

The Communicative Competence of Future Doctors with Different Levels of Stress Resistance

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Abstract: *Physicians' communicative competence is of immense importance for their professional activity. The current study presumes that future doctors' communicative competence correlates with their stress resistance which influences their professional performance of duties. The specific aim of our research was to conduct a thorough study of the communicative competence of future doctors with different levels of stress resistance. According to the analysis of the level of their stress resistance, seventy-seven senior students of the Donetsk National Medical University of the Ministry of Health of Ukraine were divided into three groups. Further, applying a set of appropriate psychodiagnostic methods and techniques, their communicative competence was evaluated. The results have proved that the research participants with a high level of stress resistance are more communicatively competent compared to the participants with average and low-level stress resistance. Our findings suggest that future physicians' communicative competence, as it is closely connected with their stress resistance, needs more considerable attention of authorities in medical education. So, we speculate that introducing socio-psychological training sessions both to the curriculum and to the process of current physicians' professional development will contribute to the successful performance of future doctors' professional duties under pressure, and their interaction with colleagues, patients, and their relatives.*

Keywords: *Physicians' communicative competence; stress resistance; future doctors; mental stress; medical activity.*

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Introduction

Professional medical activity is determined by various complex situations that require qualified emergency care, as well as appropriate choice of communication and interaction both with colleagues and patients and their relatives. In this regard, the formation of doctors' communicative competence is of particular importance. Firstly, the communicative competence is a necessary condition for positive influence on a personality of a sick person; secondly, it is one of the efficient means of prevention and treatment of various diseases; thirdly, it is the basis of effective doctor cooperation during diagnostic and treatment processes (Chizhkova, 2020; Filonenko, 2015). It is worth noting that doctors' communicative competence is as significant as their other professional competencies, namely basic medical knowledge, clinical thinking, practical skills and abilities (Mikhailyuk et al, 2015).

Being a complex notion, the communicative competence is manifested in the communicative knowledge, skills, and qualities necessary not only to transmit and receive various kinds of information, but also to interact with other people, to perform various social roles in groups and teams (Puz, Astakhov, 2019). Physician communicative competence includes expert skills of establishing and maintaining the necessary contacts, understanding the interlocutor's nonverbal communication cues, appropriately solving various difficulties that may arise when interacting with patients, their relatives, and colleagues.

It is important for a doctor to choose the proper way of personalized communication with each patient. It should suit both the current psycho-emotional state of the sick person, and his individual psychological characteristics in general. Many researchers believe that positive, reassuring interaction between the doctor and the patient significantly increases treatment effectiveness and patient satisfaction with health care delivery (Humenna, 2013; Kakhno, 2014). Physician communicative competence helps establish a trusting relationship with patients. The patients who trust the doctor do not have any doubts about the correctness of a diagnosis and the consistency of a suggested treatment; they have a more responsible attitude towards therapy, which will certainly be favourable for the disease treatment (Chizhkova, 2020).

In the structure of physician communicative competence they distinguish motivational, cognitive, emotional, behavioral and personal components (Mikhailyuk et al, 2015). Thus, the motivational component

consists of the person's individual needs for positive interaction and values associated with communication with others. The cognitive component comprises reflective, analytical, and evaluative abilities, as well as knowledge of interpersonal communication and interaction. The emotional component is manifested in the ability to perceive and estimate interlocutors accurately, to understand their psycho-emotional state, to display empathy. The behavioral component determines the individual system of suitable interpersonal interaction, as well as the ability to subjectively control one's own behavior during the communication. The personal component includes a set of qualities, among which we will lay particular emphasis on high motivation for successful communication, emotional stability, affiliation, tolerance.

It is worth noting that communicative competence complements other important components of physician professional competence. It is a core part of successful professional adaptation. Future doctors' modern professional training involves not only the acquisition of the necessary medical knowledge but also the development of professionally significant personality traits, among which special importance is given to communicative competence as it ensures future doctors' effective integration into educational and further professional community.

The professional activity of modern doctors is characterized by their work intensification, increasing requirements for job suitability, and emotional stability while coping with various medical and diagnostic tasks. It involves their ability and readiness to overcome stress in everyday disturbing situations which is largely due to specific conditions of their work. Among them they distinguish high intellectual load; psycho-emotional stress; exceptional level of responsibility; the need to make decisions in a shortage of time and information; constant communication with a large number of people who differ in temper and character, emotional state, educational background, health state (Filonenko, 2015). Taking the above mentioned into account, we should note that doctors are extremely vulnerable to various stress factors, and therefore this job requires a constant update of the cognitive, emotional, reflective, and other personality capabilities. It is well known that in most cases, when professional conditions and requirements for work exceed internal and external personal resources, the human body reacts correspondingly, and that affects the whole health. Therefore, it becomes clear that, together with communicative competence, stress resistance should be considered as another important component of the physician professional competence. Stress resistance is regarded as the ability to withstand various stress factors, including intense professional pressure.

As many researchers state, stress resistance can be defined as a personality trait that complements other components of mental activity in an emotional situation, and thus contributes to the successful performance of activities (Vodopyanova, 2009; Dubchak, 2017).

The literature review has shown that stress resistance can be considered from two main aspects. First, it characterizes how successful the activity is and demonstrates the ability to maintain the necessary performance and efficiency under stress. Secondly, it affects the result of an activity (success-failure) and ensures the equilibrium of the individual as a system. So, stress resistance is treated as a performance and personality indicator (Shcherbatykh, 2006).

We believe that the high level of doctors' stress resistance will influence the successful performance of their professional duties under pressure, together with their effective communication and interaction with colleagues, patients, and their relatives.

Overall, it is clear that issues related to the formation of future doctors' practical skills are becoming of great relevance and importance, in particular the ability to resist various stress factors, establish rapport, obtain and provide information using effective techniques and methods of communication, verbal and nonverbal communication channels, as well as successfully work in a team.

Thus, **the principal objective of our work** was to study and analyse the communicative competence of future doctors with different levels of stress resistance.

Materials and Methods

The remote experiment was undertaken using Internet technologies at the Laboratory of Health Psychology, Department of Psychology, Vasyl' Stus Donetsk National University. The study involved 77 senior students of the Donetsk National Medical University (DNMU) of the Ministry of Health of Ukraine, who were selected at random. The mean age of the participants in the sample was 22.7 ± 2.4 years. Among the respondents there were 30 male and 47 female students. All the participants were informed about the purpose of the study and agreed to take part in it.

The study proceeded in two stages. At the first stage, we determined the level of future doctors' stress resistance. Subsequently, we divided the participants into three groups according to the level of their stress resistance, in particular high, medium, and low. During the second stage, we

investigated the specific features of the communicative competence of future physicians with different levels of stress resistance.

Taking into account future doctors' professional activity background, as well as the peculiarities of their professional communicative interaction, we have identified the following main features of future physicians' communicative competence: ability to self-control while communicating; active listening and ability to express their thoughts; empathic abilities; developed communication and organizational skills.

We applied a set of appropriate psychodiagnostic methods and techniques to assess future doctors' stress resistance and communicative competence. The Stress Audit, developed by Lyle H. Miller and Alma Dell Smith, the Psychological Stress Scale - PSM-25 (Lemyr, Tessier, Fillion, translated and adapted in Russian by N. Vodopyanova), and the self-diagnostic questionnaire of behaviour type (V. Boyko) were used to determine the level of participants' stress resistance. To define the specific features of future doctors' communicative competence we employed the diagnostic technique for assessing self-control in communication by M. Snyder, "Diagnosis of the level of empathic abilities" by V. Boyko, "Communicative and Organizational Skills (COS)" by V. Sinyavsky and B. Fedoryshyn, "Listening skills" and "Expressing your thoughts" tests. Statistical analysis was performed by using Fisher's angular transformation criterion (φ^*), Student's t-test coefficient, as well as MS Excel for Windows XP and SPSS 10.0.5.

Results

Doctors, as representatives of socio-economic professions, are under the influence of both universal stress factors typical for any professional activity, and under the influence of specific stressors, due to the peculiarities of their 'person-person' professional relationships which require such an important quality as stress resistance. The first stage of our empirical study had to investigate the level of future physicians' stress resistance. The Boston stress test results indicated that 18 participants (or 23.4%) had a high level (HL) of stress resistance (7.05 ± 1.47), which pointed to excellent resistance to various stress factors; 33 participants (42.8%) displayed a moderate level (ML) of stress resistance (23.5 ± 2.8), which corresponded to sufficient resistance to a stressful life. 26 research participants (33.8%) demonstrated a low level (LL) of stress resistance (41.1 ± 3.5), which may indicate certain difficulties in overcoming stressful situations, some vulnerability even to the minor stressors, which may harm their health and well-being. There were no future

physicians with an insufficient level of stress resistance among the participants.

According to the questionnaire "Psychological Stress Scale" PSM-25, 21 (27.3%) research participants had low-level mental stress (78.52 ± 2.89), which indicated a state of psychological adaptation to various types of stress. The moderate level of mental stress (121.03 ± 2.93) was detected in 32 participants (41.5%). We found that 24 (31.2%) participants had high level mental stress (158.45 ± 1.69). It is a sign of poor adaptation and mental discomfort, which requires psychological care employing a wide range of methods to reduce anxiety and nervousity, and provide emotional reassurance. The data revealed the correlation between mental tension and psychological stress levels: the psychological stress level increases with the mental tension.

We presented the results of the Boston Stress Test and the "Psychological Stress Scale" in Table 1.

Table 1: Students' stress resistance and mental stress, %

<i>Stress resistance</i> (The Boston stress test)			<i>Mental Stress</i> ("Psychological Stress Scale" PSM-25)		
HL	ML	LL	HL	ML	LL
23,4% ($7,05 \pm 1,4$ 7)	42,8% ($23,5 \pm 2,$ 8)	33,8% ($41,1 \pm 3,$ 5)	31,2% ($158,45 \pm 1,6$ 9)	41,5% ($121,03 \pm 2,9$ 3)	27,3% ($78,52 \pm 2,8$ 9)

The data analysis of the self-diagnostic questionnaire of behaviour type (V. Boyko) provided us with the behavior stereotypes which are typical for future doctors in stressful situations. (Figure 1).

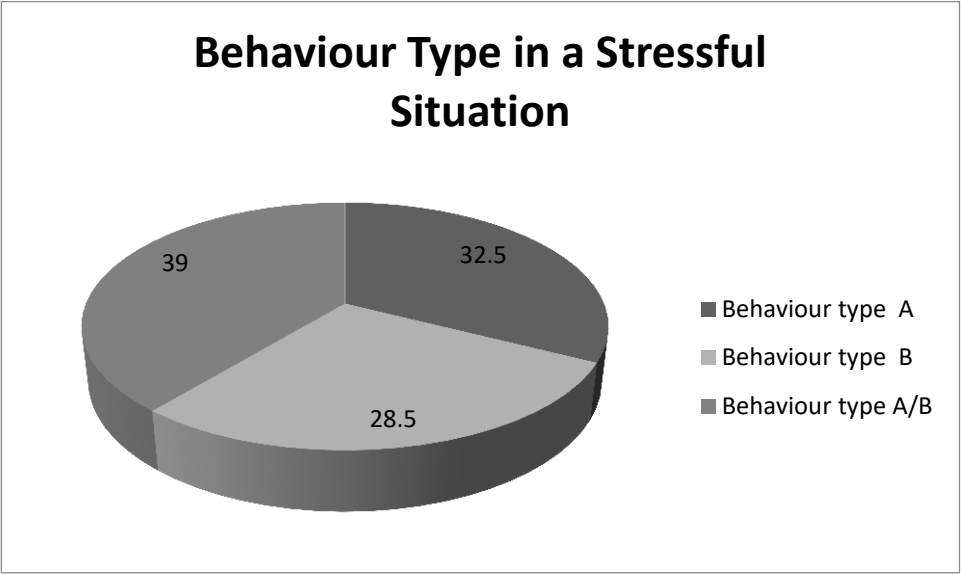


Figure 1: Distribution of the subjects by their behaviour type in stressful situations according to the self-diagnostic questionnaire of behaviour type (V. Boyko), %

Thus, 25 participants (32.5%) relate to type A, which indicates they have personality traits and attitudes that may be the major cause of stress symptoms as well as the predisposition to various diseases. The distinguishing characteristics of the studied of this type are high competitiveness, aggressiveness, and hyperactivity. They are impatient, willing to succeed at any cost, which may cause various problems when interacting with others. 22 research participants (28.5%) possessed type B features. Among type B features we mention a calm, balanced temper, the absence of aggression in interpersonal relationships, a lack of ambition. 30 participants (39.0%) had a mixed behavior type (A / B) in stressful situations.

According to their stress resistance levels, we divided the participants into three groups. Thus, in group 1 there were 20 people with high-level stress resistance, which corresponded to low-level psycho-emotional tension, the resistance to various stressors, the ability to possess oneself in stressful situations. The second group included 32 people who had moderate level of stress resistance, which related to an average level of mental stress, adequate behavior in stressful situations. Group 3 (25 participants) had a low-level

stress resistance, which signified a high level of mental stress, poor ability to withstand the stressors, insufficient adequacy of behavioral responses in stressful situations.

The next step of our study was to identify the distinguishing features of communicative competence of participants with different stress resistance levels. For this purpose we compared and analyzed the research results of participants with different levels of stress resistance.

"Assessment of self-control in communication" (by M. Snyder) results showed that 12 participants (60.0%) of group 1, 8 participants (25.0%) of group 2, and 5 participants (20.0%) of group 3 had a high level of communicative control. Such people role-play easily, respond to changing situations quickly, feel good, and even anticipate others' impressions. The moderate level of communicative control was witnessed in 6 participants (30.0%) of group 1, 16 participants (50.0%) of group 2, 8 participants (32.0%) of group 3. These subjects often succumb to emotions during the interactions. Low-level communicative control was observed among 2 participants (10.0%) of group 1, 8 participants (25.0%) of group 2, 12 participants (48.0%) of group 3. Such participants are unable to change their behaviour in accordance with the new conditions of the interaction, remaining sincere and open in communication.

The statistically significant differences of the results obtained by "Assessment of self-control in communication" (by M. Snyder) indicate that there is the statistical significance between the indices of the studied groups 1 and 2 ($\varphi^* = 2,543$ ($p < 0,01$)) and groups 1 and 3 ($\varphi^* = 2,817$ ($p < 0,01$)).

The "Listening skills" test results signify that 14 (70.0%) participants (group 1), 9 (28.1%) participants (group 2), and 4 (16.0%) participants (group 3) displayed a high level of active listening. Such subjects always focus on the main facts during the conversation, they do not have the habit of interrupting, and the interlocutor is always given the opportunity to speak. The moderate level of active listening ability was detected in 5 (25.0%) participants (group 1), 15 (46.9%) participants (group 2), and 9 (36.0%) participants of group 3. The results show that these research participants do not usually give interlocutors the opportunity to express themselves completely, and they do not seem to be concentrated on the message expressed indirectly during the conversation. 1 (5.0%) participant of group 1, 8 (25.0%) participants of group 2, and 12 (48.0%) participants of group 3 manifested low-level listening skills. They have a tendency to be irritated by the interlocutors who express any opposing views, often interrupt and impose their thoughts and views.

According to the "Listening skills" test results, evaluation of the statistical significance of differences indicates that statistical significance between the indicators of group 1 and group 2 is $\varphi^* = 3.035$ ($p < 0.01$), and between group 1 and group 3 is $\varphi^* = 3.863$ ($p < 0.01$).

"Expressing your thoughts" test results demonstrate that 15 (75.0%) participants of group 1, 7 (21.9%) participants of group 2, and 6 (24.0%) participants of group 3 possess the high-level ability to articulate their ideas. It marks the acquired ability to express the opinions effectively, to plan the utterances. The moderate level ability to express their own opinion and to ask interlocutors meaningful questions was noticed among 5 subjects (25.0%) of group 1, 15 subjects (46.8%) of group 2, and 8 subjects (32.0%) of group 3. The low-level ability, which is regarded as insufficient for expressing the opinions, drawing conclusions, and highlighting the main points, was present in 10 subjects (31.3%) of group 2 and 11 subjects (44.0%) of group 3. There were no research participants of group 1 with the low-level ability to articulate their ideas.

The statistically significant differences in the results obtained by the test "Expressing your thoughts" indicate that there is statistical significance between the indicators of group 1 and group 2 ($\varphi^* = 3.929$ ($p < 0.01$)), and group 3 ($\varphi^* = 3.567$ ($p < 0.01$)).

The testing of communicative and organizational skills by the method of "COS-2" (by V. Sinyavsky and B. Fedoryshyn) indicates that future physicians with different levels of stress resistance markedly differ in these characteristic features. Thus, there were no research participants with a supremely high level of communicative skills in any of the three study groups. 13 participants (65.0%) of group 1, 8 participants (25.0%) of group 2 and 4 participants (16.0%) of group 3 have high-level skills which can be described as feeling at ease among strangers and establishing a rapport with them easily, defending their opinion; cheering up any unfamiliar company. The moderate level of communicative skills which manifests itself in the desire to establish a rapport with people and make new acquaintances, was present in 7 participants (35.0%) of group 1, 14 participants (43.7%) of group 2 and 9 participants (36.0%) of group 3. The low-level communicative skills, characterized by difficulty in establishing a rapport and poor ability to cope with an unfamiliar situation, were observed in 10 (31.3%) subjects of group 2 and 12 (48.0%) subjects of group 3. No participants of group 1, who had been marked by a high level of stress resistance, had low-level communicative skills.

The statistically significant differences in the results according to the testing of communicative skills indicate that there is statistical significance between the indicators of group 1 and group 2 ($t = 4.4$ ($p < 0,01$)), and group 3 ($t = 5.5$ ($p < 0,01$)).

The high-level organizational skills, which is the ability to organise and the desire to take an active part in arranging and holding various activities, were present in 11 research participants (55.0%) of group 1, 8 participants (25.0%) of group 2, and 5 participants (20.0%) of group 3. The average level of organizational skills, which is the ability to arrange and participate in various activities if needed, was present in 7 participants (35.0%) of group 1, 13 participants (40.6%) of group 2, and 8 participants (32, 0%) of group 3. The low-level organizational skills, which are characterized by the lack of own initiative to arrange and participate in various activities, were present in 2 participants (10.0%) of group 1, 11 participants (34.4%) of group 2, and 12 participants (48.0%) of group 3.

The statistically significant differences in the organizational skills test results indicate that there is statistical significance between the indicators of group 1 and group 2 ($t = 3.2$ ($p < 0,01$)), and group 3 ($t = 4.1$ ($p < 0,01$)).

According to the empathic abilities test results (after V. Boyko), 11 research participants (55.0%) had high-level empathic abilities; 7 participants (35.0%) had normal or average empathic abilities, 2 participants (10.0%) had low-average empathic abilities. None of the research participants with a high level of stress resistance had an extremely low level of empathic abilities. In group 2 we observed 7 participants (21.8%) with high-level empathic abilities, 11 participants (34.4%) with average empathic abilities, 9 participants (28.1%) with low-average empathic abilities, and 5 participants (15.7%) had a very low level of empathic abilities. In group 3 we detected 4 subjects (16.0%) with high-level empathic abilities; 5 subjects (20.0%) had average empathic abilities; 10 subjects (40.0%) had low-average empathic abilities, and 6 subjects (24.0%) had a very low level of empathic abilities.

The statistically significant differences in the results obtained by "Diagnosis of the level of empathic abilities" by V. Boyko indicate that there is statistical significance between the indicators of group 1 and group 2 ($t = 4.4$ ($p < 0,01$)), and group 3 ($t = 5.4$ ($p < 0,01$)).

The summing up of the empathic abilities test results indicates that future doctors with moderate and low levels of stress resistance do not possess sufficient empathic abilities necessary to sympathize and to respond to others effectively, which results in experiencing various difficulties while interacting with patients and patients' relatives. It should be noted that this

requires the further development of future physicians' empathic abilities, as the ability to empathize helps establish a trusting relationship between a doctor and a patient, which impacts the diagnostic and treatment processes positively.

Discussion

According to the obtained empirical data, which coincide with the results of other studies (Filonenko, 2015; Humenna, 2013), future physicians with different levels of stress resistance have certain differences in their communicative competence. In particular, we have found that most research participants with high-level stress resistance (group 1) have a sufficient level of communicative competence, which has been proved by particular communication skills, the ability to respond empathetically, to sympathize; besides, they are able to express their own opinions clearly, to listen actively, and to achieve mutual understanding in professional and interpersonal interaction. Meanwhile, most future physicians with low-level stress resistance (group 3) have demonstrated insufficient communication skills, which manifests in low-level communicative knowledge, considerable difficulties in establishing a rapport with people, minor self-control while communicating, inability to display sufficient empathy with the interlocutor. The majority of the research participants with an average level of stress resistance (group 2) have an ordinary level of communicative competence, which is characterized by the ability to express their own thoughts logically and consistently whereas these participants' ability to listen actively is insufficient and their self-restraint is average. Such students understand the importance of empathy in the medical profession but they are rarely able to respond empathically during interpersonal and professional communication.

Realising the importance of communicative competence and stress resistance in the medical profession, and taking into account the ideas of other scientists, we consider introducing a number of socio-psychological training sessions as one of the most effective means for the formation and development of professionally important qualities. (Kaidalova, 2014; Mitina, 2016) These training sessions should be aimed at developing effective communication skills, interaction, and self-restraint skills, which will result in an increase in the level of stress resistance. During such training sessions simulation games, discussions, certain psychotherapy techniques, case study, and problem-solving tasks can be used. These methods of interaction and teaching impact future physicians' stress resistance by recovery, stabilization of their psycho-emotional background, strengthening the inner resources. As

a result, future physicians' stress resistance together with their communicative skills increases which has a positive impact on the personal and professional development of specialists.

Conclusions

1. At present the development of current medical science and practice, when a medical process is getting highly specialised and more and more technological, the formation of future physicians' communicative competence and increasing of their stress resistance are becoming especially important during the course of training. Physicians' communicative competence clearly indicates the formation of a system of professional communicative knowledge, communicative skills, values, overall culture, and constitutes a necessary professional activity component. Stress resistance is a complex integrative characteristic that determines a person's ability to withstand the pressure and the effects of stressors, behave sensibly and appropriately in stressful situations, whether transforming them actively or adapting to them without any damage to the health and/or quality of activities.

2. According to the results of the empirical study, we found certain statistically significant differences in the manifestation of communicative competence of future physicians with different levels of stress resistance ($p < 0.01$). We discovered that the research participants with a high level of stress resistance, having a low level of mental stress and behaving effectively in stressful situations, are more communicatively competent compared with the participants with average and low-level stress resistance.

3. We support the idea that it is mandatory to include socio-psychological training sessions both to the future physicians' curriculum and to the process of current physicians' further professional development. Socio-psychological training aiming to develop future physicians' communicative skills is not only an effective tool for professional development but it also contributes to future physicians' job satisfaction, contentment, and life. It reduces the risk of developing emotional burnout, which certainly has a positive impact on promoting well-being and health.

Prospects for further research. It is necessary to determine the impact of future doctors' individual psychological features on the professional development process and communicative competence formation.

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