. In the whole research, there were biggest differences between pupils when assessing teachers' influence, especially among girls.

Research question 6: *Is there a relation between pupils' attitudes to entrepreneurship and the influence of relatives-entrepreneurs?* Hypothesis 6 was formulated for this question: *Their claimed attitude to entrepreneurship rises with the closeness of their relationship with relatives-entrepreneurs.* The closer the relationship with an entrepreneur, the higher the value expressing the pupils' agreement with positive effects of entrepreneurship. The hypothesis was disproved ($PCC=0.172$), and thus it is not possible to say that children's attitude to entrepreneurship is more positive if one of their parents is an entrepreneur in comparison with children who have an entrepreneur in an extended family or whose parents are not entrepreneurs.

Table 3. Mean values of researched variables and significance of their differences between educational stages

Researched variables	stage	number of pupils	mean	st. deviation	t-test significance
Attitude to entrepreneurship	PS	179	4.67	1.179	1.000
	SS	89	4.67	1.329	
Relatives-entrepreneurs' influence	PS	179	1.72	0.773	.043
	SS	89	1.92	0.801	
Teachers' influence	PS	179	4.19	1.467	.031
	SS	89	3.77	1.545	
Education for entrepreneurship	PS	179	4.33	1.355	.000
	SS	89	3.40	1.226	
Entrepreneurial spirit	PS	179	4.16	1.277	.000
	SS	89	4.95	1.007	

Table 4. Mean values of researched variables and significance of their differences between genders

Researched variables	gender	number of pupils	mean	st. deviation	t-test significance
Attitude to entrepreneurship	boys	163	4.67	1.312	.990
	girls	105	4.67	1.092	
Relatives-entrepreneurs' influence	boys	163	1.81	0.805	.498
	girls	105	1.74	0.760	
Teachers' influence	boys	163	4.19	1.444	.062
	girls	105	3.83	1.574	
Education for entrepreneurship	boys	163	4.01	1.494	.814
	girls	105	4.05	1.197	
Entrepreneurial spirit	boys	163	4.47	1.227	.423
	girls	105	4.34	1.286	

Discussion and conclusion

The results of our research can be compared with the results obtained during the standardisation of an assessment tool as part of the ASTEE project in almost 1,500 respondents.

The school influence mean value in the sample observed was 5.08 in primary school pupils without experience with activities related to entrepreneurship and 5.46 in pupils with some experience and it is slightly higher than the value for the Czech population (4.33). As for secondary school students, the values were 4.17 and 4.55 and 3.40 respectively. The teachers' influence mean value in the sample observed was 4.99 in the primary school pupils without experience with activities related to entrepreneurship and 5.19 in the pupils with some experience and it is slightly higher than the value for the Czech population (4.19). As regards the secondary school students, the values were 4.28 and 4.54 and 3.77 respectively. The differences in the mean values for these variables can be caused by the fact that the research was done on the people who were involved in the project and thus the evaluation of the entrepreneurial curriculum and teachers could be influenced.

There were six research hypotheses expressing the assumption about the significant level of correlations between the impact of school curriculum, teachers' influence and the influence of relatives who are entrepreneurs on the one hand, and pupils' perceived level of entrepreneurial spirit and attitude to entrepreneurship on the other. It was possible to accept only one of them, which confirms teachers' partial influence on the level of entrepreneurial spirit. Unfortunately, the research results do not confirm critical views on school and teachers and their influence on the development of entrepreneurial spirit (Lukeš, Jakl and Zouhar, 2014).

As regards school, the teachers and relatives-entrepreneurs, the low degree of their influence observed on the pupils' entrepreneurial spirit and their attitude to entrepreneurship can be interpreted by agreeing with an emerging opinion that the influence of educational subjects, or more precisely subjects of formal learning (schools and teachers) and also parents, generally decreases in favour of informal learning, provided by a wide range of media and other communication tools.

Secondly, it can be explained by the researchers' doubt that the teachers whose pupils were included in the research sample devoted some amount of time mentioned in the introduction in their classes to the issue of entrepreneurship. This could be also indicated by the differences observed in the assessment of school and teachers' influence in the pupils from the standard group and the pupils from the research sample.

For other intended research, this uncertainty of preserving respondents' anonymity will be eliminated by the researcher's question about the teacher, whether and what time was used for teaching pupils and their learning activities in the field of entrepreneurship. If data about the education process correspond to the assumed range and relations between variables observed are of similarly low value, it can signal that it is necessary to fundamentally change the curricular

approach to given goals and learning output and teacher training for entrepreneurship education and the development of entrepreneurial spirit. The authors believe that results from the forthcoming research in Poland, where Entrepreneurship is a compulsory subject at secondary schools, could be very useful for this conclusion.

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