EMOTIONAL INTELLIGENCE IN THE WORKPLACE: EXPLORING ITS EFFECTS ON OCCUPATIONAL STRESS AND HEALTH OUTCOMES IN HUMAN SERVICE WORKERS

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Abstract
Objectives: Emotional intelligence, an essential factor responsible for determining success in life and psychological well-being, seems to play an important role in shaping the interaction between individuals and their work environment. The purpose of the study was to explore the relationship between emotional intelligence and perceived stress in the workplace and health-related consequences in human service workers. **Materials and Methods:** A sample of 330 participants (42.4% of men and 57.6% of women), representing various human service professions (physicians, nurses, teachers, probation officers and managers) was eligible for the study. The mean age of the participants was 38.4 years (SD = 8.45), and the employment period was 8.3 years (SD = 6.13). Three methods were used in the study: The Emotional Intelligence Questionnaire – INTE with Polish modification, the Subjective Work Evaluation Questionnaire developed in Poland, and the General Health Questionnaire (GHQ-28) with Polish modification. **Results:** The results confirmed an essential, but not very strong, role of emotional intelligence in perceiving occupational stress and preventing employees of human services from negative health outcomes. **Conclusions:** The ability to effectively deal with emotions and emotional information in the workplace assists employees in coping with occupational stress therefore, it should be developed in stress managing trainings.

Key words:
Emotional intelligence, Occupational health, Health outcomes

INTRODUCTION

Human services, sometimes called "direct person-related jobs", include such occupations as counsellors, social workers, nurses, teachers. In those jobs, the primary task is to modify the clients/patients physically or psychologically. In human services, knowledge, skills, motivation of employees, working conditions, expectations and behavior of the customer create the service delivery process [1]. The performance of human service occupations is inherent to strain and emotions, which may lead to sense of stress. Why is human service work so stressful?

Basically, stress results from the customers' behavior (sometimes demanding and aggressive) and complaints. Stress may also result from poor work conditions, particularly lack of control (autonomy), poor social relations and lack of social support [2,3], lack of rewards [4,5], work overload (particularly too many administrative tasks), or routinization [6].

Human service work is evidently linked with experienced emotions. One aspect of this emotion at work, which is related to stress, is the requirement to express positive (and sometimes negative) emotions towards customers.

However, Zapf [7] argued that this is not per se stressful. Emotional dissonance, which applies to the frequency of having displayed emotions (usually positive) that are not in line with those genuinely felt (neutral or negative) is rather conceived as stressful (e.g., smiling at a difficult customer may create emotional dissonance). Frequent experience of emotional dissonance leads to a loss of the capability to regulate one's own emotions, which means the loss of a particular internal resource.

In turn, ability to recognize people's emotions and to regulate one's own emotions seem to be very important in human service work. This ability, defined as emotional intelligence (EI) construct, has been introduced by Salovey and Mayer [8]. It refers to one's ability to be aware of one's own feelings, to be aware of other feelings, to differentiate among them, and to use the information to guide one's own thinking and behavior. A temporary definition of emotional intelligence according to these authors indicates that it is "…an ability to recognize the meanings of emotions and the relationships, and to reason and problem-solve on the basis of them. Emotional intelligence is involved in the capacity to perceive emotions, assimilate emotion-related feelings, understand the information of those emotions and manage them" [9].

Emotional intelligence has become of widespread interest to psychological research in recent years. It has been claimed that emotional intelligence is one of the important factors that determine success in life and psychological well-being [10,11]. Nowicki and Duke [12] provide evidence for a direct link between emotional intelligence and academic achievement. Svyantek and Rahim [13] indicate that EI may be an important adaptive mechanism for helping individuals to interact with their environment, including work environment. Goleman [14] reports that EI is twice as important as technical skills and more important than IQ for success in jobs at all levels. Weisinger [15] suggests that EI is related to success at work and plays a significant role in a certain aspects of effective team leadership and team performance. It should be, however, stressed that studies exploring the relationship between EI and experienced job stress and its outcomes are rather scanty. In one of them, Slaski and Cartwright [16] found

that managers high in emotional intelligence revealed less subjective stress and had better physical and psychological well-being. Similarly, Gardner and Stough [17] revealed negative relationship between EI and occupational stress. In another study, Bar-On et al. [18] indicated that police officers scored significantly higher on emotional intelligence were less vulnerable to experienced stress and better coped with it. In turn, Reilly [19] in a study of hospital nurses, identified negative correlation between EI and burnout syndrome. Similarly, Duran and Extremera [20], in their study including professionals employed in institutions for people with intellectual disabilities, revealed a significant relationship between emotional intelligence and burnout syndrome, and personal accomplishment in particular. The data clearly indicated that EI expressed in the ability to recognize, express, and control emotions may have impact on the perceived job stress and the consequences of experienced stress.

The purpose of the study was to explore the relationship between emotional intelligence and perceived stress in the workplace and health-related consequences in human service workers.

According to its contemporary meaning, occupational stress is a complex, dynamic process in which various factors (stressors) and modifying variables are interrelated [4,21–23]. Whether a stressor produces an enduring health outcome or not depends on the extent to which the person perceives the condition as stressful and responses to it. His or her perception and response are affected by a number of modifying variables, mainly by personal resources. These resources seem to become very important factors that determine the experience of occupational stress and its related effects.

It is expected that subjects with high level of emotional intelligence (one of the personal resources) will perceive their work environment as less stressful and they will experience less negative health consequences. The buffering role of emotional intelligence was also investigating in this study. One can assume that a high level of emotional intelligence may reduce adverse health outcomes even in highly stressful conditions. Figure 1 presents a hypothesized model of the study.

MATERIALS AND METHODS

Participants and procedure

A sample of 330 participants (42.4% of men and 57.6% of women), representing human service professions: physicians (n = 70), nurses (n = 70), teachers (n = 60), probation officers (n = 60) and managers (n = 70), was eligible for the study. The mean age in the group was 38.4 years (SD = 8.45), and work experience was 83 years (SD = 6.13). There were 68.8% of employees with high education; 16.1% were single, 74.2% were married, and 9.7% were divorced or widowed.

The data were collected in the participants' workplaces (school, hospital, office). The participants who were informed about confidentiality issues, administered a self-report pack, which incorporated the measure of emotional intelligence, perceived job stress, and general health status. The following methods were used in the study:

■ The Emotional Intelligence Questionnaire – INTE, developed by Schutte et al. in Polish adaptation by Jaworowska and Matczak [24], consists of 33 items with the range of responses from 1 ("I don't agree at all") to 5 ("I completely agree") and scores from 33 to 165. The higher the score the higher the emotional intelligence. The psychometric characteristics of the questionnaire is satisfactory. Cronbach's alpha was 0.83–0.87; test-retest was 0.88 for men and 0.81 for women. Emotional intelligence correlates negatively with anxiety, alexythymia and neuroticism, but positively with extraversion, openness to experience, and need for social desirability.

■ The Subjective Work Evaluation Questionnaire, developed by Dudek et al. [25], consists of 55 items, which allow to assess the global level of stress experienced in the workplace and to assess, which factors are highly stressful. The response range is from 1 ("this trait does not occur") to 5 ("irritates me all the time"). The higher the score the stronger the job stress. Cronbach's alpha for the questionnaire was 0.84.

■ The General Health Questionnaire (GHQ-28) developed by Goldberg is regarded as a good method to measure psychological consequences of stress experienced in the workplace. The Polish version of GHQ has been developed by Makowska and Merecz [26]. The questionnaire consists of 28 items which allow to measure general health status and its four components: somatic complaints, functioning disorders, anxiety and insomnia, and depression symptoms. The higher the score the worse the health status. Cronbach's alpha for general health status was 0.93 (0.97 for somatic complaints, 0.90 for anxiety and insomnia, 0.78 for functioning disorders, and 0.87 for depression symptoms).

RESULTS

Table 1 presents means (M) and standard deviations (SD) of all examined variables in a total sample. The study group of human service workers obtained the average level of emotional intelligence (sten 5 according to normative data by Jaworowska and Matczak [24], both men and women). The highest EI level was observed in probation officers (M = 127.72; SD = 16.36) and managers (M = 127.69; SD = 13.81), and the lowest one in teachers (M = 117.42; SD = 12.80). The differences were statistically significant, $p < 0.01$.

Table 1. Means and standard deviations of examined variables

Variables	M	SD
Emotional intelligence	123.58	15.15
Perceived stress at work (general)	114.57	25.84
work overload	20.68	6.82
lack of rewards	18.15	6.49
uncertainty in workplace	15.38	4.44
social relations	10.42	2.58
threat	10.67	3.85
physical burdens	6.97	3.18
unpleasant work conditions	5.10	2.83
lack of control	7.75	2.26
lack of support	5.08	1.98
responsibility	8.26	2.97
General health status	23.08	11.16
somatic complaints	6.99	4.05
anxiety/insomnia	6.81	4.31
functioning disorders	7.19	2.66
depression symptoms	2.11	1.91

M – mean;   SD – standard deviation.

The examined workers experienced high level of stress (sten 7 according to normative data by Dudek et al. [25]). The highest EI level was observed in teachers (M = 130.58; SD = 29.67), and the lowest in managers (M = 99.23; SD = 19.84). The differences were statistically significant, p < 0.001. Work overload and lack of reward and social relations were found to be the most stressful factors experienced by human service workers.

The examined workers showed an average state of health (sten 6 according to normative data by Makowska and Merecz [26]). The worst health condition was observed in probation officers (M = 25.52; SD = 12.94) and the best in teachers (M = 17.18; SD = 9.93). There were statistically significant differences between the level of health status in probation officers and the remaining groups of human service workers (p < 0.01).

Gender differences in all examined variables were also analyzed (Table 2). The obtained data indicated a higher EI level in women than in men. They did not differ in the level of stress generally perceived at work (however,

women showed a higher level of work overload, lack of rewards, uncertainty in the workplace, but a lower level of threat). Moreover, women showed a worse health status, expressed by the high level of somatic complaints and anxiety/insomnia.

The next stage of the data analysis was to establish the relationship between emotional intelligence and perceived job stress and health status in the study group of human service workers. Pearson's correlation coefficients are presented in Table 3.

The results indicated a significant negative relationship between emotional intelligence and perceived stress in the workplace. The higher the level of emotional intelligence the lower the experienced stress. Taking particularly into account factors related to stress at work, one may observe that the higher the level of emotional intelligence the lower the sense of lack of control and lack of support. However, the obtained correlation coefficients were not strong, which indicates rather weak relationship between emotional intelligence and perceived job stress.

Table 2. Gender differences in emotional intelligence, perceived job stress, and health status in the study group of human service workers

| Variables	Men		Women		t	P
	M	SD	M	SD		
Emotional intelligence	121.41	15.95	125.18	14.37	-2.247	0.02
Perceived stress at work (general)	112.24	25.73	116.20	25.86	-1.379	NS
work overload	19.73	6.38	21.38	7.05	-2.192	0.02
lack of rewards	17.34	6.76	18.75	6.22	-1.961	0.05
uncertainty in workplace	15.17	4.78	15.53	4.18	-0.717	0.05
social relations	10.44	2.59	10.41	2.57	0.112	NS
threat	11.32	3.71	10.19	3.88	2.651	0.01
physical burdens	6.96	3.11	6.97	3.24	-0.047	NS
unpleasant work conditions	5.20	2.69	5.03	2.93	0.550	NS
lack of control	7.56	2.40	7.88	2.13	-1.253	NS
lack of support	5.15	1.97	5.03	1.99	0.559	NS
responsibility	8.41	2.83	8.15	3.07	0.789	NS
General health status	21.47	10.22	24.26	11.68	-2.259	0.02
somatic complaints	6.34	3.93	7.47	4.08	-2.641	0.01
anxiety/insomnia	6.07	3.76	7.35	4.60	-2.684	0.01
functioning disorders	6.96	2.50	7.37	2.76	-1.390	NS
depression symptoms	2.19	3.17	2.07	3.06	0.339	NS

M – mean;   SD – standard deviation;   t – t test value;   P – level of significance;   NS – not significant.

Table 3. Pearson's correlation coefficients between emotional intelligence and perceived job stress and general health status

Variables	r
Perceived stress at work (general)	-0.23***
work overload	-0.18**
lack of rewards	-0.12*
uncertainty in workplace	-0.18**
social relations	-0.18**
threat	0.10
physical burdens	-0.13*
unpleasant work conditions	0.04
lack of control	-0.27***
lack of support	-0.22***
responsibility	-0.19***
General health status	-0.08
somatic complaints	0.01
anxiety/insomnia	-0.04
functioning disorders	0.06
depression symptoms	-0.28***

r – correlation coefficient;   *** p < 0.001;   ** p < 0.01;   * p < 0.05.

Emotional intelligence was poorly correlated with health status. It correlated only with depression symptoms (negatively), it did not correlate with the level of general health status and its three remaining factors. Moreover, according to the presented model (Fig. 1), the relationship between experienced job stress and health outcomes was investigat-
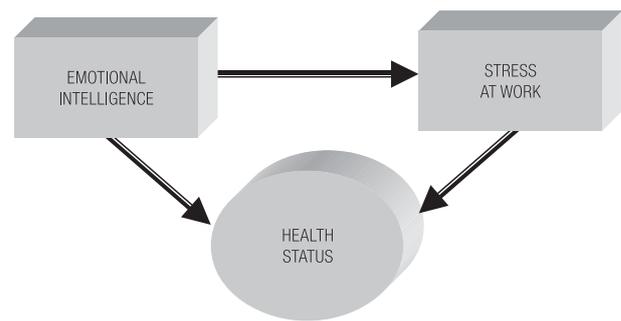
Fig. 1. Theoretical model of the relationship between variables.

ed. Pearson's correlation coefficients given in Table 4 are not high, however, they indicate a significant relationship between the stress experienced in the workplace (and most of its factors) and the general health status and its dimensions (except functioning disorders). The higher the level of experienced stress the worse the health, which means the higher level of somatic complaints, anxiety/insomnia, and basically depression symptoms. Such work stress-related factors as overload, lack of rewards and uncertainty in the workplace correlated most strongly with the health status. Finally, two groups of participants were distinguished, one with high (sten 7–10) and the other with low level (sten 1–4) of emotional intelligence (according to normative data by Jaworowska and Matczak [24]). The differences in the level of experienced job stress and the general health status between both groups were investigated separately for men and women. Data are presented in Tables 5 and 6.

Table 4. Pearson's correlation coefficients between perceived job stress and general health status

Variables	General health status	Somatic complaints	Anxiety/ insomnia	Functioning disorders	Depression symptoms
Perceived stress at work (general)	0.22***	0.13*	0.24***	0,08	0,22***
work overload	0.30***	0.18**	0.32***	0.20***	0.22***
lack of rewards	0.27***	0.15**	0.23***	0.19***	0.29***
uncertainty in workplace	0.24***	0.16**	0.21***	0.11*	0.24***
social relations	0.15**	0.12*	0.15**	0.08	0.09
threat	0.16**	0.07	0.13*	0.10	0.22***
physical burdens	-0.04	-0.08	-0.04	-0.04	0.02
unpleasant work conditions	0.08	0.06	0.08	0.02	0.09
lack of control	0.04	0.02	0.05	-0.08	0.10
lack of support	0.12*	0.07	0.14**	0.02	0.11*
responsibility	0.20***	0.13*	0.18**	0.05	0.28***

*** p < 0.001;   ** p < 0.01;   * p < 0.05.

Table 5. Perceived job stress and health status in men with low and high level of emotional intelligence

Variables	Emotional intelligence				t	P
	Low (n = 38)		High (n = 26)			
	M	SD	M	SD		
Perceived stress at work (general)	126.50	24.54	100.23	22.37	4.356	0.000
work overload	21.29	7.06	18.27	6.53	1.731	NS
lack of rewards	19.47	5.85	14.31	5.36	3.587	0.001
uncertainty in workplace	17.05	5.76	13.73	4.27	2.617	0.01
social relations	11.82	3.06	9.92	2.04	2.762	0.01
threat	11.92	2.82	10.92	4.37	1.111	NS
physical burdens	7.08	3.33	5.73	2.41	1.743	NS
unpleasant work conditions	5.76	3.24	4.35	2.15	1,.61	0.05
lack of control	8.55	2.88	6.42	1.53	3.445	0.001
lack of support	6.24	2.17	4.46	1.50	3.611	0.001
responsibility	9.47	3.12	7.54	2.52	2.631	0.01
General health status	22.13	11.31	21.50	9.17	0.236	NS
somatic complaints	6.32	3.78	6.92	4.52	-0.583	NS
anxiety/insomnia	6.11	3.83	6.08	3.74	0.029	NS
functioning disorders	6.16	2.60	7.15	2.27	-1.580	NS
depression symptoms	3.55	3.69	1,73	2.93	2.103	0.04

M – mean;   SD – standard deviation;   t – t test value;   P – level of significance;   NS – not significant.

Table 6. Perceived job stress and health status in women with low and high level of emotional intelligence

Variables	Emotional intelligence				t	P
	Low (n = 72)		High (n = 42)			
	M	SD	M	SD		
Perceived stress at work (general)	125.60	25.77	106.02	25.31	3.937	0.000
work overload	20.79	6.73	19,43	6.88	1.035	NS
lack of rewards	19.17	6.15	16.69	5.75	2.123	0.05
uncertainty in workplace	16.42	5.10	14.19	4,40	2,363	0,02
social relations	11,28	2,79	9.95	2.06	2.681	0.01
threat	11.25	3.53	10.24	4.10	1.391	NS
physical burdens	7.51	3.48	6.24	3.13	1.959	0,05
unpleasant work conditions	5.10	2.95	5.05	3.08	0.085	NS
lack of control	8.75	2.54	6.55	1.70	5.002	0.000
lack of support	5.94	2.25	4.57	1.55	3.497	0.001
responsibility	9.06	2.99	7.50	2.62	2.798	0.01
General health status	23.29	11.84	19.98	9.21	1.560	NS
somatic complaints	6.72	4.16	6.50	4.44	0269	NS
anxiety/insomnia	6.74	4.27	5.76	4.08	1.193	NS
functioning disorders	6.64	2.74	7.14	2.14	-1.024	NS
depression symptoms	3.19	3.41	0.81	1.69	4.240	0.000

M – mean;   SD – standard deviation;   t – t test value;   P – level of significance;   NS – not significant.

The means summarized in Table 5 indicate that in the group of men, the level of emotional intelligence differentiate stronger perceived job stress than health status. Men with high EI level perceived less stress related to lack of rewards, uncertainty in workplace, social relations, unpleasant work conditions, lack of control, and lack of support and responsibility, compared to those with low EI. Moreover, they showed a better mental health status expressed in a low level of depression symptoms.

A similar situation was observed in the group of women (Table 6). The subjects with high level of emotional intelligence perceived less job stress expressed in the majority of all examined factors (except work overload, threat and unpleasant work conditions) and showed a lower level of depression symptoms.

To reveal a buffering role of emotional intelligence in health outcomes, the differences in the level of health status and its four components in the group of workers, showing a different level of emotional intelligence, were analyzed separately for those with high and low level of experienced job stress. The results are presented in Tables 7 and 8.

The data given in Table 7 evidence that the level of emotional intelligence plays the buffering role in the health status, but only with regard to depression symptoms. The employees who experienced high occupational stress and possessed the higher EI level, showed a significantly lower level of depression symptoms than those with the lower EI level. They did not differ in the remaining dimensions of

Table 7. Health status in employees with low and high level of emotional intelligence who experienced high level of stress

| Variables | Emotional intelligence | | | | t | P |
| | Low (n = 59) | | High (n = 33) | | | |
	M	SD	M	SD		
General health status	24.75	11.94	24.12	9.82	0.261	NS
somatic complaints	7.14	4.24	7.33	4.07	-0221	NS
anxiety/insomnia	7.34	3.99	7.52	4.35	-0.201	NS
functioning disorders	6.73	2.92	7.49	2.36	-1.270	NS
depression symptoms	3.54	3.45	1.79	2.74	2.511	0,01

M – mean;   SD – standard deviation;   t – t test value;   P – level of significance; NS – not significant.

Table 8. Health status in employees with low and high level of emotional intelligence in a group of employees who experienced low level of stress

| Variables | Emotional intelligence | | | | t | P |
| | Low (n = 59) | | High (n = 33) | | | |
	M	SD	M	SD		
General health status	16.69	9.08	17.74	8.16	-0.380	NS
somatic complaints	4.85	3.24	5.77	4.05	-0.741	NS
anxiety/insomnia	4.00	4.62	5.20	3.64	-0.941	NS
functioning disorders	6.23	1.69	6.46	2.00	-0,360	NS
depression symptoms	1.62	2.78	0.60	1.29	1.730	NS

M – mean;   SD – standard deviation;   t – t test value;   P – level of significance; NS – not significant.

health status. The level of emotional intelligence did not differentiate the health status of the employees with low level of job stress (Table 8).

DISCUSSION AND CONCLUSIONS

The results of the study showed that human service workers experience high level of stress (the highest was observed in teachers). The level of stress experienced at work by this occupational group is higher than that experienced by firefighters (M = 107.4), prison officers (M = 104.5), bank workers (M = 90.5) or journalists (M = 98.6) (measured with the same method), and lower compared to actors (M = 130.2) and police officers (M = 122.7) [27]. Work overload, lack of rewards and social relations appeared to be the most stressful work-related factors.

The level of emotional intelligence of examined physicians, nurses, teachers, probation officers and managers was similar to the level observed in workers representing other human service professions, e.g., psychologists (M = 126.4) or clergies (M = 126.5) [11], but it was higher in workers of uniformed professions, e.g., firefighters (M = 119.23) or security guards (M = 115.28) (measured with the same method) [27].

In the study group, 110 (33.3%) workers showed low and 68 (20.6%) high level of emotional intelligence, whereas in the others, the average level of emotional intelligence was observed.

The average state of health was found in all workers under study. The level of general health status was similar to that in other groups of employees, e.g., security guards (M = 23.16), bus drivers (M = 22.86), better than in prison officers (M = 15.02) and city guards (M = 15.70), and a little worse than in journalists (M = 24.77) [27] and police officers (M = 25.31) [26].

The employees reporting a higher EI level perceived a lower level of occupational stress and suffered less from negative health consequences. Emotional intelligence plays the buffering role (but rather weak) in preventing the workers from negative health outcomes, especially from depression symptoms. The present study identified the significance of EI in both perceiving job stress and preventing mental health disorders, and depression symptoms in particular. Individuals with high level of emotional intelligence, pronounced by the ability to recognize and express emotions as well as to manage and control them, showed the ability to better cope with stress and suffer less from adverse health outcomes. It is consistent with the data reported by Pau et. al [28], indicating that individuals with high EI level were more likely to adopt reflection and appraisal, social, organizational and time-management skills. Low EI subjects were more likely to be engaged in health-damaging behaviors.

One can conclude that the ability to effectively deal with emotions and emotional information in the workplace assists employees in managing occupational stress and maintaining psychological well-being. This study also indicated that stress reduction and health protection could be achieved not only by decreasing work demands (stressors), but also by increasing the personal resources of employees, including emotional intelligence. The increasing of EI skills (empathy, impulse control) necessary for successful job performance can help workers to deal more effectively with their feelings, and thus directly decrease the level of job stress and indirectly protect their health.

The results of the study indicate the need to develop intervention programs aimed at increasing the EI level and better coping with stress. Organizations that offer their employees a combination of EI and stress management training provide them with an opportunity to acquire the necessary skills to satisfy more effectively the requirements of their job. Moreover, the incorporation of the EI questionnaires into a battery of tests used in recruitment and selection procedures seems to be a promising tool in improving the predictive validity of the selection method. There are some limitations of the presented study. The adopted cross-sectional research design does not allow for affirmative causal explanations. The study provides no information on the job stress process. Further research including more objective measures of experienced job stress and additional EI measures (e.g., observer's ratings) as well as investigating other consequences of stress in the workplace, especially burnout syndrome, is required.

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