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Profiles of empathic sensitivity in students of the last year of medicine

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Abstract: Developing the empathic attitude is one of the tasks of medical education as it affects the quality of therapeutic contact in the relationship between the doctor and the patient, conditioning the treatment process. According to Davis's concept, empathy is defined as an affective-cognitive reaction in the context of the other person's experience.

A i m: Analysis of profiles of empathic sensitivity in students of medicine.

G r o u p: Male and female students of the fifth year of medicine who agreed to participate in an anonymous study (n = 153; M = 57, F = 96; mean age: 23 years).

T o o l s: The Empathetic Sensitivity Scale (EES), which is the Polish tool for Davis's *Interpersonal Reactivity Index* (IRI) was used. The ESS includes three sub-scales: Empathic Care (EC), Personal Distress (PD) and Adopting Perspective (AP).

R e s u l t s: The raw results were converted into sten scores and for sten scores for all three dimensions of empathic sensitivity no differences were found between male and female students. Three clusters (1: n = 33%, 2: n = 39%, 3: n = 28%), which differ in terms of each distinguished indicator, were identified. **C o n c l u s i o n s:** The first cluster characterizes empathetic people, both in the affective and cognitive spheres, and those dealing well with unpleasant emotions in situations difficult to others. The second cluster characterizes participants with the ability to recognize the needs of others and to take into account their perspectives; the third cluster includes participants with a tendency to focus on their own experiences emerging in response to other people's suffering but with the ability to understand a situation and show empathic concern for the other person. The most favourable profile — for a future doctor as well as

for his patients — is the first cluster because the doctor, with his empathic sensitivity directed towards the other man, can deal with his own unpleasant emotions.

Key words: empathy, students of medicine, personality.

Introduction

When teaching students of medicine it is an important issue to take responsibility for the development of a therapeutic relationship with the patient that would be conducive to the diagnostic and therapeutic process. An empathic approach is a crucial part of an effective communication with a patient and his family. In its recommendations, the American Association of Medical Schools emphasizes the importance of education in the development of empathic skills, and the need to assess them in the course of study [1, 2]. Empathy is most often seen as an affective-cognitive reaction to another person's experience, and it determines the quality of therapeutic contact in the doctor's daily interactions with patients. Strengthening the doctor's empathetic approach towards patients is one of the most important tasks of medical education [3]. Many medical schools included classes aimed at working on the development of empathic behaviours in their teaching syllabuses. Empathy training described in literature takes various forms: from various communication workshops, through narrative development to art-based classes [4–6].

In literature on the subject there is a discussion on the impact of medical studies and clinical practice on empathy of medical students and doctors. The results of the studies show that the level of empathy decreases over the years of medical education and residency [7–9]. Many authors believe that the decrease in the ability to show empathy comes after students pass their clinical classes that are related to direct contact with patients. Neumann and colleagues associate it with a high level of stress which is the result of inadequate treatment of future physicians by superiors and lecturers, the painful confrontation of their initial thoughts and idealism with the reality of working in the health service, and their limited ability to gain social support [7]. However, not all studies confirm that in the course of medical education the empathy of students decreases. Colliver and colleagues, after examining the results of studies on this subject, state that there is insufficient evidence to conclude that the level of empathy decreases during medical studies [10]. The results of studies made by Quince and her colleagues among students of some medical schools in New Zealand and the UK indicate that there is no significant change in the level of empathy in the process of teaching future doctors [11, 12].

The lack of clear conclusions concerning empathic changes in medical education has probably many causes. One is definition and methodological problems associated

with the selection of research methods. In literature, different emphatic concepts and definitions are used, which implies the selection of different tools in research that in reality measure very different constructs. Among the methods used today there are: *Interpersonal Reactivity Index* (IRI) by Davis — in Polish translation and study it appears as *Empathic Sensitivity Scale* [13] and *Jefferson Scale of Physician Empathy*, and the version of this questionnaire for students (*Jefferson Scale of Physician Empathy — student version*).

In literature on the subject there is agreement about the important role that empathy plays in building a relationship between the doctor and the patient. Therefore, it seems important to seek the answer to the question of how medical education influences students' empathy. Stansfield and colleagues point out that in order to understand the dynamics of changes taking place it is important not so much to examine the general level of empathy but its individual components — the affective and cognitive ones — that co-create the system, within which the interrelated elements interact. The authors claim that along with the subsequent years of studies the empathic attitude of medical students towards patients becomes more complex. In particular, the change relates to one of its components, called by the said research team the “*metacognitive effort*”, which involves making conscious and active attempts to understand another person [14].

In the following analysis, the definition of empathy was derived from Mark Davis's concept which includes two dimensions of empathy: (1) cognitive — related to the ability to accept another person's perspective, and (2) emotional — related to the affective reaction to other people's experiences, which also includes own discomfort resulting from experiencing a sad situation [15, 16].

The main objective of the study was to analyze the profiles of empathic sensitivity in students of the fifth year of medicine.

Materials and methods

The Empathetic Sensitivity Scale (SWE — Skala Wrażliwości Empatycznej), which is the Polish tool for Davis's *Interpersonal Reactivity Index* (IRI) was used [13]. The ESS includes three sub-scales: Empathic Care (EC), Personal Distress (PD) and Adopting Perspective (AP). The EC scale measures the tendency to show affective reactions related to compassion towards another person who experiences a difficult situation. In turn, the PD scale refers to the tendency to experience discomfort and unpleasant feelings resulting from the contact with a suffering person. The AP scale — as a cognitive component of empathy — measures the ability to spontaneously adopt other people's perspectives and understand their point of view. The ESS has sten norms that allow comparing the results to the Polish population (stens: 1–2 — very low scores; 3–4 — low scores, 5–6 — average scores; 7–8 — high scores,

9–10 — very high scores). Average scores indicate the flexibility of behaviour and adaptation of behaviour to situational conditions.

Studied group: The study included all students of the fifth year of medicine ($n = 153$, $M = 57$, $F = 96$, mean age: 23 years).

Study procedure: Within their education in the field of medical psychology, students have the opportunity to analyse their own psychological functioning by assessing the Empathetic Sensitivity Scale indicators, among others. Students who gave consent to participate in the anonymous studies were given coded answer sheets. It was pilot study and was approved by the board of the Faculty of Medicine at the Jagiellonian University.

Results

The presentations of the results were started from the descriptive statistics of emotional sensitivity indicators (Table 1).

Table 1. Descriptive statistics of the Emotional Sensitivity Scale (ESS).

ESS indicators		Results for the whole group			
		Mean	Median	Min–max	SD
Raw scores	Empathic care	39.44	40	20–55	7.37
	Personal distress	21.24	21	1–37	6.15
	Taking perspective	35.51	36	18–45	5.30
Sten scores	Empathic care	5.67	6	1–10	2.15
	Personal distress	4.71	5	1–10	2.15
	Taking perspective	6.80	7	1–10	1.94

The average sten scores in the whole group indicate flexible behaviours. Due to the met assumptions concerning distribution, the SWE sten scores between male and female students were compared using the T-Student test (Table 2).

Table 2. Differences between the ESS sten scores in men and women.

Sten scores of ESS indicators	women $n = 96$		men $n = 57$		t	F	p
	Mean	SD	Mean	SD			
Empathic care	5.65	2.07	5.72	2.29	0.20	1.22	0.39
Personal distress	4.77	2.14	4.60	2.17	-0.48	1.03	0.89
Taking perspective	6.72	1.98	6.93	1.88	0.65	1.11	0.69

In terms of sten for all three dimensions of empathetic sensitivity no differences were found between male and female students. This result allows conducting a cluster analysis for the whole group. After finishing the agglomeration procedure, three clusters were distinguished. The first cluster is formed by results for 51 people (33%), the second includes 60 people (39%), and the third 42 people (28%).

Table 3. Differences between clusters in the scope of ESS indicators.

ESS indicators	Mean			SD			F	P	Intergroup differences
	1	2	3	1	2	3			
Empathic care	7.71	3.95	5.67	1.32	1.41	1.63	93.25	<0.001	1-2, 1-3, 2-3
Personal distress	4.22	3.40	7.17	1.84	1.33	1.19	83.62	<0.001	1-2, 1-3, 2-3
Taking perspective	8.37	6.32	5.57	1.30	1.80	1.50	41.57	<0.001	1-2, 1-3, 2-3

The analysis of variance with post hoc tests (Newman-Keuls Test) showed that for each of the subscales of the empathic sensitivity questionnaire, all focus groups that created clusters were different from each other. The graphical presentation of clusters can be found in Fig. 1.

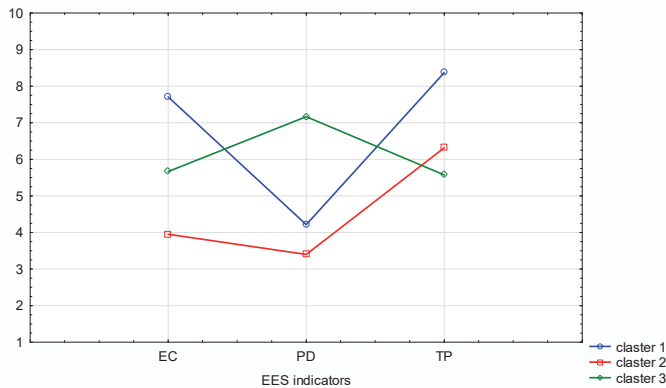


Fig. 1. Chart of mean clusters.

In comparison with the normative group, in the first cluster the values of two indicators: affective EC and cognitive AP are within the limits of high stens, and affective PD is below the norm. In the second cluster, the values of affective EC and PD fall within the limits of the low scores, and the cognitive AP is within the normal range. Whereas in the third cluster, one affective PD indicator is high, and the other two are within the average results.

Discussion

From the literature review it is known that the aspect of functioning that is essential for the profession of doctor is the empathic attitude. It is generally acknowledged that the empathetic behaviour in students of medicine and doctors is related to the better quality of their relationships with patients. Research confirms the relationship between the level of empathy and trust in the relation between the doctor and the patient, and satisfaction with the mutual contact experienced both by the doctor, the patient and his family. What is more, they point to the fact that empathetic doctors are also skilled at interviewing patients and conducting medical examinations, motivated to help others, and characterized by higher level of moral reasoning [17].

Some studies show intersexual differences in the level of empathy between males and females in general, and in the group of those who do medical professions, including doctors [18]. The results of studies among male and female students in different countries show that in many cases women have a higher level of empathy than men [3, 19–22], while researchers suggest that those differences are more related to the emotional components of empathy, and the cognitive aspect of empathy remains at a similar level [23].

However, the higher level of empathy in women, including female students of medicine, was not confirmed in all studies. In the interpretation of such studies conducted in Portugal, South Korea, New Zealand and Iran [24–27] the emphasis is on the different effect of culture on attitudes towards empathy. In the article presented in this study there were no differences in empathy levels across all three indicators between male and female students. Since empathy is a complex construct, and its dependence on gender has not been explicitly defined, an interesting issue is the personality-related conditioning of empathic components in women and men.

In the examined group of male and female students of the last year of medicine, three clusters have been identified which differ in terms of each distinguished indicator. The possibility to refer sten scores in a particular cluster allows making their characteristics.

In the first cluster that includes 1/3 of the study group there were people who achieved standard PD scores and high scores on the EC scale and very high on the AP scale. This means that by expressing great empathic concern for others, and understanding their perspectives and needs, at the same time they refer unpleasant emotions related to active participation in a difficult situation experienced by others to themselves. In studies conducted in different cultural circles aimed at describing the relationships between the functioning of empathy and personality traits, it was observed that both empathic sensitivity elements — EC and AP — positively correlate with the tendency to compromise described in the five-factors model of personality [28–31]. It seems that all three constructs (empathic care, taking perspective, and

tendency to compromise) contain one common element that is decisive when it comes to their essence: concentration on the other person rather than on one's own needs.

In the second cluster, which includes nearly 40% of the participants, the abilities to recognize the needs of others and adopt their perspectives are observed, as well as weak tendencies to express empathy and to care for others, and a low level of distress experienced by participating in others' difficult situations. Based on the results of the above-mentioned studies on the relationships of empathy with personality, it is possible to put forward interpretative hypotheses (to be verified in further analyses) that persons who belong to this group will be characterized — unlike the first group — by rather weak tendency to compromise in relationships with others. This conclusion seems to be legitimate because of the reduced EC scale scores that were observed in this group. It will also be likely characterized by a low level of neuroticism which indicates the level of emotional adaptation, and in this situation it is associated with the tendency to not experience negative emotions [32, 33]. This interpretation is justified by the reports of the authors who described the existence of a positive correlation between the severity of neuroticism and the results obtained on the PD scale [28–31, 34]. Those who achieve low scores in neurotic indicators are also less likely than others to experience discomfort when engaged in a difficult situation of another person, and therefore they are less likely to exhibit empathic concern for others [29]. This is because all three constructs: EC, PD, and neuroticism are by definition “affective” — they relate to the general emotional reactivity of a person. In other words, people with a slight tendency to react with emotional stimulation (of any nature) to social stimuli may also be characterized by reduced neuroticism, low care for others, and minimal susceptibility to experience discomfort in situations when someone needs help.

In the third cluster of nearly 30% of the participants, the participants had high levels of personal distress and average sten scores in the other two indicators. This constellation of results seems to show that individuals included in the last group tend to focus rather on their own experiences that appear as a response to distress observed in others — they tend to focus more on themselves rather than on other people. As noted in the previous paragraph, high scores on the PD score positively correlate with the severity of neuroticism [28–31, 34]. It is therefore possible to suspect that in the emotional functioning of participants whose results were contained in the third cluster this dimension of personality will be of great importance in their professional adaptation. What is important, the high level of neuroticism in emotionally difficult situations can interfere with the ability to look at something from someone else's perspective, because the high intensity of negative emotions makes it difficult to imagine the inner states of other people [29]. As a result, a person withdraws from contact and concentrates on coping with her own discomfort.

The content analysis of profiles allows putting forward several interpretative hypotheses in the context of performing future professional tasks. The first focus is on

students' attitude that shows great empathic concern for the other person, a very high cognitive ability of understanding the other person's perspective, and rather low costs resulting from experiencing personal distress associated with a given difficult situation. This is the most desirable profile in medical professions, where tasks are largely related to interpersonal relationships. The second profile characterizes the attitude of students with the ability to understand the perspective of the other person but without showing the empathic concern for meeting their needs. This group is characterized by a low level of experiencing unpleasant emotions in situations difficult for others. Such an attitude may be related to the reduced professional stress experienced as a response to patients' suffering but also with the lack of ability to provide adequate emotional support to the patients. The third profile is quite opposite to the first one: this group of students is characterized by cognitive-affective abilities to empathise with others and also by strong emotional reactions to the suffering of other people. Although this way of functioning may be beneficial for the patients, for a future doctor this configuration of empathic sensitivity can promote strong stress and negative emotions. Consequently, strong, frequent experiencing of personal unpleasantness may be the risk of going professionally stale, and thus triggering such ways of coping which worsen defensive behaviours, evoke depersonalization, and the participant's sense of low efficacy [35]. Knowing the profile of one's own empathic sensitivity may be important for the selection of medical specialization or for further development of personal career as a doctor. Given that empathy is conditioned by personal tendencies, the selection of medical specialization, proper adaptation or development of one's own predispositions to perform professional tasks seem to be a condition for professional satisfaction.

Conclusions

Three clusters which differ in terms of each distinguished empathic sensitivity indicator were identified.

- the first cluster characterizes people with strong tendency to help others, both in the affective and cognitive spheres, and those dealing with unpleasant emotions in situations difficult to others.
- the second cluster characterizes participants with the ability to recognize the needs of others and adopt their perspectives, but ones who weakly express the affective aspect of empathy and the feeling of personal distress due to participation in a difficult situation of other people.
- the third cluster included people with a tendency to focus on their own experiences appearing as a response to observed suffering of other people, but also with the ability to understand their situations and show empathic concern.

In the profession of doctor that will be performed by the participants in the future, adapting the performed specialization to empathic sensitiveness seems to be a condition of a professional attitude and professional satisfaction.

Conflict of interest

None declared.

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