OPEN ACCESS
Freely Available Online

OpenAccessPub

International Journal of Psychotherapy Practice and Research
ISSN NO: 2576-612X

Research Article

DOI : 10.14302/issn.2574-612X.ijpr-17-1634

Relationships between the level of Social Competence and Work-related Behaviors in a group of Physicians, Nurses, and Paramedics

Bożena Mroczek[1], Artur Kotwas[2], Iwona Ewa Karpeta-Pawlak[1], Weronika WoliÅ„ska[1,*], Jacek Rudnicki[1], Magdalena Bikowska[3], Donata Kurpas[4]

1. Department of Human Sciences in Medicine of the Pomeranian Medical University in Szczecin, 11 Chlapowskiego St., 70-204 Szczecin, Poland.
2. Chair and Department of Public Health of the Pomeranian Medical University in Szczecin, 48 Żołnierska St., 70-204 Szczecin, Poland
3. Independent Long-term Care Unit of the Pomeranian Medical University in Szczecin, 11 Chlapowskiego St., 70-204 Szczecin, Poland.
4. Chair and Department of Family Medicine of the Wroclaw Medical University, 1 Syrokomli St., 51-141 Wrocław, Poland; Opole Medical School, 68 Katowicka. St., 45-060 Opole, Poland

Abstract:

The functioning of medical professionals in their work environment is determined by many factors, among them social competence.

The aim of this study was to analyze how social competence is related to behaviors and experiences in the context of burnout syndrome, experienced by physicians, nurses, and paramedics in Poland with regard to sociodemographic factors.

Methods. The study was conducted in 2015-2016. It involved 432 medical workers, including 29.7% physicians, 36.96% nurses, and 33.3% paramedics. The median age was 38.00. Over half (38.9%) of those surveyed were employed in hospitals, 6.9% in primary care centers, 18.3% in emergency ambulance service. The Social Competence Questionnaire (SCQ), the Work-Related Behaviour and Experience Patterns - AVEM questionnaire, and a self-developed questionnaire were applied.

Results. Symptoms of burnout syndrome (Type B and A) were observed in one-fourth of medical workers. 31.8% of all participants presented Type G ($p < 0.0001$). Behavior types prevailing in particular groups were as follows: paramedics — Type G and Type S; physicians — Type A and Type B, and nurses — Type B and Type G. The general competence level correlated with Type G ($p = 0.05$), and I competence correlated negatively with Type B ($p = 0.02$).

Conclusions: The problem of burnout syndrome, diagnosed on the basis of work-related behaviors and experiences, is weighty and requires implementation of holistic therapeutic and prophylactic solutions addressed to healthcare professionals. Competence in intimate and social exposure situations, as well as competence in situations requiring assertiveness significantly protect medical workers against burnout syndrome.

Corresponding author: Weronika WoliÅ„ska

Running title: Social competence and burnout

Keywords: social competence, job burnout, work-related behavior, physician, nurse, paramedic, SCQ, AVEM, healthcare

Received : June 01, 2017; **Accepted:** July 02, 2017; **Published:** Aug 19,2017

Introduction

The functioning of people in the work environment, as well as their satisfaction with professional achievements are highly determined by their social competence, attitudes towards work, strategies adopted to cope with problems, and an emotional stance on the professional roles [1,2,3].

One indicator of competence is the effectiveness of people's functioning in real professional and social situations, which means efficiency in achieving goals, the ability to build interpersonal bonds, a lack of excessive psychological and psychophysiological costs associated with work and social relations, and agreement between behavior and job requirements as well as social standards [4,5,6]. A high social competence of physicians and nurses seems to be a factor that protects them against burnout syndrome. It is negatively correlated with burnout in the dimensions of emotional exhaustion, emotional detachment, and dehumanization, and positively correlated with a sense of a personal accomplishment [3,7,8]. Other authors imply that aspects which should be taken into account when diagnosing burnout syndrome include the interaction between employees and their work environment, their attitudes to job requirements, and their experiences with various situations at work [9,10]. Discrepancies between job-related situational restraints and one's communicative and interpersonal skills in social situations, as well as assertive competence in intimate and social exposure situations, explain the essence of the burnout problem [1,9,10]. Other authors maintain that job burnout positively correlates with the levels of emotional and social intelligence [11,12,13].

Originally burnout syndrome was described as a loss of motivation and physical power to work, perceived as workers' withdrawal syndrome, resulting from overloading with tasks posed by social and physical work environment [14], and as a consequence of exposure to prolonged work-related stress [15]. This syndrome is mainly observed in jobs which involve contact with other people, the necessity of making quick and responsible decisions, and personal involvement. This problem affects especially representatives of emotionally demanding professions, such as physicians, nurses, and paramedics [16,17,18].

Characterized by high dynamism, burnout syndrome is regarded as a challenge for public health due to its increasing incidence and negative — both personal and institutional — consequences for the healthcare system [17]. Researchers agree that burnout does not give symptoms immediately, but develops gradually in response to long-term exposure to stress [19,20]. Negative work consequences have direct effects on employees' health, and an indirect impact on the quality of healthcare, as well as legal and economic issues [3,18,21,22,23,24]. In individual cases, burnout syndrome is manifested by psychosomatic (weakness, sleeplessness) and emotional (anger and depression) problems, as well as hostility, aggression, apathy, the lack of confidence in other workers, and isolation [18]. Burnout syndrome can also be perceived as a risk factor for heart diseases, pain, and spinal diseases [13].

In the International Classification of Diseases (ICD-10), burnout syndrome is coded as ICD-10 Z73.0. Unlike other diseases counted among occupational disorders, it does not entail dysfunction of a specific organ or system. It is rather a psychosocial state, which should be distinguished from physical fatigue and depression [16].

Materials and Methods

The aim of this study was to analyze relationships between the job-related behavior types and the levels of social competence presented by physicians, nurses, and paramedics employed in various healthcare centers in Poland, with regard to sociodemographic factors. The following hypotheses were formulated:

There are differences in the severity of burnout

syndrome between physicians, nurses, and paramedics, depending on age, sex, education, years in the profession, and years in the previous job.

Medical workers with high social competence show a low level of burnout syndrome.

There is a relationship between the social competence of medical workers and the types of job-related behaviors, suggesting burnout syndrome.

Participants

The study was conducted in Poland in 2015–2016 with the consent of the Bioethical Commission of the Pomeranian Medical University in Szczecin, Poland (KB-0012/92/12/2014).

Purposive random sampling was used to select study participants. Those invited to the study were physicians and nurses from internal diseases, surgical, and pediatric wards, and other healthcare institutions in Szczecin, paramedics providing emergency service in Szczecin, and primary care physicians from Szczecin and Wrocław. All people employed in selected healthcare centers had equal chances to take part in the study.

Our research on social competence, as well as behaviors and experiences associated with work, involved 432 medical workers from two medical centers (Szczecin and Wrocław), composed of 144 (33.49%) physicians, 160 (37.73%) nurses, and 122 (28.77%) paramedics. 185 (42.82%) respondents had master's degree education. The average age of the medical workers was 33.6 ± 11.7 years and the median was 28 years (range: 21–66 years). Detailed sociodemographic data are presented in Table 1, together with the activity in scientific societies and organizations, as well as the participation in education of students and healthcare workers. 112 (25.92%) participants were engaged in scientific work; the majority of these were physicians (40.43%, 38). 115 (26.62%) respondents, including 47 (47.9%) physicians and 40 (34.8%) nurses, indicated that they were involved in the education of students and workers.

Methods

Three research instruments were employed in the study, namely the Social Competence Questionnaire (SCQ) [25], a standardized questionnaire, the Work-related Behavior and Experience Patterns – AVEM [1,9,10], and a self-developed questionnaire for sociodemographic data.

The level of social competence was measured using the SCQ developed by Anna Matczak (2012) [25]. This is a self-report instrument consisting of 90 items, including 60 diagnostic items (concerning social competence) and 30 nondiagnostic items (concerning other abilities). The total score for the diagnostic items is a general indicator of social competence. Surveyed individuals assess their effectiveness in performing tasks (How well would you manage if …?) using a four-point scale: definitely well, quite well, rather poorly, definitely badly. The sum of the scores for the diagnostic items is the total score. The diagnostic items have been developed on the basis of the classification of difficult social situations proposed by Argyle. Four types of situations were distinguished:

1) intimate situations (I), which refer to close interpersonal contact; 2) social exposure situations (SE), which refer to competence, which determines the effectiveness of behaviors in the situations of social exposure; 3) formal situations, which require accommodating oneself to strictly defined rules or regulations; and 4) situations demanding assertiveness (A), which are associated with competence that determines the effectiveness of behaviors in situations that require assertiveness [26]. Based on the results of factor analysis, three out of the four social scales were included in the final version of the questionnaire:

The (I) scale, which refers to competence determining the effectiveness of behaviors in situations of close interpersonal contact with patients, listening to

Table 1. Sociodemographic data

Variable		Total N (%)	Physicians n (%)	Nurses n (%)	Paramedics n (%)	*H/ **Chi^2	p
		432 (100.0)	144 (33.49)	165 (37.73)	123 (28.77)		
Sex	female	296 (100.0)	101 (34.1)	159 (53.7)	36 (12.2)	**147.33	0.0001
	male	136 (100.0)	43 (31.6)	6 (4.4)	87 (64.0)		
Age	X ± SD	33.6±11.7	32.8±11.6	36.9±12.6	29.9±9.3	*17.12	0.0001
	Me	28	28	39	26		
	mini-max	21-66	23-66	21-61	20-56		
	$Q_1 - Q_3$	24-42	25-39	23-48	23-35		
Place of residence (population)	town (< 5.000)	71 (100.0)	20 (28.2)	25 (35.2)	26 (36.6)	**24.22	0.0001
	city (5.000–500.000)	142 (100.0)	38 (26.8)	47 (33.1)	57 (40.1)		
	city (> 500.000)	218 (100.0)	86 (39.4)	93 (42.7)	39 (17.9)		
Education	secondary	97 (100.0)	0 (0.0)	52 (53.6)	44 (45.4)	*237.43	0.0001
	bachelor's degree	150 (100.0)	0 (0.0)	86 (57.3)	64 (42.7)		
	master's degree	185 (100.0)	144 (77.8)	26 (14.1)	15 (8.1)		
Years in the profession	X±SD	14.9±12.2	10.9±12.7	21.3±10.4	10.6±10.4	*51.27	0.0001
	Me	12	4	21.5	8		
	mini-max	0-40	0-40	1-42	1-37		
	$Q_1 - Q_3$	3-24.5	2-19	17-28.75	2-15.75		
Years in the previous job	X±SD	11.27±11.2	7.3±10.0	15.9±11.3	9.10±10.1	*42.92	0.0001
	Me	7	3	15	5.5		
	mini-max	0-42	0-39	1-42	1-37		
	$Q_1 - Q_3$	2-18.5	1-10	5.25-24	1.25-11.75		
Workplace	primary care center hospital	30 (100.0)	25 (83.3)	5 (16.7)	0 (0.0)	*205.35	0.0001
	emergency department	168 (100.0)	50 (29.8)	96 (57.1)	22 (13.1)		
	other healthcare	79 (100.0)	7 (8.9)	3 (3.8)	69 (87.3)		
	institutions	155 (100.0)	62 (40.0)	61 (39.4)	32 (20.6)		
Social and scientific activity	YES	112 (100.0)	46 (41.1)	26 (23.2)	40 (35.7)	**14.39	0.0001
	NO	320 (100.0)	98 (30.6)	139 (43.4)	83 (25.9)		
Didactic activity: education of students; preparing and conduct-	YES	115 (100.0)	47 (40.9)	40 (34.8)	28 (24.3)	**4.08	0.130
	NO	317 (100.0)	97 (30.6)	125 (39.4)	95 (30.0)		

*H – Kruskal-Wallis test value; **Chi^2 – Pearson's test of independence; p – level of significance

patients, showing understanding and empathy for their fears, and tolerance for their impatience and dissatisfaction with therapeutic effects. This scale contains 15 items; the minimum score is 15 points, and the maximum is 60 points. The (SE) scale, which refers to being an object of attention and potential appraisal from many people; it includes 18 items and has a minimum score of 18 points and a maximum of 72 points. The (A) scale, which refers to attaining one's own goals and satisfying needs through persuasion, and the ability to influence other and resist the influence of others; it includes 17 items, and has a minimum score of 17 points and a maximum score of 68 points. The point scores were converted into sten scores: 1–3 sten was considered a low score, 4–7 sten was considered an average score, and 8–10 was considered a high score [25].

The AVEM questionnaire measures people's individual resources in the context of dealing with job requirements, types of behavior, a risk of developing mental health problems, possible threats, and trends in the field of psychological interventions [1,10].

The AVEM questionnaire consists of 66 statements divided into 11 scales (each including 6 statements) and rated on a five-point Likert scale (from fully agree to fully disagree). The questionnaire scales measure three dimensions of work-related behavior and experiences that determine one's effectiveness at work [1,9,10]:

1. Commitment to work expressed in terms of perceived significance of work, career ambition, tendency to exert, striving for perfection, emotional distancing. A positive behavior type in relation to job requirements is manifested by high perceived significance of work, as well as conscious regulation of energy expenditures. These factors determine one's ability to maintain detachment from difficult situations at work.

2. Resistance to stress are regarded in terms of one's tendency to resign in the case of failure, active coping with problems, as well as balance and emotional stability. The arrangement of these features reflects different levels of work satisfaction, individual stress-coping strategies, and general attitudes towards life.

3. Emotional or subjective well-being is described in terms of work satisfaction, life satisfaction, and perceived social support. This is a specific psychological factor that protects workers' mental health, and determines individual ways of dealing with job requirements.

The scores for 11 scales can be calculated using a spreadsheet. Raw results are converted into standard results by means of tables with normalized data. The spreadsheet shows centile scores, and those obtained through converting them into stanine scores. Based on the interplay of these 11 scales, four types of behavior and experiences can be derived by means of cluster analysis [10,17]:

Type G – "healthy-ambitious"

Type S – "unambitious"

Risk Type A – "excessively ambitious"

Type B – "burnout"

The respondents' responses for the AVEM questionnaire were organized and entered to the UPS computer system (license no. PRV/010612/EDU), which is an integral part of the questionnaire and serves for computing data. Responses to specific questions were introduced according to the key, and the respondents were assigned to one of four types of behavior.

Statistical Analysis

The type of distribution was determined for all variables. The Shapiro–Wilk test was employed to verify the normality of these distributions. Arithmetic means, standard deviations, medians, and ranges of variability (extremes) were calculated for the measurable (quantitative) variables, while frequencies (percentages)

were determined for qualitative variables. Logistic regression was used to determine the influence of explanatory variables on the odds ratio (OR) of having higher social competence with a 95% confidence interval. The level of significance for all tests was set at $p \leq 0.05$. Statistical analysis was performed using SPSS v. 18 software.

Results

The majority of the healthcare workers (62.7%, 271) had average general social competence (4–7 sten), and 15.3% (66) had low competence (1–3 sten). High levels of general social competence and A, I, and SE competence were observed in every sixth medical worker — Table 2. Analysis of the levels of general competence and competence in the I , A, and SE scales demonstrated significant differences between physicians, nurses, and paramedics. Competence in intimate situations (I) — which involve listening to patients confiding their personal problems — statistically significantly differs nurses (6.84 ± 2.67) from physicians (5.62 ± 2.37) and paramedics (5.81 ± 2.19) — $F = 11.09$, $p < 0.0001$. Competence in situations demanding assertiveness (A) — meaning exerting influence on and resisting influence of other people — differentiates nurses from physicians, and physicians from paramedics ($F = 11.09$, $p < 0.0001$). Competence in social exposure situations (SE) — which refers to being an object of attention and potential appraisal — differs paramedics from nurses ($F = 2.87$, $p = 0.06$). Symptoms of burnout syndrome (Type B) were observed in 25% (106), symptoms of excessive ambition (Risk Type A) in 24.1% (102), and healthy behaviors (Type G) in 31.8% (135) of the respondents ($Chi2 = 27.95$, $p < 0.0001$). Types of behavior predominating among paramedics were Type G (healthy-ambitious) and Type S (unambitious). Physicians presented mainly Type B (burnout), and nurses — Type B (burnout) and Type G (healthy-ambitious) — Table 3.

Table 3. Distribution of work-related behavior types in the groups of physicians, nurses and paramedics

Types of work-related behavior and experiences according to the AVEM	Physicians	Nurses	Paramedics	Total
	N (%)	N (%)	N (%)	N (%)
Type G (healthy-ambitious)	34 (23.9)	45 (28.1)	56 (45.9)	135 (31.8)
Type S (unambitious)	20 (14.1)	34 (21.3)	27 (22.1)	81 (19.1)
Risk Type A (excessively ambitious)	45 (31.7)	35 (21.9)	22 (18.0)	102 (24.1)
Type B (burnout)	43 (30.3)	46 (28.8)	17 (13.9)	106 (25.0)
Total	142 (100.0)	160 (100.0)	122 (100.0)	424 (100.0)
Chi2 test	27.951			
p	<0.0001			

Chi2 test – Pearson's test of independence; p – level of significance

Type G was mostly found in paramedics (over 40%). What is striking is a relatively small proportion of Type S (unambitious) behaviors, i.e. those that do not pose a threat to mental health. What differs Type S from other types is a distinct tendency to detach oneself from problems associated with work, accompanied by low tendency to resign in the case of failure. An essential characteristic of workers who present this type of behavior is a relatively high level of internal balance and emotional stability, satisfaction with life, high perceived social support, and relative satisfaction with life beyond work. This type was observed in 22% of paramedics, every fifth nurse (21.3%), and only every seventh

Table 2. Social competence levels of healthcare workers (n=432; 100%)

The SCQ competence scales	Sten scores				Competence level – sten scores – n (%)			Ph -1	Nu -2	Pm -3	F p	Significant differences between professional groups
	M ± SD	Me	min -max	$Q_1 – Q_3$	1-3 low	4-7 average	8-10 high	M ± SD				
I Sten	6.14± 2.5	6	1-10	4-8	65 (15.1)	236 (54.6)	131 (30.3)	5.62± 2.37	6.84± 2.67	5.81± 2.19	11.09 0	1-2 2-3
SE Sten	5.81± 2.26	6	1-10	4-7	68 (15.7)	267 (61.8)	97 -22.5	5.81± 2.14	5.55± 2.33	6.19± 2.27	2.87 0.06	2-3
A Sten	5.92± 2.34	5	1-10	4-8	61 (14.1)	261 (60.4)	110 (25.5)	5.00± 2.05	6.39± 2.64	6.37± 1.89	18.12 0	1-2 1-3
SCQ Sten	5.73± 2.24	6	1-10	4-7	66 (15.3)	271 (62.7)	9(22)	5.39± 2.19	5.80± 2.25	6.05± 2.24	3.03 0.05	1-3

M – mean; SD – standard deviation; Me – median; F – ANOVA with Tukey's *post hoc* test; p - level of significance for F; M-mean; SD– standard deviation; Ph – physicians; Nu – nurses; Pm – paramedics; Scales of competence determining effectiveness of behavior in I – intimate situations, SE – social exposure situations, A – situations requiring assertiveness

physician (14%) -Table 3.

Types of behavior and experiences observed in the studied professional groups depended on age, years in the profession, and years in the previous job – Table 4. Other contributors were: female sex in a group of paramedics (Chi2 = 13.44, p = 0.004), third-level education in a group of nurses (Chi2 = 15.60, p = 0.02), work in a hospital in a group of paramedics (p = 0.02), and membership of scientific societies and social organizations (Chi2 = 7.33, p = 0.05). Women are less likely to (15.2%) present Type S behavior than men (OR = 0.85, 95% CI 0.71-1.01), p = 0.07.

Statistically Significant Correlations

Analysis of sten scores for social competence (SCQ) and stanine scores for behavior types (AVEM) demonstrated a statistically significant correlation between the general social competence level and Type G (healthy-ambitious) behavior (r = 0.17, p = 0.05), and a negative correlation between the level of competence in the I scale and Type B (burnout) behavior (r = -0.23, p = 0.02).

Correlations between social competence (SCQ) and the AVEM dimensions. The levels of general competence and competence in the I , A, and SE scales correlated positively with two dimensions, namely resistance to stress and emotional or subjective well-being. Negative correlations were only observed between tendency to resignation and the levels of general competence and competence in the I, A, and SE scales. The lower the social competence, the higher the tendency to resign in the case of failure (Table 5).

There were significant differences in work-related behaviors and experiences between the professional groups analyzed in this study. The greatest differences were noted in resistance to stress (6-8), and commitment to work (1-5) - Table 6.

DISCUSSION

The functioning of healthcare workers in a therapeutic team is determined by many factors, of which social and professional competence, stress-coping styles, and attitudes towards work all play especially important parts [27,28,29].

This study involved a group of physicians, nurses, and paramedics, i.e. medical workers who experience psychological strain at work. The fact that not all medical workers exposed to the same organizational and psychological influences develop burnout syndrome, leads to the conclusion that different factors can contribute to burnout syndrome in a different way, depending on specific individuals and professional groups. One of these factors is social competence of medical workers. This thesis is supported by the results reported by other authors [6,7], and our own findings, demonstrating the presence of burnout syndrome (Type B) in one-fourth of medical workers (more physicians and nurses than paramedics). A risk of this type of behavior and experiences is higher among individuals showing low competence in intimate situations (I) that are associated with listening to patients and making decisions. Equally unfavorable behavior and experiences are those recognized as Risk Type A, suggesting that a person is too involved in the job and strives for professional perfection. This group incorporated less than one-fourth of all respondents, including every third physician and every fifth nurse. Physicians and nurses belong to a group which needs immediate and effective preventive interventions to protect their mental health [9].

Burnout syndrome affects increasingly younger people, with fewer years worked. Even more worrying is the fact that physicians with job burnout are younger than nurses both in terms of age and years of service. These results correspond with the level of social competence. In the study group, more than three-fourths of medical workers had either a medium or a low competence level, and only one-fifth had a high

Table 4. Types of work-related behavior vs. selected variables

Variable	Types of work-related behavior		Total	H; p	Physicians	Nurses	Paramedics	H; p
Age	Type G	M (Q_1-Q_3)	26.5 (23.25-39.75)	5.36 0.15	27.5 (25-29)	39 (22.25-44)	25 (23-34)	6.30 0.43
	Type S	M (Q_1-Q_3)	28 (24-41)		27.5 (25-34.5)	39 (22.25-48)	25.5 (23.5-35.25)	3.58 0.17
	Risk Type A	M (Q_1-Q_3)	30 (25-45)		28.5 (25-42)	41 (27.25-50)	26 (23.5-36.5)	8.89 0.01
	Type B	M (Q_1-Q_3)	29 (24-45)		27 (25-41)	39 (23-46.25)	33 (22.5-41)	0.51 0.78
Years in the profession	Type G	M (Q_1-Q_3)	10 (2-22.5)	5.69 0.13	2.5 (1.25-17.75)	21 (11.5-30)	7 (2-15)	15.37 0.000
	Type S	M (Q_1-Q_3)	15 (4-24.5)		4 (2-11)	21 (18-29.75)	9.5 (2-17.75)	18.32 0.000
	Risk Type A	M (Q_1-Q_3)	12.5 (3-25.5)		5.5 (2.75-16.25)	24.5 (15-32)	4 (2-11.75)	17.29 0.000
	Type B	M (Q_1-Q_3)	19.5 (4-25)		4.5 (2-30)	20.5 (16.75-25)	13.5 (4.75-41)	4.37 0.112
Years in the previous job	Type G	M (Q_1-Q_3)	5 (1-16.5)	4.74 0.19	1.5 (1-4.5)	10.5 (3-30)	4 (1-12)	12.99 0.002
	Type S	M (Q_1-Q_3)	8 (2-15)		3 (1-4)	11.5 (5.45-18.75)	7 (2-10.5)	10.42 0.005
	Risk Type A	M (Q_1-Q_3)	9 (2-20)		5 (2.5-12.5)	15.5 (9-27.75)	2 (1-10.25)	14.45 0.001
	Type B	M (Q_1-Q_3)	10.5 (2-20)		2.5 (1-11.25)	16 (5.75 20.25)	10.5 (2.5-19.25)	10.42 0.005

M – mean; Q_1 – Q_3 – first quartile – third quartile

Table 5. Correlations between social competence (SCQ) and dimensions of work-related behavior and experiences (AVEM) (raw results)

The AVEM scales and dimensions			(I) scale	(SE) scale	(A) scale	total SCQ
Commitment to work	Perceived significance of work	r p	0.04 0.39	0.06 0.24	-0.01 0.8	0.04 0.38
	Career ambition	r p	0,11 0.02	0.13 0.01	0.06 0.20	0.12 0.02
	Tendency to exert	r p	-0.002 0.97	0.06 0.26	0.02 0.65	0.03 0.48
	Striving for perfection	r p	0.02 0.68	0.02 0.68	-0.05 0.59	0.02 0.75
	Emotional distancing	r p	0.11 0.02	0.08 0.12	0.18 0.000	0.12 0.01
Resistance to stress	Tendency to resignation	r p	-0.18 0.000	-0.14 0.003	-0.23 0.000	-0.2 0.000
	Active coping with problems	r p	0.17 0.000	0.18 0.000	0.22 0.000	0.21 0.000
	Balance and emotional stability	r p	0.000 0.94	0.05 0.35	0.08 0.1	0.05 0.33
Emotional or subjective well-being	Work satisfaction	r p	0.22 0.000	0.25 0.000	0.24 0.000	0.27 0.000
	Life satisfaction	r p	0.26 0.000	0.19 0.000	0.25 0.000	0.26 0.000
	Perceived social support	r p	0.19 0.000	0.09 0.06	0.07 0.14	0.14 0.004

r - Pearson's linear correlation coefficient; p - level of significance for r; scales: competence determining effectiveness of behaviors in I – intimate situations; SE – social exposure situations; A – situations requiring assertiveness

Table 6. Relationships between actual profession and the scales of work-related behavior and experiences

Types of work-related behavior			Physicians M ± SD	Nurses M ± SD	Paramedics M ± SD	F p
Commitment to work	1	Perceived significance of work	16.13±5.02	16.14±4.67	16.25±4.47	0.03 0.98
	2	Career ambition	22.08±3.92	20.28±4.02	21.12±3.92	7.74 0.001
	3	Tendency to exert	20.43±4.16	19.80±4.49	21.06±4.09	3.02 0.05
	4	Striving for perfection	22.77±4.15	22.54±4.21	23.20±3.67	0.91 0.4
	5	Emotional distancing	17.93±4.75	20.05±4.43	21.08±3.95	17.91 0.001
Resistance to stress	6	Tendency to resignation	17.54±4.43	15.66±4.28	14.51±4.44	16.28 0.001
	7	Active coping with problems	20.80±3.94	21.84±3.75	23.14±4.09	11.78 0.001
	8	Balance and emotional stability	19.49±4.29	19.69±3.93	21.80±4.12	12.55 0.001
Emotional or subjective well-being	9	Work satisfaction	20.25±4.41	19.81±3.64	20.80±3.80	2.13 0.12
	10	Life satisfaction	20.97±4.52	21.03±4.13	22.15±4.27	3.09 0.05
	11	Perceived social support	21.74±4.30	21.34±3.99	22.28±3.86	1.83 0.16

F – ANOVA with Tukey's *post hoc* test; p - level of significance for F;

competence level. Pereira-Lima and Loureiro (2015) investigated 400 medical residents in Brazil to learn how social competence was related to burnout syndrome and mental health problems. They found that a high social competence level was statistically significantly related to the absence of job burnout, measured by the Burnout Syndrome Inventory (BSI), and the lack of anxiety and depression symptoms. And analogically, lower competence levels were more often accompanied by burnout, anxiety and depression [3].

In their large-scale study, performed using the AVEM questionnaire, Voltmer, E., et al. (2010) compared work-related behaviors and experiences of German physicians (n = 344) and nurses (n = 389) at different stages of their professional career. They revealed that 22% of physicians of different specialties presented Risk Type A. The nurses had a lower proportion of healthy behaviors (Type G) (11.6%) compared with physicians (16.7%), and at the same time the highest proportion of behaviors associated with burnout syndrome (32.8% vs. 27.3% of physicians). Differences in mental health dimensions were mainly observed in the context of work commitment and resilience to stress [30].

Different results were obtained in our study. Nurses presenting Type G (healthy-ambitious) behaviors were more numerous (28.1%) than physicians (23.9%), but less numerous than paramedics (45.9%). These behaviors are characterized by high career ambition combined with moderate perceived significance of work and moderate tendency to exert, low tendency to resignation, active coping with problems, as well as balance and emotional stability. Type G individuals show positive emotions, such as a high satisfaction with life, perceived social support, and a feeling of professional success. Risk Type A (excessively ambitious) was observed in 24.1% of the respondents, including less than one-third of physicians, one-fifth of nurses, and slightly fewer paramedics (18%). Considering the course and causes of the burning-out process, as well as its health (emotional), social, and economic consequences, such an interplay of behavior types (A and B) should be regarded as an alarming phenomenon. Medical workers who present behaviors typical of Risk Type A (excessively ambitious) and Type B (burnout) urgently need psychological support.

Aouli, B., and Haj-Bakri, B., (2006) found that out of 100 internists analyzed by the AVEM questionnaire, as many as 44% were burnt out, 28% were at a risk of burnout syndrome, and only 6% exhibited Type G (healthy-ambitious) behavior. According to these authors, Type G employees had most probably worked out a protective barrier against burnout syndrome. This barrier is a high social competence level that enables adaptation to difficult working conditions [31]. On the other hand, the study of 63 primary care physicians, conducted by Sapilak, B., et al (2006), revealed that 29% (18) of them developed a full-blown burnout syndrome according to Christina Maschlash's criteria, and that burnout syndrome positively correlated with the number of workplaces [16].

Type S (unambitious), involving reduced work commitment — which in a longer perspective can lead to dissatisfaction with oneself and the feeling of being unsuccessful at work — was observed in more than one-fifth of paramedics (22.1%, 27) and nurses (21.3%, 34), and only 14.1% (20) of physicians. This type of work-related behavior is very desirable in jobs involving a substantial psychological burden, such as rescue jobs. Traits characteristic of Type S help workers act and make decisions with due caution, and reduce their own exertions [10].

Our analysis shows that age, female sex, years in the profession, and years in the previous job increase the incidence of job burnout among nurses. Taking into account the mean age of the nurses in the study and all nurses in Poland (49 years in 2016), we can say that this group of medical workers is at the highest risk of burnout syndrome (especially nurses employed in

primary care centers, as well as palliative and long-term care) [32,33]. Maslach, C., et al. (2001) noticed that burnout syndrome affects more women than men. If depersonalization is stronger in men, then emotional exhaustion and the feeling of poor personal achievements are more common among female healthcare workers [34].

Our study demonstrated that years worked in one place substantially contributed to nurses' burnout, which means that the longer nurses worked in the same place, the more often they presented Type B (burnout) behavior ($p = 0.02$). A similar relationship was reported by Ross J, et al., (2009), who confirmed that many years' service in one place causes a feeling of being overloaded, and is one of risk factors for burnout syndrome [35]. It was also established that burnout syndrome is related to the level of education — Type G (healthy-ambitious) is significantly more common among individuals with third-level education. Third-level education favors emotional distancing from problems at work, and the functioning according to Type S (unambitious). Ceslovitz, S., B., (1989) conducted a study on job burnout and stress-coping strategies among American nurses. They found that nurses with burnout syndrome significantly more often used escape, avoidance, and emotion-control strategies ($p < 0.001$). Their counterparts showing no burnout symptoms were more likely to actively cope with problems and search for social support ($p = 0.003$) [36].

Conclusion and Implications

Burnout syndrome (Type B) occurs in physicians, nurses and paramedics regardless of their place of work, it is related to low level of social competence, particularly in intimate situations. Selected variables differentiate the occurrence of types of professional burnout between groups of professionals.

Our findings show clearly that the problem of job burnout in the studied professional groups is important and requires holistic therapeutic and preventive solutions. It is important that a diagnosis of work-related behavior types and social competence measurement should be supplemented with analysis of external learning and working conditions.

Prevention of burnout syndrome should start as early as during the process of educating future medical workers, through improving their social competence. It can be achieved by using appropriate methods, such as training of assertiveness, interpersonal skills, communication methods, and coping with stress in social exposure situations.

Ours is one of relatively few studies searching for the connection between burnout syndrome and social competence of physicians, nurses, and paramedics. Competence, which visibly protects medical workers against job burnout (diagnosed on the basis of work-related behaviors and experiences), involves assertive competence, competence in intimate situations, and competence in social exposure situations.

Several practical implications can be derived from the results presented in this study. It seems that the most important conclusion is that social competence of physicians, nurses, and paramedics can act as a buffer against negative consequences of gainful employment, often involving negative emotions. This observation gains special importance in the context of the possibility of training social competence at work [37], as it contributes to the prevention of burnout syndrome.

In future study projects dealing with the relationship between competences of medical professionals with the risk of burnout syndrome and socio-demographic variables, the use of analysis methods developed by Fei Hao et al, 2015, Shuai LI, 2016 and Kar et al, 2016, ought to be considered. Correspondence analysis of a number of variables will help determine which of these variables have the strongest influence on

the level of social competence [38, 39, 40].

Limitations. The sample size of 432 health workers may not have been adequate to power the study to allow for generalization of the findings to a national level. Another limitation is the fact that the data were gathered via self-reports. However, the study was prospective, which diminishes the risk for problems related to common method bias.

Conflict of Interest

All authors declare that there are no financial or personal conflicts of interest.

References:

1. Rongińska, T., Gaida, W.A. (2012) Strategie radzenia sobie z obciążeniem psychicznym w pracy zawodowej. Oficyna Wydawnicza Uniwersytetu Zielonogórskiego, Zielona Góra
2. Ahola, K., Väänänen, A., Koskinen, A., Kouvonen, A., Shirom, A. (2010) J. Psychosom. Res. 69(1), 51-57
3. Pereira-Lima, K., Loureiro, S.R. (2015) Psychol. Health. Med. 20(3), 353-62
4. Epstein, R.M., Hundert, E.M. (2002) JAMA. 287, 226-235
5. Tomorowicz, A. (2011) Psychiatry. 8(3), 91-96
6. Martowska, K. (2014) Pol. Psychol. Bull. 45(2), 128-133
7. Riggio, R.E., Taylor, S.J. (2000) J. Bus. Psychol. 15 (2), 251-359
8. Kuokkanen, L., Leino-Kilpi, H. (2001) J. Nurs. Manag. 9(5), 273-280
9. Schaarschmidt, U., Fischer, A.W. (1997) Zeitschrift für Differentielle und Diagnostische Psychologie. 18 (3), 151–163
10. Schaarschmidt, U. (2006) Deutscher psychologen Verlag GmbH. 59-82
11. Schutte, N.S., Malouff, J.M., Hall, L.E., Haggerty, D.J., Cooper, J.T., et al. (1998) Pers. Indiv. Differ. 25(2), 167-177
12. Cherniss, C. (2000) Social and emotional competence in the workplace. In: R. Bar-On and J. D. Parker, editors. The Handbook of Emotional Intelligence: Theory, Development, Assessment, and Application at Home, School, and in the Workplace. San Francisco: CA: Jossey-Bass; p.433-458
13. Nastasa, L.-E., Farcas, A. D. (2015) Procedia. Soc. Behav. Sci. 187, 78-82
14. Freudenberger, H.J.(1974) J. Soc. Issues. 30(1), 159 -165
15. Kalimo, R., Pahkin, K., Mutannen, P., Topipinen-Tanner, S. (2003) Work&Tress. 17(2), 109-122
16. Sapilak, B.J., Kurpas, D., Steciwko, A., Melon, M. (2006) Probl. Lek. 45(3), 81-83
17. Fink, E. (November 15, 2011) Sich einsetzen ohne auszubrennen. Burnoutpravention in der Sozialen Arbeit. https://www.google.pl/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwj0mffZmvHSAhWiNJoKHRYSCe0QFggaMAA&url=https%3A%2F%2Fhses.bsz-bw.de%2Ffiles%2F119%2FSich_einsetzen_ohne_auszubrennen.pdf&usg=AFQjCNGxSxqUMelyv_93CYGnaJ9giD5aCw&cad=rja
18. Candalas-De la Fuente, G.A., Vargas, C., San Luis, C., Garcia, I., Canadas, G.R., et al. (2015) Int. J. Nurs. Stud. 52(1), 240-249
19. Leiter, M.P. (1991) J. Organiz. Behav. 12(2), 123-144
20. Maslach, C. (2003) Curr. Dir. Psychol. Sci. 12(5), 189-192
21. Dyrbye, L., Shanafeld, T. (2016) Med. Educ. 5(1), 132-149
22. Saulsman, L. M., Page, A. C. (2004) Clin. Psychol. Rev. 23(8), 1055-1085
23. Armon, G., Melamed, S., Shirom, A., Shapira, I.

(2010) J. Occup. Health. Psychol. 15(4), 399–408

24. Malouff, J.M., Thorsteinsson, E.B., Schutte, N.S. (2005) J. Psychopatol. Behav. Assess. 27(2), 101-114
25. Matczak, A. (2012) Social skills competence questionnaire. 2nd ed., Psychological Tests Laboratory. Warszawa: Polish Psychological Association
26. Argyle, M. (1994) The psychology of interpersonal behavior. 5th ed. Penguin Books, London
27. Zayapragassarazan, Z., Kumar, S. (2011) NTTC Bull. 18(2), 3-4
28. Kostadinova, I., Antonova, D. (2014) Integrated system for improving professional competence taking into account the impact of emotional and social intelligence on doctors' practice. In: Analele Universitatii 'Eftimie Murgu' Resita. Fascicola II. Studii Economice. Resita, p. 88-101
29. Lindberg, O., Rantatalo, O. (2015) Hum. Relat. 68 (4), 561-582
30. Voltmer, E., Schwappach, D.L.B., Frank, E., Wirsching, M., Spahn, C. (2010) Fam. Med. 42(6), 433–9
31. Aouli, B., Haj-Bakri, B. (February 6, 2017) Wypalenie zawodowe a poczucie sensu życia lekarzy internis-tów,http://www.psychologia.net.pl/artykul.php?level=201
32. Haor, B., Głowacka, M., Ślusarz, R., Piotrowska, A. (2014) Probl. Pielęg. 22(2), 142-146
33. Wieder-Huszla, S., Żak, B., Jurczak, A., Augustyniuk, K., Schneider-Matyka, D., et al. (2016) Fam. Med. Prim. Care Rev. 18(1), 63-68
34. Maslach, C., Schaufeli, W.B., Leiter, M. P. (2001) Ann. Rev. Psychol. 52, 397-422
35. Ross, J., Jones, J., Callaghan, P., Eales, S., Ashman, N. (2009) J. Ren. Care. 35(3), 127-33
36. Ceslowitz, S.B. (1989) J. Adv. Nurs. 14(7), 553–558
37. Zijlmans, L.J., Embregts, P.J., Gerits, L., Bosman, A.M., Derksen, J.J. (2011) J. Intellect. Disabil. Res. 55(2), 219–230
38. Fei, H., Shuai, L., Geyong, M., Hee-Cheol, K., Stephen, S., et al. (2015) IEEE. T. Serv. Comput. 520-533
39. Shuai, L. (2016) The Art of Clustering Bandits; Ph. D. thesis, Università degli Studi dell'Insubria
40. Kar, P., Shuai, L., Narasimhan, H., Chawla, S., Sebastiani, (2016) F. Online Optimization Methods for the Quantification Problem. The 22nd ACM SIGKDD. 1625-1634