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Fostering Entrepreneurial Intentions in a Non-Skills-Focused Education System

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Abstract
This article aims to identify the factors that influence the entrepreneurial intentions of young students when the formal education system does not focus on skills. The authors conducted research based on the theory of Planned Behaviour and the concept of entrepreneurial intentions. The research was carried out in three different schools: an urban public school, a rural public school, and an urban private school. The authors studied entrepreneurial intentions among students in the oldest grades from selected schools. The sample selection was purposive, and all students from these schools participated in the study. The authors used statistical analysis, including a log-linear model, to identify significant predictors of entrepreneurial intentions. The study showed that personal characteristics and family support are critical factors in shaping entrepreneurial attitudes among students from different types of schools. The authors suggest that addressing the mismatch between the education system and the needs of students and the labor market requires institutional and curricular changes and a reorientation of educational policy. Otherwise, personality traits and the support of significant others,

such as family and friends, will continue to determine students' development and future careers.

Keywords: non-skills-focused education system; young students; entrepreneurial intentions; skills; education policy.

Introduction

Poland is one of the countries in which formal and non-formal education systems do not focus on skills and competencies. Schools do not treat professional or entrepreneurial competencies as necessary for teaching (Rudnicki et al., 2018; Jelonek et al., 2019). This problem is observed in formal and non-formal education (Worek et al., 2015). The mismatch between teaching techniques and students' needs, as well as the overload of educational material with knowledge, forces non-formal and informal education to be directed along the path of supplementing trained knowledge. Therefore, the main areas of education explored by students outside school are foreign languages (mainly English) and science (primarily math and physics). It is important to note that these skills and competencies complement formal education. In 2017–2018, the trend was upward, with 63% of parents declaring they were funding their children's extra-curricular activities. In later years, due to the COVID-19 pandemic, this percentage dropped to 56% by 2021, but data for 2020 and 2021 showed a return to an upward trend (CBOS, 2018; 2021).

Consistently, almost one-third (32%) of the total number of students in 2021 used extra classes in English, and 25% used tutoring in other school subjects. In 2017, this value decreased slightly to 44% for English and 29% for different subjects (CBOS, 2018; 2021). The mass use of additional classes to expand or supplement school knowledge confirms the thesis that the Polish education system is not skills-oriented but on formal learning, which reveals an apparent inefficiency of the education system in the context of the challenges of the modern economy and labour market.

This problem is considered in our analysis on two planes: on the macro level, directing the analysis towards the inefficiency of the education system (education policy) and its mismatch with the needs of both students and the labour market. The second plane of this problem is the micro level and an

attempt to answer the question of how, in the context of the inefficiency of the system thus understood, we should act to create and improve the competencies needed by students in their future careers. Our analysis is part of the search for a holistic answer to how to shape the education system so that this form of allocation of students' time and effort, as well as funds spent by the state and parents, brings the expected benefits.

The main aim of the article was to identify the factors influencing the entrepreneurial intentions of students in schools with varying statuses in a country where formal education and non-formal education offerings are not tailored to the needs of students in the context of future careers. A broad understanding of entrepreneurial intentions was proposed for analysis as developmental intentions aimed at future jobs. This understanding allows for identifying factors that determine the conscious perception of career development and business activity in the context of contemporary labour market challenges. Based on this, hypotheses forming the analytical axis of this article were formulated.

- H1: In the non-skills-focused education system, personality traits and motivation can determine the face of entrepreneurial attitudes and intentions.
- H2: In the non-skills-focused education system, family and environment are essential factors in shaping students' intentions toward their professional future.
- H3: Social views can influence students' career choices in the non-skills-focused education system.
- H4: Economic education can influence the entrepreneurial intentions among students.

Literature review

In the 1990s, Gaylen N. Chandler and Steven H. Hanks noted that successful task performance and coping with challenging situations, whether in business or other areas of life, require specific skills (Chandler & Hanks, 1994). These skills are developed through prior market exploration, which refers to market experience or entrepreneurial education. The connection between market and entrepreneurial education and entrepreneurial intentions, which

lead to entrepreneurial behaviour, perpetuates the idea that developing professional and entrepreneurial competencies and skills is a crucial aspect of personal growth. Current research indicates a correlation between skills-based education and the cultivation of entrepreneurial intentions, attitudes, and behaviours (Sanchez, 2013; Abdullah et al., 2014; Bessen, 2015). In this context, it is worth referring to the work of Barbara Bird (2019). In her reflections, the author emphasized the importance of entrepreneurial intentions and behaviour in achieving social and economic goals and identified entrepreneurial individuals' personality traits and skills. She based her concept of entrepreneurial competence on the co-occurrence of knowledge, skills, and attitudes. She distinguished competencies at three levels: (1) motives and traits of the subject (high motivation, tolerance, sense of control, willingness to take risks); (2) social roles and self-concept (concern for quality of work, assertiveness, ability to cooperate, self-confidence); (3) knowledge and skills (basics of management, finance, accounting, leadership, communication).

An analysis of the assumptions of the core curriculum for schools in Poland highlights the significant role of entrepreneurial education in developing professional competencies (Rachwał et al., 2018). The authors also emphasize incorporating skills and qualifications into formal education. There is a growing focus on innovation as a critical competence for the future. In entrepreneurial education, innovation is considered a skill at multiple levels, including acting, identifying, anticipating, and exploiting business opportunities (Sanchez, 2013; Abdullah et al., 2014; Kirschner & Stoyanov, 2020; Sarwar et al., 2021). As the literature shows, all these elements that make up the entrepreneurial mindset allow those with these qualifications to achieve entrepreneurial, social, and life goals.

The theoretical basis for the analysis is the concept of entrepreneurial intentions, which is embedded in the theory of planned behaviour. This theory is the basis for explaining and modeling processes that initiate or incubate a particular action (Fishbein & Ajzen, 1975; Ajzen, 1991). According to a theory based on understanding the nature of cognition, it is recognized that intention is the primary and direct factor influencing planned behaviour. This is evident in cases of entrepreneurial behaviour leading to establishing a business. Therefore, entrepreneurship is considered a planned behaviour (Ajzen, 1991; 2002; Krueger et al., 2000).

The theory of planned behaviour explains that entrepreneurial intentions come before and determine entrepreneurial attitudes. Many studies confirm that intentions are the strongest and often the only significant predictor of such behavior (Fishbein & Ajzen, 1975; Pihkala & Vesalainen, 1999; Krueger et al., 2000; Ajzen, 2002; 2005). Therefore, researching and identifying the determinants of entrepreneurial attitudes in different contexts by examining the determinants of entrepreneurial intentions is a critical challenge in economics research, education policy, and entrepreneurship. Determinants of entrepreneurial intentions include personality traits, gender, behavioral control, attitudes, desire, motivation, environment, and institutional factors (Robinson et al., 1991; Ajzen, 1991; 2002; Engle et al., 2011; Staniewski & Awruk, 2016; Shinnar et al., 2018). Different waves of research raise the value of some factors or lower others, such as Robinson's research showing a markedly minor role for personality traits compared to attitudes and motivation (Robinson et al., 1991) or education (Liguori et al., 2020). Research conducted in the 21st century has not changed from analyzing personality traits. However, it focuses more strongly on attitudes, motivation, and the influence of the environment, including the institutional environment (Krueger et al., 2000; Ajzen, 2002; Engle et al., 2011; Oftedal et al., 2017; Zaman et al., 2020; Chew, 2022).

The analysis begins by acknowledging that, besides economic factors, other factors significantly impact the choice of development path, such as entrepreneurial intentions (Sanchez, 2013). These factors encompass support or pressure from family, education, motivation, and determination (Tyszka et al., 2011). Irine Herdjiono (Herdjiono et al., 2017) conducted an analysis defining a set of factors that determine the formation of entrepreneurial intentions. The study found that entrepreneurial intentions are significantly influenced by family environment, motivation, and willingness to take risks. The social context of intentionality also plays a vital role in forming this development path. The researchers advocate the theoretical perspectives of Ronald Coase and Nina Wang and portray entrepreneurship as a social process involving multiple individuals and their interactions (Mishra & Zachary, 2014). The authors argue that various factors can interact synergistically or substitutively. This text supports the state's use of universal and open educational measures when lacking family or neighborhood support. It also explains why institutional support is often replaced by family support in cases of inefficiency in

the education system. Research shows that the strength of the family's influence is a significant factor that, when combined with education, increases the likelihood of students' academic and professional success.

Methodology

This research focused on issues related to forming attitudes and competencies among young students in the final grades of elementary schools. The research questions referred to future employment and the propensity to choose a particular career path. This study was conducted in 2022 in three elementary schools. Schools participating in the non-formal education development project implemented by the Cracow University of Economics in Poland were selected for this study. The chosen schools differed by combining two characteristics, i.e., location (urban-rural) and form of ownership (private-public). The study group included: 1. Urban public school; 2. Rural public school, 3. Urban private school. The research was conducted as an anonymized online survey delivered to students in their last classes. All students from the classes participated in the project classes and workshops. All the project participants completed the survey. The study sample consisted of 187 individuals.

Non-probabilistic sampling was employed, selecting schools that adequately represented the units in question based on adopted criteria and mapping their characteristics (Babbie, 2016). The surveyed units, including those that underwent surveys and questionnaire interviews, were purposively included in the sample. The same surveys were conducted in an urban public school, a rural public school, and a private school.

The first step involved conducting a cluster analysis to select relevant variables that represent the characteristics presented in the literature that affect entrepreneurial intentions. This allowed for selecting appropriate variables that best reflect the characteristics of the given group of variables.

In the next step, the interdependence of variables was verified by the negative impact of their collinearity. Due to the interval nature of the independent variables, measures based on chi2 statistics such as Kendall's tau-b and Spearman's rho were used (Long & Long, 1997; Kleinbaum & Klein, 2010).

Finally, an analysis was conducted to assess the impact of various variables on decisions to start a business in the future. We defined the variable as entrepreneurial attitude. Due to the binary nature of the decision to choose an entrepreneurial career path, logistic regression was used to answer the question of the odds of the situation occurring. Positive responses were unambiguously positive declarations, while negative responses and the answer "I have no opinion" were categorized as the opposite, i.e., no apparent intention to start a business in the future.

A logistic regression model (Kleinbaum & Klein, 2010) was used to model the probability of a given value of the dependent variable depending on the considered set of independent variables. Model parameters were estimated using the maximum likelihood method. The results were interpreted using the odds ratio, where the parameter exp(B), called the odds ratio for a given predictor, indicates how the chance of "success" changes when the value of a given independent variable increases by a unit. The significance of each parameter was assessed using the Wald test (Kleinbaum & Klein, 2010). The selection of variables for the first phase of the model development and testing was based on a literature analysis. Twelve variables were tested; however, only four were used in the model. For this purpose, the "Input" method of variables into the model was used.

Results

The first step in the analysis involved identifying variables related to the expression of a desire to engage in future business activities. These variables were chosen based on a review of existing literature. Subsequently, all variables were tested using Spearman's rho. The correlation between the variables was very low, and their influence on each other was deemed insignificant. Although there was a slightly higher coefficient for the variables "It's important for me to earn a lot" and "People are themselves responsible for their fate" (0.185), further steps in model development indicated that this value did not affect the quality of the model.

The next stage of the analysis involved developing a logistic regression model. The odds ratio determines the likelihood of entrepreneurial attitude (the value of the dependent variable – 1) occurring when a given independ-

ent variable occurs or does not occur while keeping the other variables unchanged. The model's validity was verified using a pooled test of the model's coefficients, which showed statistical significance for all variables in the model. Additionally, the Cox and Snell's R-square (0.342) and Nagelkerke's R-square (0.537) values indicate the model's ability to explain reality (see Table 1). Based on Nagelkerke's R-square value, we can conclude that the explanatory variables in the model account for 53.7% of the membership in one of the two groups (want/do not want to do business). The statistical insignificance of the Hosmer-Lemeshow test further confirms the model's fit.

Table 1. Measures to assess the association between variables.

-2 logarithm of credibility	R-square of Cox and Snell	Nagelkerke's R-square
92.938	0.342	0.537

Source: Own study.

The estimated values of the model parameters are shown in Table 2. Based on the results obtained, it can be concluded that, for the students who stated that the high importance of income in their future professional life was confirmed, the chance of having an entrepreneurial attitude increased significantly (increase in chance by 439.5%). Secondly, a strong influence of a factor that can be described as a desire for self-development was observed; declaring a desire to attend "how to run a business" classes increases the chance of having an entrepreneurial attitude by 220.8%. Another factor that significantly influences entrepreneurial attitudes is parental support in the development of skills needed in the labour market; for this variable an increase in the chance of having entrepreneurial intentions of 131.4% was observed. On the other hand, the variable indicating that people are responsible for their destiny has a distinct but, among other variables, weakest impact. In this case, agreement with this statement increased the chance of "success" by 113.9%.

Table 2. Variables in the logistic regression model.

	B	Error terms	Wald	df	Relevance	Exp(B)
Importance of earnings in my future life	1.686	0.529	10.157	1	0.001	5.395
Are people themselves responsible for their fate	0.760	0.310	6.016	1	0.014	2.139
Would I attend classes on how to run a business	1.166	0.283	16.905	1	0.000	3.208
Do my parents support me in developing the skills needed for future work	0.839	0.316	7.030	1	0.008	2.314
Constant	-14.969	3.560	17.683	1	0.000	0.000

Source: Own study.

Based on the results, four factors strongly influenced the success of the surveyed students, particularly in developing an entrepreneurial attitude. These factors include the belief in the importance of earnings in life, willingness to participate in extra classes related to business management, parental support in developing skills and qualifications, and the belief in personal responsibility for one's destiny.

Discussion

The focus of interest has shifted towards the likelihood of starting a business, with entrepreneurial intention being the critical study area (Amagir et al., 2018; Batty et al., 2020). Ongoing research indicates a clear connection between entrepreneurial intentions and different forms of economic education, including entrepreneurial and financial education. This link is particularly evident in formal education settings, such as schools for children and adolescents.

Research has shown that school education programs can significantly improve knowledge and shape children's and young people's attitudes. However, this is most often true for short-term effects; opinions are divided into lasting effects, and what is common is the belief that entrepreneurial and finan-

cial education should be continued at every stage of formal education (Jorgensen & Savla, 2010; Amagir et al., 2018). Aisa Amagir also points out that little is known about the impact of such education on the actual behaviour of children and adolescents. Assessing such attitudes among children and adolescents is methodologically challenging. However, there is no doubt that educational programs increase knowledge and, through appropriately profiled workshops, develop skills and enrich awareness of the impact of one's actions on career success (Totenhagen et al., 2014; Batty et al., 2020). The results of many studies support the thesis that economic, entrepreneurial, and financial education should begin in elementary school and be repeated in high school and college (Heckman, 2011; Sanchez, 2013; Amagir et al., 2018). However, it is extremely important to properly tailor the course formula with a focus on learning-by-doing and active participation, which translates into the acquisition of knowledge and experiences that can be replicated with specific actions and behaviours in different situations (Totenhagen et al., 2014; Batty et al., 2020). A fascinating aspect of research on this form of education is its apparent effect on reducing gender differences in attitudes (Schwarz et al., 2009) and the significant impact of parental involvement on the effectiveness of this education (Van Campenhout, 2015). This aspect is particularly relevant in developing entrepreneurial intentions among students in subsequent years, which will become the subject of our following research.

All these elements add up to one comprehensive model of entrepreneurial education, the implementation of which could have a positive effect in the future. Behavioural economics provides theoretical confirmation of such a way of formulating theses and recommendations and their implications in the context of entrepreneurial intentions and actions (Fishbein & Ajzen, 1975; Ajzen, 1991; 2005; Engle et al., 2011; Lavecchia et al., 2014; Koch et al., 2015; Levitt et al., 2016). However, this is undoubtedly an area of significant methodological limitations. Another important aspect is creating and delivering appropriate curricula (Bruque Camara et al., 2021). Several limitations have been encountered in this area, both at the level of the content of the programs and the methods of teaching, including school and teaching changes due to the pandemic (DeMatthews et al., 2023). As a result, the construction of effective solutions based only on the appropriate construction of the educa-

tional program will only be partially effective because of the issue's complexity, the diversity of determinants, and the multifaceted nature of the problem.

After analysing the selected variables and the research results, it is evident that each of the variables used is reflected in research related to the effectiveness of entrepreneurial education or financial literacy. Additionally, each variable has a theoretical justification for its selection. It is important to note that each variable contributes to a comprehensive view of the issue under study, as they are derived from different areas of diagnosing the issue.

The model construction involved the use of variables from the following areas: motivation centre or decision support, personality, social views, or economic views. The diversity and multifaceted nature of the variables may be a specific limitation of the presented research and pose a risk in terms of verification or replicability. However, the applied method of verifying the methodological correctness of the research, reviewing the research tool, controlling the entire process and method of conducting the study, and then double-checking the methodology of the conducted analysis and model development should minimize the existing risks.

On the other hand, the demonstrated multifaceted nature of the research thread may introduce a certain degree of uncertainty in the sphere of possible replication or modification of the research. However, the context of the research, that is, the inefficiency of the educational system, necessitates broadening the scope of the study and searching for determinants outside the narrow circle of factors determining entrepreneurial attitudes and intentions among young people defined within a single paradigm.

Conclusions

The Humboldtian system of education, which focuses on individualized knowledge and permanent control of its knowledge, cannot adapt to today's socioeconomic challenges or respond to students' changing educational needs. The only answer in this dimension is a thorough reform of the system and a transition from a centralized and individualized inefficient structure to a flexible and balanced system regarding the knowledge, competencies, and skills imparted to students.

Poland is an example of a highly centralized educational system. Its main features are the firm formalization of education, the focus on knowledge, the lack of support for students in the learning process, and the individualization of learning. The introduction of informal competition among students restricts the potential of educational institutions to shape attitudes or motivate young people to develop, as competition is focused solely on knowledge. Consequently, students and parents seek essential aspects of modern education beyond the formal education system.

The research identified significant factors influencing entrepreneurial intentions among the surveyed students in the context of inefficiency in the education system. As a result, we selected factors that play a statistically significant role in forming entrepreneurial intentions among students. It can be seen that the most important influence was the attitude toward future earnings, which significantly increases the chances of the occurrence of entrepreneurial intentions. Another factor is the motivation to participate in entrepreneurial courses. Support from the immediate environment (family) becomes another critical element in shaping entrepreneurial intentions in a situation of educational system inefficiency. In addition, a strong influence on intentions is the belief that people are responsible for their destiny. In this context, it should be noted that what the research in this article does not reveal, but what the literature and the results of other studies show, is that the listed predictors of the model – the strength and nature of their influence – are susceptible to the action of education.

The hypotheses presented at the beginning were adopted based on the results of the study: H1. In the non-skills-focused education system, personality traits and motivation can determine the face of entrepreneurial attitudes and intentions. The research shows that self-motivation and the propensity to participate in non-compulsory skill-enhancing classes strongly influence entrepreneurial intentions. H2. In the non-skills-focused education system, family and environment are essential factors in shaping intentions toward students' professional future. The influence of family support on entrepreneurial intentions is a statistically significant factor influencing entrepreneurial intentions, and an increase in this support raises the chances of entrepreneurial intentions occurring. H3. In the non-skills-focused education system, social views can influence students' choice of career direction. The

research showed that emphasizing people's self-responsibility for their fate favors entrepreneurial intentions in the studied group of students. Based on the results of the literature analysis, the last hypothesis is also shown to be true: H4. Economic education can influence the determinants of entrepreneurial intentions among students, and theories and research show that education strongly influences the formation of students' attitudes and views; well-directed education significantly raises interest in the subject of study and can strengthen intrinsically controllable motivation for self-development. In addition, it is confirmed that parents "attitudes and involvement are an important factor determining the quality of education, and vice versa; well-directed education can increase parental involvement in the process of students" education or replace their influence in a positive way.

The research shows that, in the absence of a significant impact of the institutional system on students' development, other factors take over this role and determine the face of entrepreneurial intentions among young people. The determinants of entrepreneurial attitudes and intentions are formed in a dysfunctional education system in a individualized manner, where the burden of forming attitudes and intentions is shifted to the student and family. An important aspect not addressed in this article is the question of how much dysfunctional education lowers the level of intentions in the whole group of students compared to countries with well-functioning educational systems and properly shaped educational policies.

In conclusion, our analysis shows the impact of the inefficiency of the education system and its mismatch with the needs of both students and the labor market. We suggest that changes are necessary in the implemented educational policies, both institutional and programmatic, to address the negative effects of the massive search for educational support outside the formal education system. By integrating vocational and entrepreneurial skills into the educational process, we can better prepare students for employment and ensure their success in the labor market. However, this requires a concerted effort by policymakers, teachers, parents, and other stakeholders to create a more flexible and dynamic education system that can adapt to the changing needs of the labour market.

Limitations

The sample selection used in this study has limitations. It is important to note that the results obtained from the sample cannot be generalized to the population as a whole. However, the results obtained provide a comprehensive identification of phenomena and indicate factors that may affect the variation of results within the surveyed population. An important element is the ability to provide recommendations to public decision-makers regarding potential changes in individual behavior.

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