

# THE ROLE OF PERSONAL AND SOCIAL RESOURCES IN PREVENTING ADVERSE HEALTH OUTCOMES IN EMPLOYEES OF UNIFORMED PROFESSIONS

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## Abstract

**Objectives:** The purpose of the study was to investigate the impact of experienced job stress and personal and social resources (e.g., sense of coherence, self-esteem, self-efficacy, dispositional optimism and social support) on health outcomes in employees of uniformed professions. **Materials and Methods:** A sample of 330 men representing uniformed professions (70 policemen, 70 firefighters, 60 prison officers, 70 security guards and 60 city guards) participated in the study. The mean age was 33.99 (SD = 6.44). The Perceived Job Stress Questionnaire, the Orientation to Life Questionnaire (SOC-29), Rosenberg's Self-Esteem Scale, the Generalized Self-Efficacy Scale, the Life Orientation Test, the Social Support Scale, and the General Health Questionnaire (GHQ-28) were used in the study. **Results:** The results of the study confirmed a significant role of personal and social resources and perceived social support in particular in reducing job stress and preventing negative health outcomes in the study group of workers of uniformed professions. **Conclusion:** Enhancing personal and social resources should be considered in preventive programs aimed at reducing stress in the workplace and protecting health of workers of uniformed professions.

## Key words:

Stress, Personal and social resources, Health outcomes, Employees of uniformed professions

## INTRODUCTION

Stress in the workplace is a major problem for individuals, organizations and societies. Nowadays, more and more employees experience excessive pressure and faster pace, increased workload, longer shifts and longer working hours, and demands for high organizational performance. Workers are required to perform multiple tasks, learn new skills and manage on their own to meet competitive demands. All these lead to the sense of stress. Experienced stress in turn brings about adverse effects primarily on health, both physical and mental.

In the United State, the proportion of workers who reported "feeling highly stressed" doubled from 1985 to

1999, and those reporting "having multiple stress-related illnesses" increased from 13 to 25% [1]. In Europe, of the 15 000 workers surveyed, 28% report that stress is a work-related health problem [2]. In Australia, 26% of people rate work stress as the second largest cause of work-related injuries and illnesses [3].

According to the World Health Organization (WHO) [3], mental health problems and stress-related disorders are the largest overall cause of premature death in Europe. The US National Institute of Occupational Health and Safety has identified psychological disorders (including neuroses, personality disorder, drug and alcohol dependency) as one of the ten leading occupational diseases and injuries [4].

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Employees also suffer other consequences resulting from stress in the workplace, such as loss of self-esteem, disruption in intimate life, lost hours of professional development, loss of professional sensitivity. One should not forget about costs incurred by organizations and societies for staff replacement and retraining, work flow interference, unplanned absences, service complaints, and sick leaves. There is no doubt that there is an urgent need for searching measures which could protect workers from stress-related adverse outcomes or reduce them.

Stress in uniformed professions is related to many factors, which may play the role of potential stressors. These are mainly intrinsic aspects of the job, such as work overload, responsibility for other people, problems with the personal role in the organization, like ambiguity and conflict, career development, relationships with others, long work hours, shift work, inadequate finance. One should not forget that experiencing traumatic events, mainly in the police service, is an extensive source of stress at work. Brown and Campbell [5] indicate situations, which may be a source of acute or traumatic stress in this occupational group. They include shooting at or by a police officer, dealing with victims of a violent assault, death or injury to a colleague at work, arresting a violent person. However, Code and Fox [6] argue that acute (and traumatic) occupational stress and the workplace hazard is on the decline, while chronic and passive occupational stress, related to daily work is on the rise. According to the contemporary meaning of occupational stress [7–11], stress is a complex, dynamic process in which stressors, enduring health outcomes and modifying variables are all interrelated. Whether a stressor produces an enduring health outcome or not depends on the extent to which the person perceives the condition as stressful and responds to it. His or her perception and response are affected by a number of modifying variables, but mainly by his or her personal and social resources. These resources seem to be very important factors determining the experience of occupational stress and its related effects.

The main purpose of the study was to investigate the impact of perceived job stress and personal and social resources on health outcomes in employees of uniformed professions. Those professions are regarded as highly stressful and that

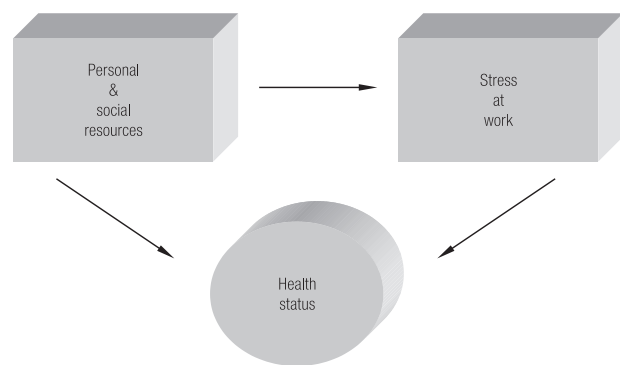


Fig. 1. Theoretical model of the relationship between variables.

is why workers may suffer negative health consequences of stress experienced in the workplace. It is hypothesized that personal and social resources like sense of coherence, self-esteem, self-efficacy, dispositional optimism and social support may have an impact upon perceiving job stress and play a buffering role, and thus protect workers from the development of adverse health outcomes. Figure 1 presents the theoretical model of the study.

## MATERIALS AND METHODS

### Participants and procedures

A sample of 330 male employees of uniformed professions (70 policemen, 70 firefighters, 60 prison officers, 70 security guards and 60 city guards) participated in the study. The mean age was 33.9 (SD = 6.4), the work experience was 12.4 (SD = 6.7). The study was carried out in the workplace of employees. Participation in it was anonymous.

The following methods were used in the study:

- **The Perceived Job Stress Questionnaire (PJSQ)** developed by Dudek, et al. [12]. It consists of 55 items to measure stress at work and its ten factors. The higher the score, the stronger the perceived job stress.
- **The Orientation to Life Questionnaire (SOC-29)** developed by Antonovsky, in Polish adaptation by Koniarz et al. [13]. The scale consists of 29 items measuring global sense of coherence and three components: comprehensibility, manageability and meaningfulness. The higher the score, the stronger the SOC.
- **Rosenberg's Self-Esteem Scale (RSES)** in Polish adaptation by Juczyński [14]. It consists of 10 items to

measure sense of self-esteem. The higher the score, the stronger the sense of self-esteem.

- **The Generalized Self-Efficacy Scale (GSES)** developed by Schwarzer, in Polish adaptation by Juczyński [15]. It includes 10 items to measure general sense of self-efficacy. The higher the score, the stronger the sense of self-efficacy.

- **The Life Orientation Test (LOT-R)** developed by Carver et al., in Polish adaptation by Juczyński [15]. It consists of 10 items, which allow to measure dispositional optimism. The higher the score, the stronger the dispositional optimism.

- **The Social Support Scale (F-SozU K-22)** developed by Fydrych et al., in Polish adaptation by Juczyński [16]. It consists of 22 items to measure three kinds of perceived social support: practical, emotional, and social integration.

- **The General Health Questionnaire (GHQ-28)** developed by Goldberg, in Polish adaptation by Makowska and Merez [17]. It consists of 28 items, which allow to measure general health status and its four components: somatic complaints, functioning disorders, anxiety/insomnia and depression symptoms.

### Statistical analysis

The t-test and F statistic were used to establish differences between means of the analyzed variables. Cluster analysis was employed to reveal differences in the level of perceived stress and health status dependent on the level of personal and social resources. Cluster analysis (k – means method) is treated as analysis of variance (ANOVA) “in reverse” and produces k-different clusters of the greatest possible distinction.

To assess the impact of personal and social resources on health status, confirmatory factor analysis and structuring modeling were used.

## RESULTS

### Descriptive analyses

The means of all the analyzed variables are presented in Table 1. The study group of workers of uniformed profes-

sions revealed a high level of experienced stress at work (sten 8 according to normative data by Dudek et al. [12]). The highest level of job stress was observed in security guards ( $M = 130.67$ ;  $SD = 34.81$ ), and the lowest in prison officers ( $M = 104.47$ ;  $SD = 27.62$ ;  $F = 6.98$ ;  $p < 0.001$ ). The most stressful factors at work comprised: lack of rewards, social relations, responsibility and threat of being at risk of conflicts at work, worsening or loss of health.

Employees of uniformed professions yielded the average level of sense of coherence (the range of scores obtained by Antonovsky [18] for 21 independent samples was 117.0–152.6). The highest degree of sense of coherence was observed in prison officers ( $M = 149.20$ ;  $SD = 24.11$ ) and the lowest in security guards ( $M = 125.44$ ;  $SD = 17.60$ ;  $F = 10.66$ ;  $p < 0.001$ ). The level of self-esteem in the study group was high (sten 8). Prison officers showed the highest level of this variable ( $M = 32.90$ ;  $SD = 4.66$ ) and city guards the lowest one ( $M = 24.47$ ;  $SD = 8.21$ ), but there were no significant statistical differences between the examined groups. The workers also yielded a high level of self-efficacy (sten 7). The highest level of this variable was observed in police officers ( $M = 32.76$ ;  $SD = 5.60$ ) and the lowest one in firefighters ( $M = 30.40$ ;  $SD = 5.17$ ), however, the differences between groups were not statistically significant.

They also showed the average level of dispositional optimism (sten 6). Policemen yielded the highest level of dispositional optimism ( $M = 18.06$ ;  $SD = 4.64$ ) and security guards the lowest one ( $M = 13.87$ ;  $SD = 4.16$ ), but there were no significant statistical differences between these groups. The level of social support for the examined groups may be regarded as average (sten 6). The highest degree of social support was observed in prison officers ( $M = 90.84$ ;  $SD = 15.40$ ) and the lowest one in security guards ( $M = 81.94$ ;  $SD = 14.39$ ;  $F = 4.97$ ;  $p < 0.01$ ).

General health status in the examined groups of employees may be regarded as average (sten 5). The best health status was observed in prison officers ( $M = 15.02$ ;  $SD = 9.58$ ) and city guards ( $M = 15.70$ ;  $SD = 10.86$ ) and the worst one in security guards ( $M = 25.21$ ;  $SD = 14.26$ ;  $F = 10.02$ ;  $p < 0.001$ ).

Cluster analysis was aimed at distinguishing two subgroups with low and high levels of personal resources, including all

**Table 1.** Means and standard deviations of all analyzed variables

Variables	M	SD
General job stress:	118.42	30.98
work overload	17.84	6.76
lack of rewards	17.42	6.80
uncertainty in workplace	15.84	4.97
social relations	10.32	3.22
threat	12.16	4.41
physical burdens	7.55	3.32
unpleasant work conditions	5.65	3.09
lack of control	8.35	2.17
lack of support	5.13	2.20
responsibility	9.36	3.06
Sense of coherence:	138.31	22.78
comprehensibility	4.07	9.72
manageability	4.88	8.57
meaningfulness	4.92	7.78
Dispositional optimism	16.14	4.46
Self-esteem	29.21	7.01
Self-efficacy	31.25	5.31
Social support:	87.67	17.21
emotional support	26.32	5.18
practical support	32.89	7.33
social integration	28.74	6.34
General health status:	19.07	11.33
somatic complaints	5.58	3.83
anxiety/insomnia	5.15	4.21
functioning disorders	6.98	2.70
depression symptoms	1.51	2.81

M – mean; SD – standard deviation.

the examined resources: sense of coherence, self-esteem, self-efficacy, dispositional optimism and social support. The differences in the level of perceived stress at work and health consequences were checked using the t-test. The results are presented in Table 2.

Data contained in the table indicate that workers with high level of personal and social resources, compared to subjects with low level of this variable, manifest low level of perceived job stress (expressed in low level of workload, less stressful social relations, lower sense of lack of control, lack of support), and better health status (expressed

**Table 2.** Means and standard deviations of perceived stress and general health status in groups of workers with high and low personal resources

Variables	Level of resources				t	P
	High		Low			
	M	SD	M	SD		
General job stress	115.01	30.98	122.89	30.50	-2.31	0.02
work overload	16.82	6.43	19.17	6.97	-3.18	0.002
lack of rewards	16.94	6.70	18.04	6.91	-1.47	ns
uncertainty in workplace	15.49	4.86	16.31	5.09	-1.49	ns
social relations	9.94	2.98	10.81	3.44	-2.47	0.01
threat	11.84	4.61	12.57	4.12	-1.48	ns
physical burdens	7.60	3.35	7.48	3.29	0.33	ns
unpleasant work conditions	5.47	3.00	5.89	3.19	-1.22	ns
lack of control	8.13	2.08	8.63	2.26	-2.09	0.03
lack of support	4.74	2.09	5.64	2.25	-3.77	0.001
responsibility	9.22	3.10	9.55	3.01	-0.94	ns
General health status	17.25	10.89	21.45	11.48	-3.40	0.001
somatic complaints	5.07	3.76	6.24	3.84	-2.78	0.01
anxiety/insomnia	4.31	4.09	6.26	4.12	-4.28	0.001
functioning disorders	6.90	2.60	7.08	2.86	-0.57	ns
depression symptoms	0.95	2.31	2.25	3.21	-4.29	0.001

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

mainly in low level of somatic complaints, anxiety/insomnia and depression symptoms).

### Cross-sectional relationships

The latent variable analyses performed using confirmatory factor analysis (CFA) were used to assess the adequacy of the conceptualized model (Table 3). Goodness-of-fit of the models (the generalized least squares, GLS) had an excellent fit (GFI = 0.97; AGFI = 0.95; RMSEA = 0.04)\*. The results presented in Table 3 revealed five latent variables: perceived job stress loaded by ten factors, sense of coherence loaded by three components, attitudes and beliefs loaded by self-esteem, self-efficacy, and dispositional optimism, social support loaded by three components, and general health status loaded by four dimensions.

In the cross-sectional model, an initial confirmatory factor analysis assessed the adequacy of the measurement model,

\*GFI – goodness-of-fit index; AGFI – adjusted goodness-of-fit index; RMSEA – root mean square error of approximation.

a predictive path model (on the whole sample) positioned influences of personal and social resources, i.e. the sense of coherence, attitudes and beliefs and social support as predictors of stress at work. In turn, personal and social resources and stress at work latent variable predicted general health status.

Figure 2 presents the cross-sectional path model in which personal and social resources influence stress at work and general health status. This model has very good fit statistics (GFI = 0.99; AGFI = 0.99; RMSEA = 0.05; GL  $\chi^2$

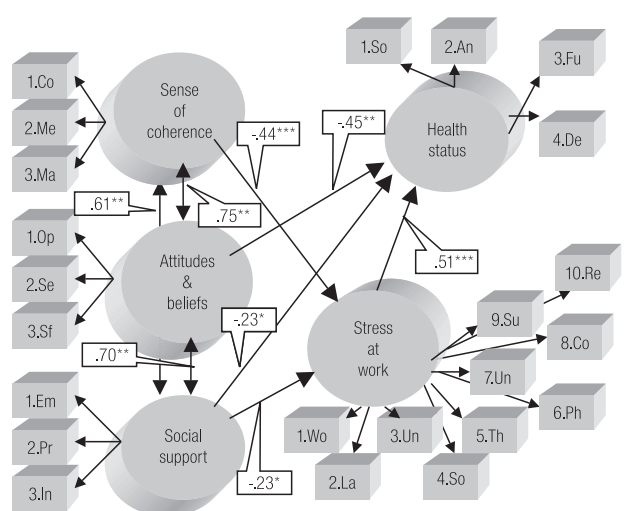
**Table 3.** Factor loading and standard deviations in confirmatory factor analyses

Variables	Factor loading	SD	F	P
<b>General job stress:</b>				
work overload	0.71	0.04	19.13	0.000
lack of rewards	0.72	0.04	19.28	0.000
uncertainty in workplace	0.65	0.05	14.02	0.000
social relations	0.72	0.04	18.63	0.000
threat	0.73	0.04	19.54	0.000
physical burdens	0.66	0.05	14.08	0.000
unpleasant work conditions	0.64	0.05	13.81	0.000
lack of control	0.54	0.05	10.65	0.000
lack of support	0.59	0.05	12.22	0.000
responsibility	0.73	0.04	19.18	0.000
<b>Sense of coherence:</b>				
comprehensibility	0.58	0.06	9.55	0.000
manageability	0.79	0.06	1.39	0.000
meaningfulness	0.63	0.06	10.55	0.000
<b>Attitudes and beliefs:</b>				
self-esteem	0.54	0.47	12.78	0.000
self-efficacy	0.64	0.15	13.35	0.000
dispositional optimism	0.75	0.15	15.65	0.000
<b>Social support:</b>				
emotional support	0.74	0.05	16.22	0.000
practical support	0.67	0.05	13.72	0.000
social integration	0.76	0.05	16.25	0.000
<b>General health status:</b>				
somatic complaints	0.68	0.05	12.60	0.000
anxiety/insomnia	0.79	0.05	15.90	0.000
functioning disorders	0.58	0.06	10.13	0.000
depression symptoms	0.47	0.07	7.05	0.000

F – test F value;

P – significance level;

SD – standard deviation.



\*  $p < 0.05$ ;

\*\*  $p < 0.01$ ;

\*\*\*  $p < 0.001$

**Sense of coherence**  
 1. Co – comprehensibility  
 2. Me – manageability  
 3. Ma – meaningfulness

**Attitudes and beliefs**  
 1. Op – dispositional optimism  
 2. Se – sense of self-esteem  
 3. Sf – sense of self-efficacy

**Social support**  
 1. Em – emotional support  
 2. Pr – practical support  
 3. In – social integration

**Stress at work**  
 1. Wo – work overload  
 2. La – lack of reward  
 3. Un – uncertainty  
 4. So – social relations  
 5. Th – threat  
 6. Ph – physical burdens  
 7. Un – unpleasant work conditions  
 8. Co – lack of control  
 9. Su – lack of support  
 10. Re – responsibility

**Health status**  
 1. So – somatic complaints  
 2. An – anxiety, insomnia  
 3. Fu – functioning disorders  
 4. De – depression symptoms

**Fig. 2.** Structural equation model – the generalized least squares (GLS) estimation.

= 483;  $df = 220$ ;  $p < 0.000$ ) and indicates that there is a significant relationship between examined personal and social resources, perceived job stress, and health consequences. Stress experienced in the workplace has a direct impact on the general health status. This impact is significant (0.51) and stronger than that for possessed resources. The stronger the job stress, the worse the health. Resources, namely the sense of coherence and social support (but not attitudes/beliefs) reveal direct impact on perceived stress in the workplace (stronger for the sense of coherence – 0.44). The results indicated that high level of these resources reduced the sense of perceived stress in the workplace. Individual's resources, that is attitudes/beliefs and social support (but not the sense of coherence) had also direct impact on the subject's health (stronger for attitudes/beliefs – 0.45). It was revealed that high level of attitudes and beliefs concerning one's own ability to cope with various situations, such as dispositional optimism, self-esteem and self-efficacy, and high level of perceived

social support enhances health. The most important role, among personal resources, is played by dispositional optimism and sense of self-efficacy, whereas self-esteem plays the least important role.

The results confirmed direct and indirect impacts of personal and social resources on health outcomes. These resources influence positively health status on the one hand and enhance health through reducing sense of stress in the workplace on the other.

## DISCUSSION

Employees of uniformed professions, mostly security guards, suffer from extensive job stress; 65.7% of the workers under study experienced high level of stress at work; 26.4% – average, and only 7.9% – low level of stress. The level of stress suffered in this occupational group is higher than in other professions (measured with the same method), e.g., bank workers ( $M = 90.5$ ), journalists ( $M = 98.6$ ), and managers ( $M = 99.2$ ) [19]. It is worth stressing that among factors which appeared to be most stressful (social relations, threat and responsibility) there was lack of rewards, which indicates that employees of uniformed professions are underestimated in their work.

The general level of personal and social resources in the study group of employees may be regarded as rather high (high for self-esteem and self-efficacy, average for sense of coherence, dispositional optimism and social support). They revealed a higher level of sense of coherence than emergency service workers ( $M = 132.1$ ), bus drivers ( $M = 129.2$ ), and bank workers ( $M = 129.1$ ), a higher level of self-efficacy compared to bank workers ( $M = 29.5$ ) and probation officers ( $M = 29.2$ ), and a greater dispositional optimism than emergency service workers ( $M = 14.9$ ), actors ( $M = 14.8$ ), and bus drivers ( $M = 14.3$ ). The employees of uniformed professions yielded similar level of self-esteem to that showed by workers of other occupations [19].

Employees of uniformed professions showed the average level of mental health status (the best health was observed in prison officers and city guards, the worst in security guards); 21.2% of examined workers revealed poor; 43% – good; and 35.8% – average mental health. General

health status of workers of uniformed professions was better than that of workers belonging to other occupational groups (measured with the same method), e.g., teachers ( $M = 17.18$ ), taxi-drivers ( $M = 17.54$ ), but worse than that of probation officers ( $M = 25.52$ ), journalists ( $M = 24.77$ ) and emergency service workers ( $M = 24.11$ ) [19].

The obtained data confirmed the assumption that personal and social resources play an important role in perception of job stress and occurrence of negative health outcomes. The subjects with high level of resources perceived their work environment as less stressful (mainly with respect to such factors as lack of support, work overload, social relations and lack of control) and showed less mental health disorders (e.g., somatic complaints, anxiety/insomnia, and depression symptoms). Path analysis indicated that the sense of coherence had a direct impact on perception of job stress, but not, which is rather surprising, on mental health status. High level of this variable reduced the sense of stress at work. In turn, attitudes and beliefs (self-esteem, self-efficacy, dispositional optimism) had impact only on health, but not on job stress perception. High level of those resources enhanced the sense of mental health. Social support revealed its impact on both job stress perception and health status. High level of perceived social support reduced the sense of stress at work and enhanced the sense of health.

The significance of personal and social resources in preventing adverse health outcomes in workers of various professions has been investigated by many researches. The buffering role of the sense of coherence was confirmed by Dudek and Koniarek [20], Ogińska-Bulik [21,22] in a group of police officers, and by Świętochowski [23] in teachers. The study carried out among police officers also revealed that high level of self-esteem, self-efficacy and dispositional optimism reduce the level of perceived job stress and protect the workers from negative health outcomes [21,22]. In turn, the buffering role of social support was confirmed in the study conducted by Karasek [24,25], Cieślak [26], Greenglass [27], and Ogińska-Bulik [28].

The relationship between the sense of coherence and perceived job stress (but not mental health) in the study group of employees of uniformed professions indicated that this

variable plays a more important role in assessing various situations than in predicting adverse health outcomes resulting from experienced job stress. Perceiving the world as comprehensible, manageable and meaningful leads to assessing the work environment as less stressful and, as one may assume, easier to cope with stressful situations. The results of the study indicated the need to develop preventive programs aimed at reducing stress experienced in the workplace and protecting health of workers of uniformed professions. The programs should be addressed to organizations with the aim to change the system of rewards, to improve social relations between both employees and employers and employees and co-workers, to reduce the sense of threat and level of responsibility, and, what is particularly important, to enhance the level of social support for workers in order to increase in particular their personal resources, dispositional optimism and sense of self-efficacy.

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