

Sygit–Kowalkowska Ewa, Weber-Rajek Magdalena, Szrajda Justyna, Kraszkiewicz Krzysztof. Health at work and coping with stress of prison officers. *Journal of Education, Health and Sport*. 2017;7(3):153-165. eISSN 2391-8306. DOI <http://dx.doi.org/10.5281/zenodo.268294>  
<http://ojs.ukw.edu.pl/index.php/johs/article/view/4229>

The journal has had 7 points in Ministry of Science and Higher Education parametric evaluation. Part B item 1223 (26.01.2017).  
1223 Journal of Education, Health and Sport eISSN 2391-8306 7

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The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 05.01.2017. Revised 21.01.2017. Accepted: 02.02.2017.

## Health at work and coping with stress of prison officers

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## **Summary**

### **Background**

The aim of the study was to assess the state of mental and physical health and the expressed strategies for coping with stress of prison officers which are a group that is relatively unknown and seldom subjected to the tests. Among the coping strategies, the authors also identified those that were predictors of mental and physical well-being at work men working professionally in penitentiary institutions.

### **Material and Methods**

The sample consisted of 90 prison officers working in the security department who are in direct contact with inmates. The control group consisted of 85 men working in services and trade in the Kujawsko-Pomorskie Voivodeship (Poland), chosen by the authors as a result of intentional selection. The study used the following tools: "Psychosocial Working Conditions" Questionnaire by R. Cieślak, M. Widerszal-Bazyl, Mini-COPE Questionnaire by C.S. Carver, adapted to Poland by Z. Juczyński and N. Ogińska-Bulik. Socio-demographic data were also collected. The results were compared with a group of men working outside the uniformed services.

### **Results**

In the group of prison officers, longer seniority was associated with a statistically significant deterioration of mental and physical well-being. Based on higher level of seeking support in stressful situations as well as a lower level of helplessness, one could predict a higher general level of physical and mental well-being.

### **Conclusions**

Due to the character of the work and the risk of negative phenomena is important broad-based health promotion in this occupational group.

**Key words: health, work, stress, prison, officer.**

## **Streszczenie**

### **Wstęp**

Celem pracy była ocena stanu zdrowia psychofizycznego i przejawianych strategii radzenia sobie ze stresem u funkcjonariuszy służby więziennej. Spośród strategii radzenia sobie,

założono również określenie tych, które stanowią predyktory dobrego samopoczucia psychofizycznego w pracy mężczyzn pracujących zawodowo w ramach struktur penitencjarnych.

### **Material i metody**

Próbę badawczą stanowiło 90 funkcjonariuszy służby więziennej pracujących w dziale ochrony, którzy pozostają w bezpośrednim kontakcie z osadzonymi. Grupę porównawczą stanowiło 85 mężczyzn, pracujących w branży usług i handlu, wybranych przez autorów niniejszych badań w wyniku doboru celowego. W badaniu wykorzystano następujące narzędzia: Kwestionariusz „Psychospołeczne Warunki Pracy” autorstwa R. Cieślak i M. Widerszal – Bazyl do oceny samopoczucia psychofizycznego, Kwestionariusz Mini - COPE autorstwa C.S. Carvera w polskiej adaptacji Z. Juczyńskiego N. Ogińskiej-Bulik, który służy do oceny stosowanych strategii radzenia sobie ze stresem oraz metryczkę zawierającą dane socjodemograficzne.

### **Wyniki**

W wyniku przeprowadzonych badań stwierdzono, że kondycja psychofizyczna funkcjonariuszy służby więziennej jest znacząco gorsza w stosunku do osób wykonujących inne zawody. Predyktorami wyższego poziomu samopoczucia psychofizycznego jest poszukiwanie wsparcia w sytuacjach stresowych.

### **Wnioski**

Z uwagi na charakter pracy i zagrożenie negatywnymi zjawiskami ważna jest szeroko zakrojona promocja zdrowia w tej grupie zawodowej.

**Słowa kluczowe: zdrowie, praca, stres, więzienie, funkcjonariusz.**

### **Introduction**

Stress is one of the major contemporary challenges for health and safety of working persons [1]. Especially if it results from working in conditions that require high resistance to

stressful stimuli. Stress is understood as emotional strain, pressure, tension, a negative mental state, appearing as a result of interaction with the environment and evaluated as a load that exceeds a person's resources and endangers their health [2]. According to research in the European Union, stress and its consequences felt until every fourth employee [3]. The existing systematic analyses and longitudinal studies have shown that stress at work is associated with heart disease, depression and diseases of the musculoskeletal system. It has been proven that high demands, low control and the imbalance between effort and reward are all risk factors for mental and somatic health problems [4 - 8]. As the literature shows, people working within the uniformed services are at particular risk of experiencing work-related stress [9]. According to Johnson et al. [10] the profession of a prison officer is one of six professions whose exercise is associated with a significantly deteriorated state of mental and physical health.

In Poland, prison officers are a group that is relatively unknown, hard to reach and seldom subjected to the tests [11]. Raising this issue seems particularly important in the context of the situation in Polish prisons. Compared to the countries of the European Union, the highest average prisoner rates over the period 2005 to 2012 were recorded in Poland [12]. In 2013 the average ratio of inmates to officers working in the security department in Polish prisons was 5,1 to 1 (for example in Ireland it was 1.4 to 1, France 2.5 to 1) [13].

The aim of the study was to assess the physical and mental health status, strategies for coping with stress of prison officers. The results were compared with a group of men working outside the uniformed services. Among the coping strategies, the authors also identified those that were predictors of mental and physical well-being of men working professionally in penitentiary institutions.

A pilot study was conducted in 2015 [14]. In the present study, the Authors increased research group and made control group composed of men working outside the uniformed services.

## **Material and Methods**

### **Group I (research group) – The prison service**

The study was conducted in one of the penitentiary institutions of the Regional Office for the Prison Authorities in Bydgoszcz (Poland). Research surveys were left in the briefing room for service employees. The sample consisted of 90 prison officers working in the security department who are in direct contact with inmates. Qualification for testing is based

on systematic random sampling (every second officer entering the briefing room was asked to fill in the questionnaire). The surveys came complete with the description and purpose of the study as well as a written request to fill them out and throw into a specially prepared "ballot box." The cover letter indicated that the survey is completely anonymous and the results will be used solely for scientific purposes. Table I presents data on seniority in a group of prison officers.

Table I. The ranges of seniority of prison officers

n – number of subjects	Professional experience in years
4	0-5
21	6-10
21	11-15
36	16-20
8	Over 21

**Group II – (comparative group), described in the study as a group of men working outside uniformed structures.**

The control group consisted of 85 men working in services and trade in the Kujawsko-Pomorskie Voivodeship (Poland), chosen by the authors as a result of intentional selection. The cover letter indicated that the survey is completely anonymous and the results will be used solely for scientific purposes. The ranges of seniority in the comparative group were determined in the same way as in the research group. Table II presents data on seniority in the group of men working outside the uniformed services.

Table II. The ranges of seniority in men working outside the uniformed services

n – number of subjects	Professional experience in years
10	0-5
25	6-10
15	11-15
20	16-20
15	Over 21

The study used the following tools:

1. The "Psychosocial Working Conditions" Questionnaire by R. Cieślak, M. Widerszal – Bazyl [15], which allows assessing the requirements, range of control, social support and well-being, as well as estimating the needs of employees regarding changes in their working environment. The questionnaire consists of five theoretical scales: requirements scale (W),

control scale (K), social support scale (WS), well-being at work scale (D) and the scale of desired changes (PZ). The final result is between 1-5 points. The study used the theoretical scale D and two factors (empirical scales D1 and D2) on the physical and mental well-being (collectively described as psycho-physical well-being). The major question in the theoretical scale was "What is your mood?" The D1 scale consisted of an overall assessment of physical health and stress and the presence of symptoms of a somatic type of headache, upset stomach, heart problems. Factors related to psychological well-being focused on the assessment of negative emotional states, satisfaction with life and work and self-confidence. According to the questionnaire manual, higher scores indicate a high level of well-being. General sten standards were applied, because no such project had so far been developed for this professional environment. Raw results were converted to stens, where stens between 1 - 4 represent a low score, 5 - 6 - average and 7-10 are high scores.

2. The Mini-COPE Questionnaire by C.S. Carver, adapted to Poland by Z. Juczyński and N. Ogińska-Bulik [16]. It is used to assess the strategies used to cope with stress. The questionnaire consists of 28 statements included in 14 strategies to cope with stress, including: active coping, planning, positive revaluation, acceptance, sense of humor, refuge in religion, seeking emotional support, seeking instrumental support, dealing with something else, denial, discharge, use of psychoactive substances, cessation and blaming oneself. Each scale involves 2 statements. The test subject was told to respond to each statement by marking on a scale of 0-3 how often they act in a certain way in stressful situations at work. The higher the score, the higher the intensity of manifesting the chosen strategy. In this study we assumed a factorial structure of the scales. In the studies, results involved 7 factors, including 4 consisting of 2 or 3 strategies (Active Coping, Helplessness and Seeking Assistance), 3 strategies creating independent factors (Refuge in Religion, Acceptance, Sense of Humor).

Using the survey attached to the questionnaires, socio-demographic data were collected.

## **Results**

In the first stage, the Mann-Whitney U test compared the results of the examined variables between the groups. The results are shown in Table III.

Tab. III. Comparison of the results of measured variables between the two study groups

Variables		Group	Mean	Standard deviation	Mann-Whitney U test	Level of significance
<b>Scale of physical well-being Scale D1</b>	Group I	3,89	0,69	<b>2,31</b>	<b>0,021</b>	
	Group II	4,16	0,37			
<b>Scale of mental well-being Scale D2</b>	Group I	3,66	0,57	<b>3,54</b>	<b>&lt;0,001</b>	
	Group II	3,98	0,42			
<b>Scale of mental and physical well-being Scale D</b>	Group I	3,77	0,60	<b>2,54</b>	<b>0,011</b>	
	Group II	4,06	0,35			
<b>Scales of mental and physical well-being</b>	<b>Active coping with stress</b>	Group I	1,79	0,59	<b>2,62</b>	<b>0,009</b>
		Group II	2,04	0,47		
	<b>Helplessness</b>	Group I	0,72	0,57	<b>3,27</b>	<b>0,001</b>
		Group II	0,95	0,47		
	<b>Seeking Support</b>	Group I	1,36	0,57	<b>4,87</b>	<b>&lt; 0,001</b>
		Group II	1,82	0,59		
	<b>Avoidane</b>	Group I	1,06	0,47	1,88	0,060
		Group II	1,26	0,51		
	<b>Refuge in Religion</b>	Group I	0,75	0,78	1,68	0,092
		Group II	0,65	1,01		
	<b>Acceptance</b>	Group I	1,51	0,68	<b>7,83</b>	<b>&lt; 0,001</b>
		Group II	2,24	0,33		
	<b>Sense of humor</b>	Group I	1,02	0,60	<b>2,31</b>	<b>0,021</b>
		Group II	1,27	0,60		

Analyses using the Mann-Whitney U test showed statistically significant differences. The prison service had a lower level of physical and mental well-being and lower levels of general well-being compared to men working outside the uniformed structures. The prison service received lower scores in terms of active coping with stress, helplessness, seeking support, acceptance and humor, as compared to men working outside the uniformed structures.

In the next stage, rho-Spearman correlation was carried out in both groups between seniority and the level of physical and mental well-being. The results are shown in Table IV.

Tab. IV. Correlation coefficients between the studied variables and seniority in both groups

Variable			Seniority	
			rho-Spearmana	Level of significance
Scales of mental and physical well-being	Scale D1	Group I	<b>-0,22</b>	<b>0,035</b>
		Group II	<b>-0,30</b>	<b>0,005</b>
	Scale D2	Group I	<b>-0,26</b>	<b>0,015</b>
		Group II	-0,11	0,299
	Scale D	Group I	<b>-0,24</b>	<b>0,020</b>
		Group II	<b>-0,26</b>	<b>0,015</b>
Scales of mental and physical well-being	Active coping with stress	Group I	-0,10	0,357
		Group II	-0,12	0,289
	Helplessness	Group I	0,05	0,665
		Group II	<b>0,29</b>	<b>0,007</b>
	Seeking support	Group I	-0,05	0,667
		Group II	0,08	0,471
	Avoidane	Group I	0,04	0,709
		Group II	0,08	0,444
	Refuge in religion	Group I	0,10	0,339
		Group II	-0,09	0,404
	Acceptance	Group I	-0,15	0,158
		Group II	<b>-0,30</b>	<b>0,005</b>
	Sense of humor	Group I	-0,15	0,168
		Group II	<b>-0,33</b>	<b>0,002</b>

A statistically significant negative correlation was between the seniority of prison officers and the results of psychological and physical well-being (physical, mental and general). A statistically significant negative correlation has been shown between the seniority of men working outside the uniformed structures and the results of psychological and physical well-being (physical, and general), as well as the results of strategies to cope with stress - subscales "sense of humor" and "acceptance". It showed that there is a statistically significant positive correlation between the seniority of men working outside the uniformed services and the results of strategies to cope with stress - subscale "helplessness".

Then, the rho-Spearman correlation was carried out in both groups between the strategies for coping with stress and mental and physical well-being. The results are shown in Table V.



Tab. V. The correlation coefficients between the level of strategies for coping with stress and mental and physical well-being in both groups

Strategies for coping with stress		Scales of mental and physical well-being					
		Scale D1		Scale D2		Scale D	
		rho-Spearman	Level of significance	rho-Spearman	Level of significance	rho-Spearman	Level of significance
Active coping with stress	Group I	<b>0,51</b>	<b>&lt; 0,001</b>	<b>0,46</b>	<b>&lt; 0,001</b>	<b>0,53</b>	<b>&lt; 0,001</b>
	Group II	<b>0,53</b>	<b>&lt; 0,001</b>	0,13	0,238	<b>0,40</b>	<b>&lt; 0,001</b>
Helplessness	Group I	<b>-0,64</b>	<b>&lt; 0,001</b>	<b>-0,68</b>	<b>&lt; 0,001</b>	<b>-0,68</b>	<b>&lt; 0,001</b>
	Group II	<b>-0,55</b>	<b>&lt; 0,001</b>	0,03	0,795	<b>-0,42</b>	<b>&lt; 0,001</b>
Seeking support	Group I	<b>0,36</b>	<b>0,001</b>	<b>0,30</b>	<b>0,004</b>	<b>0,36</b>	<b>&lt; 0,001</b>
	Group II	<b>-0,37</b>	<b>0,001</b>	0,16	0,138	<b>-0,31</b>	<b>0,004</b>
Avoidance	Group I	<b>-0,44</b>	<b>&lt; 0,001</b>	<b>-0,51</b>	<b>&lt; 0,001</b>	<b>-0,49</b>	<b>&lt; 0,001</b>
	Group II	<b>-0,32</b>	<b>0,003</b>	-0,04	0,706	<b>-0,40</b>	<b>&lt; 0,001</b>
Refuge in religion	Group I	<b>-0,30</b>	<b>0,004</b>	<b>-0,26</b>	<b>0,013</b>	<b>-0,28</b>	<b>0,007</b>
	Group II	-0,09	0,417	0,14	0,197	-0,14	0,216
Acceptance	Group I	0,18	0,082	0,14	0,185	0,18	0,095
	Group II	<b>0,23</b>	<b>0,031</b>	-0,17	0,130	0,18	0,103
Sense of humor	Group I	<b>-0,34</b>	<b>0,001</b>	<b>-0,39</b>	<b>&lt; 0,001</b>	<b>-0,40</b>	<b>&lt; 0,001</b>
	Group II	-0,18	0,098	0,05	0,681	-0,04	0,738

Correlation analyses showed that in the group of men working outside the uniformed structures, a higher level of physical well-being and a higher level of general well-being are associated with lower levels in the range of helplessness, seeking support and avoidance. Higher levels of physical well-being and a higher level of general well-being were associated with a higher level in terms of active coping with stress. In addition, a higher level of physical well-being was associated with higher levels of acceptance. Correlation analyses showed that in the group of prison officers, a higher level of physical and mental well-being is associated with lower levels of strategies to cope with stress in terms of helplessness, avoidance, refuge in religion and a sense of humor. In turn, a higher level of physical and mental well-being was associated with a higher level in terms of active coping with stress and seeking support.

In the last stage of the study, the group of prison officers was subjected to a multiple regression model, using the stepwise method (STEP-WISE), where the predictor was the level of the scales of strategies to cope with stress (active coping with stress, helplessness, seeking support, avoidance, refuge in religion, acceptance and sense of humor), and the dependent variable was the overall physical and mental well-being. In the group of prison officers, the model proved to be statistically significant:  $F(3,86)=62.99$ ;  $p<0.001$ . It explained 67.6% of the observed variance of the dependent variable (adjusted R-square = 0.676). Two predictors were introduced into the model. The results are shown in Tab. VI.

Tab. VI. Results for predictors: helplessness, seeking support in a group of prison officers

Predictor	Coeff. B	Coeff. Beta	Student's t-test result	Level of significance
Helplessness	-0.343	-0.325	3.80	0.000
Seeking support	0.197	0.185	3.05	.0030

Regression analysis revealed that among the prison officers helplessness and seeking support were important predictors of the dependent variable: the overall level of physical and mental well-being. Beta coefficient analysis indicated that, based on higher level of seeking support as well as a lower level of helplessness, one could predict a higher general level of physical and mental well-being.

### Discussion

The examination of the mental and physical health and its predictors in prison service is an issue which has so far not been comprehensively described in the literature. This study showed that psychophysical health in the group of prison officers is worse than professionals not connected with the uniformed services, which is consistent with analyses by Johnson et al. [10].

As demonstrated by the results of this research, strategies for coping with stress have a positive significance for psychological and physical well-being. Numerous reports of studies indicate how important for working men it is to use the strategy of seeking support from others (also among the leadership) [17]. This strategy was described e.g. by de Jonge et al. [18] as emotional job resources and allow a person to cope with the demands of their work, which can mitigate the negative effects of heavy workloads [19]. Using this strategy is in relation to one's health and satisfaction with life [20, 21]. This is confirmed by the authors' own research results – for the group of officers, seeking support and actively coping are personal resources that promote optimal psychophysical functioning. It should also be noted that the results in these categories were lower compared to the group of men working outside the uniformed services. This means that investing in the support and promotion of these ways of coping can have tangible benefits for the group of prison officers.

In this study it has also been shown that the application of the strategy of helplessness - that is, e.g. resignation activities, burdened with guilt, is a predictor of worse health.

In the course of their professional duties, the prison officers using such behaviors potentially threaten the security of the penitentiary institution, putting themselves in danger of removal from their duties and denying the nature of the institutions - strictly formalized.

Being helpless in situations requiring specific activity can cause frustration, which may result in risky behavior that fits within this strategy, namely the use of stimulants. As indicated in the literature, the use of psychoactive substances may be the answer to the physical and psychosocial working conditions against an employee, such as the lack of decision-making, boredom at work or conflicts with peers [22]. The study by Gershon et. al. [23] conducted among police officers has demonstrated that stronger professional stress, resulting in health deterioration is a result of negative coping strategies, including those based on avoidance.

One should also note the correlation between seniority and health. In the group of prison officers, longer seniority was associated with a statistically significant deterioration of mental and physical well-being. Surely these results are combined with the area of biological changes taking place in the human body over the years. These changes cause a worse adaptation of one's body to the environment, including stressful conditions. Only the area of mental health differentiated the respondents in the control group, i.e. longer seniority of prison officers aggravated their mental health.

While summing up the results of this study, it should be noted that the analysis of the health predictors of prison officers encourages further exploration, taking into account other personal characteristics (e.g. temperament, level of optimism, attitudes towards prisoners) and social properties (family situation), and taking into account the various positions at work. A limitation to the study is that the research model does not include hidden variables of an endogenous nature, e.g. burnout, which, as stated earlier, is a phenomenon affecting this professional group. Understanding the factors that contribute to the wellbeing of officers could also be forwarded based on longitudinal research, which is a challenge for research planning due to the need to maintain the anonymity of these people. Due to the enormous importance of prevention in stress management in this sector, it is important to continue research in this area.

## **Conclusions**

Psychophysical condition in prison officers is significantly worse in relation to persons engaged in other professions - the longer the seniority, the lower its level. Based on higher level of seeking support as well as a lower level of helplessness, one could predict a higher general level of physical and mental well-being.

Due to the nature of the work and the threat of negative phenomena such as burnout, aggression, a broad-based health promotion in this professional group is very important.

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