


# 4. ACADEMIC ENTREPRENEURIAL ATTITUDES IN THE ASSESSMENT OF ECONOMIC FACULTIES STUDENTS

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## Abstract

The aim of the research is to analyse selected attitudes related to entrepreneurship and to present their significance assessment according to students of economic faculties. The empirical basis is built upon the results of the research conducted in March 2021 on a group of 270 students of the Poznań University of Economics and Business. As part of the questionnaire and using the 5-point Likert scale, the respondents assessed various features, skills and abilities that, according to the respondents, are key in the context of an entrepreneurial attitude. In addition to the general statistical analysis of the response, a factor analysis was also carried out that aims to reduce the number of variables to a few, the most important ones that highly describe the analysed problem. Based on the research conducted, it can be concluded that from the students' perspective, the entrepreneurial attitude profile consists of a combination of personality types such as precursor, creator, rival, individualist, risk-taker. The research was limited because it was based on one academic centre (Poznań University of Economics and Business). Extending the research to other areas of higher education (e.g. law, medicine, psychology, computer science, mechanics) would allow the conclusion to be drawn on a wider scale and provide more insight into the nature of the phenomenon. The value of this study lies in the fact that it presents a coherent framework to explain the diverse characteristics of entrepreneurial attitudes in the business school environment.

**Keywords:** entrepreneurial attitudes, economic activity, entrepreneurship, economic education.

## Introduction

The time of university is full of milestones and challenges for young people. It is often associated with living away from home, taking their first paid job, planning a budget on their own, determining a professional career and choosing an educational

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path. At this time, students develop entrepreneurial attitudes that will determine their future and success in the demanding and dynamically changing market.

Entrepreneurial attitudes are an important aspect that is the subject of interest of many different scientific areas such as economics, sociology, anthropology, psychology, political science and organization theory, etc. The growing emphasis on the development of a knowledge-based economy makes the creation and development of appropriate attitudes a key problem from the point of view of future entrepreneurs, academic circles and the business world.

The aim of the research is to analyse selected attitudes related to entrepreneurship and to present their significance assessment according to students of economics. The empirical basis is constructed upon the results of research conducted in March 2021 on a group of 270 students of Poznań University of Economics. The research had the form of a diagnostic survey using the CAWI (Computer-Assisted Web Interview) method. The results were analysed using descriptive statistics and factor analysis.

Due to the fact that there are many definitions of the entrepreneurial attitude and they are interpreted in different ways, and this issue is analysed in the light of different scientific disciplines, the theoretical part of the study outlines its essence from the perspective of the conducted research. In the empirical part, the most important results from the point of view of the aim of this publication are presented.

## **4.1. The essence of academic entrepreneurship— theoretical approach**

A detailed discussion of the theoretical underpinnings of the entrepreneurial attitudes is provided in the chapter titled “Advancements in conceptualisation and studies on Academic Entrepreneurship phenomenon”. However, it should be emphasized that from the point of view of the empirical research presented in this chapter, some clarification of the theoretical background was necessary.

Entrepreneurship is a commonly used term; however, it is difficult to identify a single definition in the literature that captures its essence fully. Moreover, one can feel that it should be seen as a multidimensional concept that plays an important role in the socio-economic processes (Czyżewska & Kozioł, 2020, p. 47). According to Drucker (1992, p. 8), the science of entrepreneurship is a means to an end, and the object of this science is mainly determined by the purpose by which such activities are carried out, i.e. by practice.

Entrepreneurship can be considered from different perspectives, such as economic phenomenon or social phenomenon, but also in the context of business activities (Glinka & Gudkova, 2011). On the other hand, the definitions of entrepreneurship themselves centre around four of its dimensions (Wach, 2015, pp. 26–28):

- 1) market—as a search for the effects of entrepreneurship, where it is reduced to a function of the micro, small and medium enterprise sector;
- 2) personality—research focuses on the characteristics of human action, and most often concerns the entrepreneur or, less often, the team of employees;
- 3) managerial actions—the research focuses on the analysis of the entrepreneurial process;
- 4) individual entrepreneur—where the role of the entrepreneur is analysed.

Due to the subject matter of this chapter, the authors focused on entrepreneurship considered in the context of personality. Entrepreneurship (as a personality element) as discerned within the management sciences is an important conceptual category related to the sub-discipline of management of human resources (human capital) (Matejun, 2016, p. 132).

An analysis of the concept of entrepreneurship should begin with a rather narrow definition presented by Rachwał (2004). This author perceives entrepreneurship as a set of human personality traits, such as creativity, enthusiasm for work, divided attention, initiative, self-discipline, self-confidence and a tendency to take risks.

In contrast, a broader definition is presented by Bojewska (2002), according to which entrepreneurship includes knowledge, skills and attitudes necessary for the effectiveness and efficiency of these activities that are related to the undertaking and implementation of projects that enable the achievement of specific values in conditions of uncertainty and risk.

An interesting approach was presented by Noworol (2006, p. 41), who assumed that entrepreneurship is the human activity of creating economic well-being through the creation of additional values, including jobs, based on the risk of capital, time and personnel, on the basis of own commitment and energy to achieve self-interest, contributing to the construction of wealth of the whole society.

Worth mentioning, the European Union sees entrepreneurship as a key competence within the European education system (European Union, 2006). According to the “Entrepreneurship Roadmap 2020: Fostering Entrepreneurial Mindsets in Europe”, entrepreneurship is considered a competence that can be learned and should be promoted at all levels of education. Consequently, the European Union—for the purposes of its education policy—defines entrepreneurial competence as the ability of an individual to turn ideas into action (European Union, 2007). This competence includes creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives.

Entrepreneurship should also be explored in the course of academic studies, in particular in the field of economics or management. The appropriate development of career choice represents an attempt by pupils/students to take the initiative to participate in social competition (Misiak-Kwit & Zhang, 2022, p. 119). Starting

a business can be a good alternative for young people facing employment pressures, but also an expression of their creativity, which can be a key factor in creating the right entrepreneurial mindset (Hirschmann, Hartley, & Roth, 2020, p. 116). Shaping an entrepreneurial mindset is supposed to help young people who benefit from entrepreneurial learning to develop their business knowledge and basic skills and attitudes (including creativity, initiative, perseverance, teamwork, understanding of risk, and sense of responsibility), and on the other hand, it supports putting ideas into action and notably improves employment opportunities (Urbaniec, 2016, p. 77). Therefore, creating students' awareness of different types and forms of behaviour considered entrepreneurial together with the development of soft skills such as e.g. leadership, risk taking and risk tolerance or teamwork management should be the goal of the academic entrepreneurial attitude that young people acquire during their studies (Jando, 2018, pp. 195–197).

Continuing the educational theme, it should be emphasized that entrepreneurship significantly exceeds the space of decisions and actions related to the professional functioning of the individual. According to Liao, Liu and Li (2022, p. 3), strictly academic entrepreneurship is an innovative combination of two elements: resources and risk. Shane (2003) adds that this is related to the fact that:

- project results are not guaranteed (risk element),
- organisational effort is required as a new way of exploiting opportunities is created (resource element),
- the venture must be innovative, i.e. it cannot duplicate what is already available on the market (innovative background).

As a result, entrepreneurship should be treated as a cardinal trait necessary for flexible, prolific and creative functioning in almost any sphere of human activity, regardless of the type of profession (Nowak, 2011, pp. 45–62; Nowak & Wściubiak, 2020, pp. 160–172; Strojny, 2010, p. 178). If entrepreneurship is accepted as a cardinal trait, then it should be considered a component of the canon of competencies necessary for positive transgression from education to work (Klimkowska, 2019, pp. 252–253). Therefore, one can expect its possession (or at least theoretical knowledge) by students of economic studies, i.e. young people standing on the threshold of entering the labour market or starting their own business.

## 4.2. Methodology of research

The aim of the research is to analyse selected attitudes related to entrepreneurship and to present their significance assessment according to students of economics. The research problem has taken the form of a research question: what combinations

of personality traits and competencies compose the profile of an entrepreneurial person from the perspective of an economics student?

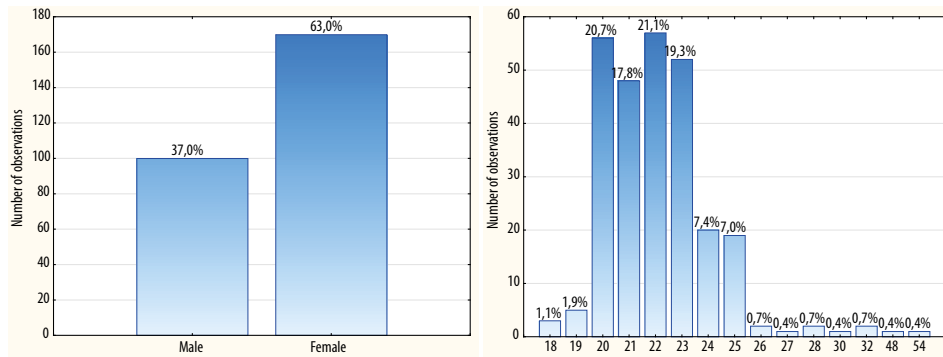
The research population consisted of all students of Poznań University of Economics and Business, the research sample was selected using the method of purposive selection of typical units. The study involved 270 people and was conducted in March 2021. The main measurement instrument was a survey questionnaire and the study had the form of a diagnostic survey using the CAWI method (Computer-Assisted Web Interview). Respondents filled in questionnaires using Google Forms application. The adopted methodology was conditioned, on the one hand, by the necessity to adapt to the prevailing epidemiological conditions, and on the other hand, by the intention to achieve the intended research goal and to answer the research question.

At the research design stage, great importance was attached to the selection of an appropriate data analysis method. At this point it should be emphasized that the issue of entrepreneurship is extremely complex and multifaceted. Due to a large number of factors influencing the creation of entrepreneurial attitudes, it was necessary to apply multidimensional data analysis in the research. It was considered that the use of factor analysis as the primary research method would be the best choice, allowing the greatest degree of recognition of the scientific problems under study (Kim & Mueller, 1978, pp. 9–11; Mulaik, 2009, pp. 1–12; Stevens, 2012, pp. 271–285; Thurstone, 1931, pp. 406–427). Moreover, it is worth noting that factor analysis is the main, but not the only research method used in the process of developing the results. In addition, basic methods of descriptive statistics were also applied in the research.

### 4.3. Characteristics of the research sample

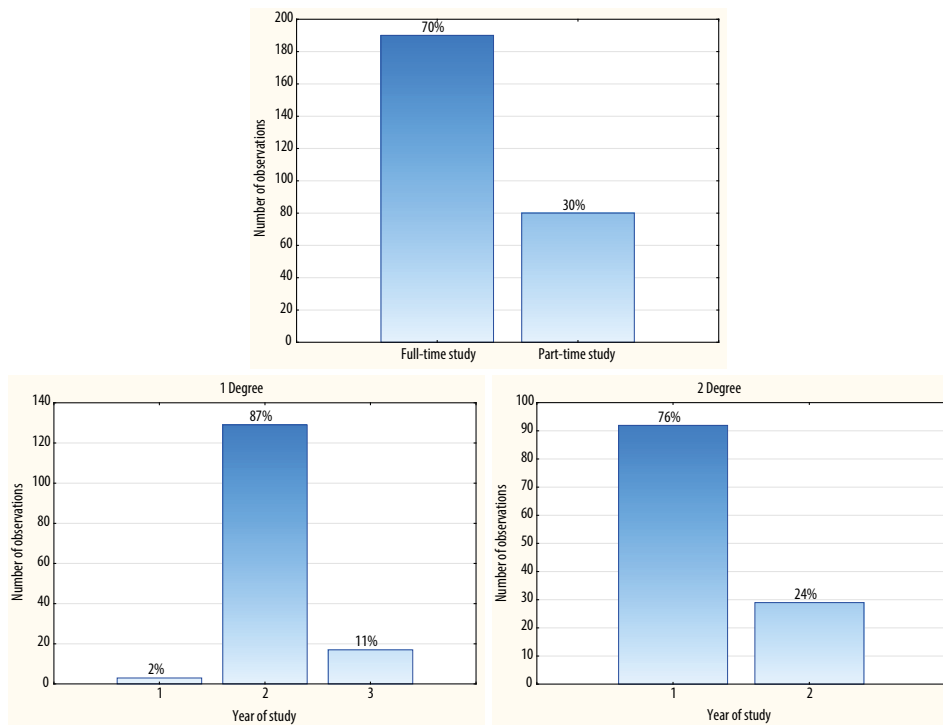
The empirical research involved 270 students of Poznań University of Economics and Business. At this point, it is important to emphasize the breadth of the research sample—the respondents were diverse in terms of gender, age, year, grade and mode of study. Looking at Figure 4.1, we can see that a larger group of respondents were women (63%) in relation to men (37%). The majority of the respondents were between the ages of 20–25, making up a total of 93.3%. This state of affairs is due to the structure of students of Poznań University of Economics and Business.

Analysing the structure of respondents by mode, degree and year of study (shown in Figure 4.2), it can be observed that full-time students (70% of respondents) outnumbered part-time students (30% of respondents). In the three year program, second-year students were the predominant group (87%), and in the two year program, first-year students were the predominant group (76%).



**Figure 4.1. Structure of respondents by gender and age**

Source: Own elaboration based on empirical results.



**Figure 4.2. Structure of respondents by mode, degree, and year of study**

Source: Own elaboration based on empirical results.

## 4.4. Findings

The aim of the study was to identify and analyse the key entrepreneurial attitudes in the opinion of students of Poznań University of Economics and Business. Entrepreneurial attitudes are largely related to characteristics and competencies that students may acquire during their studies. The respondents were therefore asked to assess the importance of 31 selected determinants using a five-point Likert scale (where 1 meant no importance, 5—very high importance). The studied determinants of entrepreneurship, determined on the basis of literature studies and the authors' own experience, included such factors as: creativity, ingenuity, creative thinking, ambition, ability to see opportunities in the environment, being aware of oneself and one's strengths and weaknesses, flexibility, ease of adjusting to changing conditions, taking initiative, self-confidence, courage, resistance to stress, responsibility—both for oneself and one's subordinates, ability to accept failures and draw constructive conclusions from them, ability to make conclusions, communicativeness, ability to act and make decisions in conditions of uncertainty, well-developed organizational skills, ability to think analytically, willingness for constant development and deepening of knowledge and improvement of skills, ability to set goals, ability to convince others to accept themselves and their ideas, goal orientation, willingness to take up new challenges, assertiveness, openness both to changes and to the surroundings and people, ability to work in a team, ability to manage material resources, independence, self-reliance, dynamism in action, highly developed leadership skills, willingness to take risks, attitude to achieve profit, success, optimism, willingness to compete and the spirit of rivalry. The above factors are listed in order from highest to lowest significance coefficient. Detailed data including mean score, median response and standard deviation are included in Table 4.1, while the exact distribution of responses is shown in Figure 4.3.

**Table 4.1. Importance of selected characteristics and competencies, key to being an entrepreneur**

Characteristics and competencies	R	M	SD
Creativity, resourcefulness, creative thinking	4,40	5,00	0,80
Ambition	4,40	5,00	0,72
Ability to see opportunities in the environment	4,35	4,00	0,78
Being aware of yourself, your strengths and weaknesses	4,34	4,00	0,73
Flexibility, ability to adapt to changing conditions	4,33	4,00	0,78
Taking initiative	4,31	4,00	0,79
Self-confidence, courage	4,31	5,00	0,82
Resistance to stress	4,30	4,00	0,85
Responsibility, both for yourself and your subordinates	4,23	4,00	0,81
Ability to accept failure and draw constructive conclusions from it	4,23	4,00	0,82
Ability to make conclusions	4,23	4,00	0,83

Table 4.1 – cont.

<b>Characteristics and competencies</b>	<b>R</b>	<b>M</b>	<b>SD</b>
Communicativeness	4,21	4,00	0,87
Ability to deal with uncertainty and make decisions	4,20	4,00	0,79
Well-developed organizational skills	4,20	4,00	0,77
Analytical thinking skills	4,17	4,00	0,85
Willingness to constantly develop, expand knowledge and improve skills	4,17	4,00	0,88
Ability to set goals for oneself	4,15	4,00	0,86
Ability to convince others to accept themselves and their ideas	4,13	4,00	0,79
Goal-oriented	4,12	4,00	0,89
Willingness to undertake new challenges	4,09	4,00	0,84
Assertiveness	4,07	4,00	0,89
Openness, both to changes and to the environment and people	4,06	4,00	0,83
Ability to work in a team	4,03	4,00	0,93
Ability to manage material resources	4,03	4,00	0,87
Independence, self-reliance	4,00	4,00	0,86
Dynamism in action	3,98	4,00	0,85
Highly developed leadership skills	3,97	4,00	0,89
Willingness to take risks	3,81	4,00	0,89
Orientation on achieving profit, success	3,80	4,00	0,96
Optimism	3,74	4,00	0,99
Willingness to compete, competitive spirit	3,38	3,00	1,09

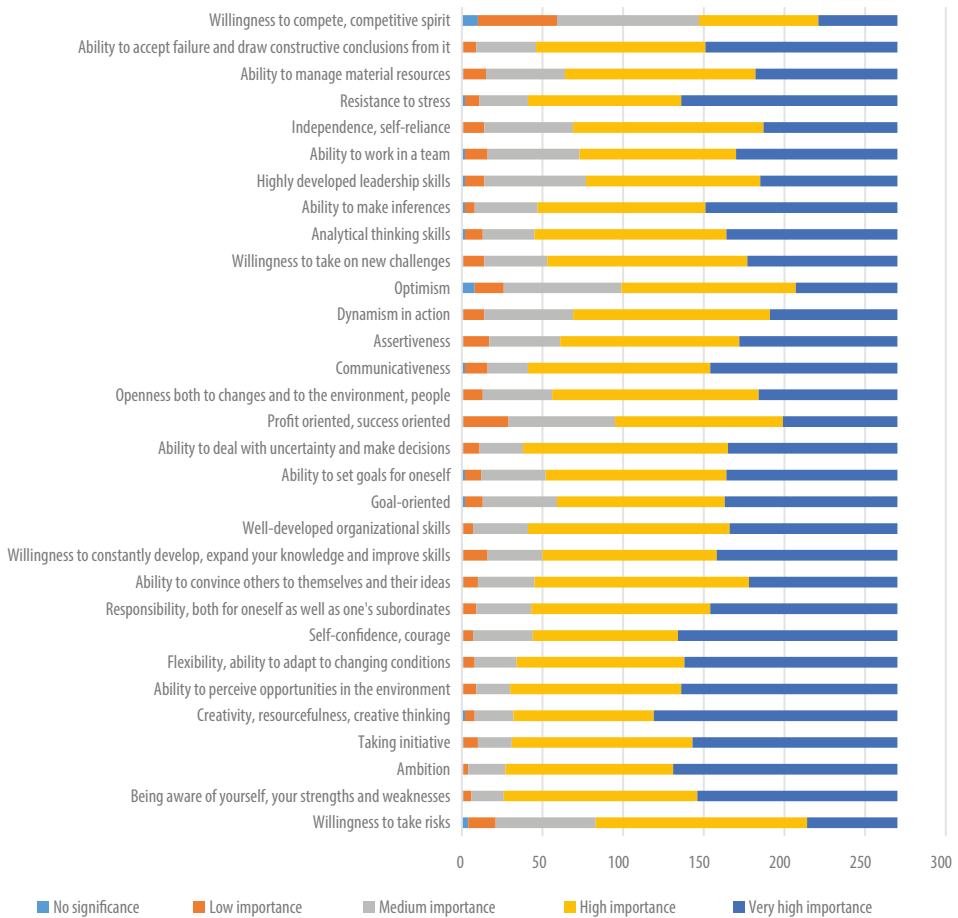
Legend: R—significance coefficient determined as the mean of the scores, M—median of the scores, SD—standard deviation.

Source: Own elaboration based on empirical data.

An in-depth analysis of all variables in terms of their significance did not allow for an exhaustive evaluation and interpretation of those whose importance is prioritized. Many of them have similar cognitive load, moreover, they show high interdependence, which makes the presented picture unclear and chaotic. Therefore, it was justified to carry out further research, which allowed determining the general profile of the entrepreneurial attitude. It was decided to use factor analysis for this purpose. First, it was necessary to decide on the number of factors describing the phenomenon under study. To do this, a Cattell's scatter plot shown in Figure 4.4 was used, which graphically delineates the point of choice. Eigenvalues were then plotted on the graph, and the intent was to discern a point from which there is a gentle decrease in the eigenvalues. According to Cattell's idea (1966, pp. 245–276), to the right of this point a “factor dump” is formed, which contains factors that only residually explain the problem under study. After applying this criterion, 5 factors were worth being considered for further analysis.

The selection of the number of factors was verified using Kaiser's criterion (1960, pp. 141–151). Herein, the minimum eigenvalue of a factor should be greater than or equal to 1. It was noticed that each of the factors extracted using Cattell's



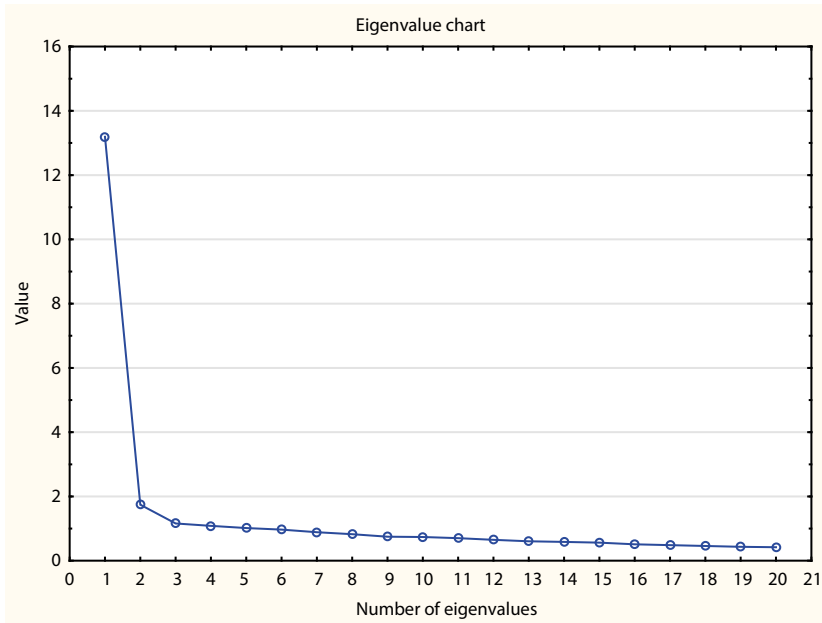


**Figure 4.3. Distribution of responses concerning the evaluation of characteristics and competences, crucial for being entrepreneurial**

Source: Own elaboration based on empirical data.

criterion is characterized by an eigenvalue greater than 1, which confirmed the validity of the selection. Moreover, it is worth noting that the first factor was characterized by a high eigenvalue, at the level of 13.19, and the cumulative eigenvalue of the selected factors was 18.20. Detailed data on the eigenvalues of the extracted factors for selected characteristics and competencies that are key to being entrepreneurial are presented in Table 4.2.

It is worth emphasizing that on the ground of the conducted analyses, 5 main factors were distinguished. These are presented in Table 4.3 and explain in total 59% of all variance of the examined problem. The first factor explaining 43% of all variance of the problem consisted of variables: goal orientation, ability to set



**Figure 4.4. Cattell's scatter plot for selected characteristics and competencies, key to being entrepreneurial**

Source: Own elaboration based on empirical data.

**Table 4.2. Eigenvalues corresponding to successive factors for selected characteristics and competencies, key to being entrepreneurial**

Factor	Eigenvalue	Cumulative eigenvalue
F1	13,19	13,19
F2	1,74	14,94
F3	1,16	16,09
F4	1,09	17,18
F5	1,02	18,20

Source: Own elaboration based on empirical data.

goals, communicativeness, assertiveness, dynamism in action, optimism and willingness to undertake new challenges. It can therefore be described as a *Precursor*. The second factor, which should be defined as a *Creator*, included the variables: being aware of oneself—one's strengths and weaknesses, ambition, taking initiative, creativity, ingenuity, creative thinking, ability to see opportunities in the environment, flexibility, ease of adapting to changing conditions, self-confidence and courage. It is worth noting that it explained 15% of all variance of the analysed phenomenon. The third factor identified as *Rival*, explained 16% of the variance and included such factor loads as: profit orientation, success and the desire to

**Table 4.3. Factor loadings matrix after Varimax rotation for characteristics and competencies, key to being entrepreneurial**

Motives	Factor 1 Precursor	Factor 2 Creator	Factor 3 Rival	Factor 4 Individualist	Factor 5 Risk-taker
Willingness to take risks	-0,10	0,20	0,54	0,36	0,13
Being aware of yourself, your strengths and weaknesses	0,13	<b>0,67</b>	0,16	0,13	0,21
Ambition	0,23	<b>0,67</b>	0,21	0,23	0,01
Taking initiative	0,17	<b>0,71</b>	0,11	0,21	0,26
Creativity, resourcefulness, creative thinking	0,04	<b>0,64</b>	-0,18	0,32	0,25
Ability to perceive opportunities in the environment	0,23	<b>0,62</b>	-0,12	0,23	0,21
Flexibility, ability to adapt to changing conditions	0,15	<b>0,60</b>	0,18	0,17	0,36
Self-confidence, courage	0,36	<b>0,60</b>	0,31	0,14	-0,09
Responsibility—both for oneself and one's subordinates	0,28	0,53	0,18	0,17	0,35
Ability to convince others to accept themselves and their ideas	0,32	0,44	0,25	0,28	0,08
Willingness to constantly develop, expand knowledge and improve skills	0,38	0,37	0,16	0,11	0,51
Well-developed organizational skills	0,45	0,39	0,08	0,12	0,50
Goal-oriented	<b>0,62</b>	0,11	0,08	0,15	0,39
Ability to set goals for oneself	<b>0,59</b>	0,24	0,07	0,23	0,44
Ability to deal with uncertainty and make decisions	0,23	0,31	0,35	0,20	<b>0,57</b>
Profit oriented, success oriented	0,31	0,14	<b>0,62</b>	0,02	0,33
Openness both to changes and to the environment and people	0,53	0,33	0,42	0,17	0,20
Communicativeness	<b>0,66</b>	0,29	0,11	0,19	0,17
Assertiveness	<b>0,61</b>	0,21	0,16	0,31	0,14
Dynamism in action	<b>0,60</b>	0,20	0,29	0,23	0,19
Optimism	<b>0,76</b>	0,07	0,10	0,16	0,11
Willingness to take on new challenges	<b>0,59</b>	0,29	0,19	0,36	0,09
Analytical thinking skills	0,27	0,23	-0,03	0,53	0,44
Ability to make inferences	0,37	0,30	-0,04	0,57	0,36
Highly developed leadership skills	0,15	0,12	0,27	0,42	0,55
Ability to work in a team	0,26	0,23	0,22	0,20	0,55
Independence, self-reliance	0,28	0,23	0,14	<b>0,61</b>	0,03
Resistance to stress	0,20	0,30	0,24	<b>0,62</b>	0,09
Ability to manage material resources	0,33	0,20	0,19	<b>0,62</b>	0,19
Ability to accept failure and draw constructive conclusions from it	0,25	0,32	0,23	0,54	0,27

Table 4.3 – cont.

Motives	Factor 1 Precursor	Factor 2 Creator	Factor 3 Rival	Factor 4 Individualist	Factor 5 Risk-taker
Willingness to compete, competitive spirit	0,35	0,03	<b>0,63</b>	0,19	0,11
Percentage share of explanation of variance	4,84	4,75	2,22	3,38	3,00
Cumulative percentage of explanation of variance	0,16	0,15	0,07	0,11	0,10

Legend: Charges of  $\geq 0.57$  are indicated.

Source: Own elaboration based on empirical data.

compete, competitive spirit. The next factor explaining 17% of the variance contained variables such as independence, self-reliance, and resistance to stress and therefore can be defined as *Individualist*. The last factor studied was defined as the *Risk-taker*. It explained 18% of the variance and contained one primary variable, which was the ability to deal and make decisions under uncertainty.

## Conclusions

Creating entrepreneurial attitudes is an important aspect of educating students nowadays. In order to adjust the educational offer to the needs of the recipients and market requirements, it is necessary to develop young people taking into account pro-entrepreneurial features and skills. In this context, it was important to conduct research aimed at a detailed analysis of selected determinants of entrepreneurship particularly important from the student's point of view.

The results of the empirical research made it possible to answer the research question posed: what combinations of personality traits and competencies compose the profile of an entrepreneurial person from the perspective of an economics student? The research shows that, in the eyes of students, the profile of an entrepreneurial attitude is complex and multifaceted, and consists of such combinations of personality types as:

- precursor,
- creator,
- rival,
- individualist,
- risk-taker.

This means that nowadays an entrepreneurial person should be able to set and dynamically realise goals, both perceive and undertake new, often risky challenges, communicate well with people, be creative and flexible. Also extremely important

is self-confidence and courage combined with optimism allowing for the implementation of difficult tasks. Also important is the ability to act independently and resistance to frequent stressful situations. An attitude of competition and success is also crucial. Identifying and effectively developing the above attitudes should make it easier for future students to be successful in setting up and running a business.

Therefore, in case of continuing research in this area, it would be advisable to focus in particular on the question to what degree the above personality profiles prove themselves in business conditions, as well as to what extent, within the framework of study programmes, universities enable students to develop specific entrepreneurial attitudes.

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