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EDUCATION,
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CONFERENCE PROCEEDINGS

**SEVILLE (SPAIN)
16-18 NOVEMBER 2017**



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ATTEMPT OF ASSESSMENT OF THE LEVEL OF ENTREPRENEURIAL COMPETENCE AMONG STUDENTS OF MEDICINE AND HEALTH SCIENCES – A PILOT STUDY

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Abstract

Introduction: Entrepreneurial competence made up of particular personality traits (innovation, creativity, motivation to work), behaviors related to playing the role of an entrepreneur, and emotional intelligence may be considered as a universal set of skills necessary for self-development of persons functioning well in the society. A high level of entrepreneurial competence among university graduates is considered to be a key factor determining career development.

Aim: The aim of the study was an attempt to assess the level of entrepreneurial competence among students of medicine and health sciences.

Material and Methods: The study enrolled a total of 189 students from two university-level schools: Medical University of Warsaw (n=182, 96.3%) and State Higher Vocational School in Ciechanów (n=7, 3.7%). The respondents studied at a total of seven faculties, with students of nursing comprising the largest proportion (n=67, 35.4%), followed by students of nutrition (n=63, 33.3%) and obstetrics (n=32, 16.9%). Most respondents studied full-time (n=169, 89.4%) and were first-cycle students (n=116, 61.4%). The first-year Bachelor's degree students constituted the largest proportion of the total (n=56, 29.6%), followed by the first-year (n=33, 17.5%) and second-year Master's degree students (n=38, 20.1%). Mean age of the study group amounted to 23.61 years (median: 22; min. 20, max. 53, SD: 5.4). A standardized Entrepreneurial Competence Scale comprising 23 statements to be rated on a five-point Likert scale was used in the study. This tool is used to diagnose abilities, professional success, and entrepreneurial skills. The study was conducted in March and April 2017 through an electronic questionnaire. The approval of the Ethical Review Board of Warsaw Medical University was not necessary due to the nature of the study (non-invasive survey conducted among students).

Results: Most of the study participants (n=123, 65.1%) said they had clear objectives and worked hard to achieve them. Almost all respondents (n=182, 96.3%) said they felt responsibility for their work. Most of the study participants (n=131, 69.3%) were most effective when they were free to manage their leisure and working time themselves. Half of the respondents (n=97, 51.3%) believed that they were good at time and activity management. Most of the students (n=126, 66.7%) were not afraid of expressing their opinion even when it differed from other opinions.

Conclusions: 1. The study group highly rated their entrepreneurial competence. However, due to the fact that these skills are essential for professional development of university graduates entering the labor market, it needs to be considered whether to include the issue in the learning content. 2. This was a pilot study and hence it needs to be continued among a representative study group.

Keywords: entrepreneurship, curricula, soft skills, Entrepreneurial Competence Scale.

1 INTRODUCTION

The modern world is full of changes which are not only difficult to foresee, but also have a turbulent character. Finding one's own path and achieving one's goals, including in the labor market, requires certain entrepreneurial competences. Gaining such competences enables an active participation in both private and professional areas of life. It allows to understand the mechanisms and changes happening in one's surrounding and transforming them for their benefit.

A standardized Entrepreneurial Competence Scale (ECS) is one of the tools used by career counselors. It is used for assistance in the process of taking action in the field of career problems as well as an aid in planning of certain activities towards changing one's professional situation.

The tool is based on Nosal's theory of cognitive traits which determine all basic human mental activities. It includes aspects like: the process of receiving an information, learning and thinking, the ability to make a decision and both emotional and intellectual control.

2 AIM

The aim of the study was an attempt to assess the level of entrepreneurial competence among students of medicine and health sciences.

3 MATERIAL AND METHODS

The pilot study enrolled a total of 189 students (women: n=177, 93,7%). The respondents were representing two university-level schools: Medical University of Warsaw (n=182, 96.3%) and State Higher Vocational School in Ciechanów (n=7, 3.7%). The respondents studied at a total of seven faculties, with students of nursing comprising the largest proportion (n=67, 35.4%), followed by students of nutrition (n=63, 33.3%) and obstetrics (n=32, 16.9%). Most respondents studied full-time (n=169, 89.4%) and were first-cycle students (n=116, 61.4%). The first-year Bachelor's degree students constituted the largest proportion of the total (n=56, 29.6%), followed by the first-year (n=33, 17.5%) and second-year Master's degree students (n=38, 20.1%). Average age of the study group amounted to 23.61 years (median: 22; min. 20, max. 53, SD: 5.4).

A standardized Entrepreneurial Competence Scale comprising of 23 statements to be rated on a five-point Likert scale was used in the study. This tool is used to diagnose abilities, professional success and entrepreneurial skills. It is commonly used in career counseling.

The study was conducted in March and April 2017 through an electronic questionnaire. The reliability of this scale was 0,886.

The results obtained for each mark of the scale were compiled using descriptive statistics and the summary scoring was calculated according to the answer key. The calculations were made using Excel spreadsheet.

4 RESULTS

The responding students rated their entrepreneurial competences at high level (the average Entrepreneurial Competence Scale score was 60,5/69). The most diverse answers related to the first statement concerning running one's own business as a right carrier path. The responses of interviewees were divided almost evenly - two similar groups of students had different opinions: some agreed with the mentioned statement (n=74, 39,2%) while others disagreed (n=55, 29,1%).

Detailed results presenting self-evaluation of entrepreneurial competences of the students are presented in table 1.

Table 1. Self-evaluation of entrepreneurial competence of responding students.

Entrepreneurial Competence Scale	Statement	Median	M	SD
ESC_01	Running one's own business is the right career path for me	2,0	2,1	0,82
ESC_02	I know how to listen to people	3,0	2,9	0,31
ESC_03	I try to carry out an undertaken assignment as well as possible	3,0	3,0	0,25
ESC_04	Learning or working alone, I draw up a plan of actions	3,0	2,5	0,76
ESC_05	I show a significant curiosity to what is happening around me	3,0	2,7	0,55
ESC_06	I know where to look for adequate information or who to ask to find them	3,0	2,7	0,58
ESC_07	When I do something, I commit fully	3,0	2,8	0,50
ESC_08	I have clearly specified aims and work in order to achieve them	3,0	2,5	0,70
ESC_09	I feel responsible for the work I am doing	3,0	2,9	0,31
ESC_10	I adapt quickly to new and unknown situations	3,0	2,5	0,73

ESC_11	I know how to convince others to my opinions	3,0	2,4	0,73
ESC_12	If possible, I fulfill my ideas	3,0	2,6	0,66
ESC_13	I am the most efficient if I organize my free-time and my work by myself	3,0	2,6	0,61
ESC_14	I often feel a lot of energy for dynamic and efficient work	3,0	2,3	0,85
ESC_15	Once I start working on something, I always try to bring it to the end	3,0	2,8	0,58
ESC_16	Sometimes if I do not know something, I ask competent people for their opinion	3,0	2,9	0,38
ESC_17	If I care about something, I look for all the possible ways to achieve it	3,0	2,9	0,41
ESC_18	I sense that people see me as a trustworthy person	3,0	2,7	0,55
ESC_19	If I commit to something, one can count on me	3,0	2,9	0,34
ESC_20	If one way of fixing a problem does not work, I look for other solution	3,0	2,7	0,52
ESC_21	I organize my time and activities very well	3,0	2,3	0,79
ESC_22	I sometimes organize other people's actions	3,0	2,2	0,87
ESC_23	I'm not afraid to state my opinions, even if they are different from options of others	3,0	2,5	0,78
SUMMARY	Summary result of Entrepreneurial Competence Scale	60,5	61,0	7,19

5 DISCUSSION

The scientific literature doesn't provide publications referring to assessing the self-evaluation of entrepreneurial competences among students from medical divisions and health related divisions.

Piróg [1] in his publications emphasizes the importance of soft skills development, including entrepreneurial competences. It is based on the recommendations formed by the European Parliament and the Council of Europe which acknowledge entrepreneurship as one of the key competences in the continuous learning process [2]. Piróg [1] mentions eight competences from the entrepreneurship area which should be, according to employers, mastered during university studies. The competences are: team building, innovative thinking, communication, assessment of business possibilities, decision making, recognition and solving problems, recognition of business skills, negotiation skills [1,3].

After researching ProQuest and PubMed, the authors stumbled upon an article referring to entrepreneurial skills in the context of medical professions. Lavery et al. [4] have published an article on shaping the entrepreneurial skills among pharmacy students in view of future managing and advancement of pharmacies. In their work, the authors referred to the suggestions of the Center for the Advancement of Pharmacy Education's (CAPE). This institution recommends students involvement in innovative activities to endorse creative thinking as a method of personal development, which could help students accomplish their professional goals more efficiently [5,6]. Lavery et al. [4] prove that managing pharmacies requires a solid educational background and that critical thinking should be promoted along with problem solving, teamwork, leadership skills, efficient communication and analysis. The listed skills result in a better understanding of strengths and weaknesses of students' own ideas and their attitude towards the surrounding [4].

Porzak [6] examined, using his own tool, 661 students who mainly represented the economical and management sciences. The respondents can be characterized by the motivation to act, readiness of taking initiatives and persistence in action. Additionally, the interviewed students displayed confidence manifesting itself with the tendency of taking risks and the belief in self-effectiveness. In a different article, Porzak [7] looked for a link between entrepreneurial competences and success basing his study on Zhao hypothesis [8] which states that there is a relation between personality and entrepreneurship. Porzak [7], in order to confirm said hypothesis, used his own Scale of Entrepreneurship Orientation and a standardized Questionnaire Hope for Success [9]. In his work, he confirmed a link between hope and entrepreneurship orientation and their influence on succeeding in professional environment. He stated that the belief of coping with different requirements, active decision-making and hope for success have a great impact on achieving set goals.

The results of own research showed high self-esteem of interviewed students concerning entrepreneurial competences. Based on the questionnaire, the students presented such traits as:

communication skills, capacity to manage work and self-management in time, sense of responsibility for entrusted work or the ability to think strategically and look for adequate solutions.

The presented work is one of a few studies examining students from medical divisions and health related divisions and their self-esteem concerning entrepreneurial competences. Because of a constantly changing role played by the white personnel in the healthcare system and a bigger autonomy of medical professions, it is necessary to equip the future medical professionals with broadly understood entrepreneurial competences.

6 CONCLUSIONS

- 1 The study group highly rated their entrepreneurial competence. However, due to the fact that these skills are essential for professional development of university graduates entering the labor market, it needs to be considered whether to include the issue in the learning content.
- 2 This was a pilot study and hence it needs to be continued among a representative study group.

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