



Professional Stressors in Prison Officers: a Cross-Sectional Study

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Abstract

Background/Aim: The aim of this study was to analyse the stressors on prison officers' workplace in facilities of closed and semi-open type and their differences and the interconnection between specific sociodemographic variables (sex, age, marital status, exposed working experience, education level) and stressors on workplaces.

Methods: The cross-sectional study included 330 prison officers, between 19 and 65 years of age, who have been divided in two groups depending on the security level of the facility (semi-open and close facility type). The research was conducted during 2015, using the following questionnaires: sociodemographic questionnaire, the organisational police stress questionnaire (PSQ.org) and the operational police stress questionnaire (PSQ.op).

Results: The results have shown significantly higher load with organisational and operative stress in facilities of closed type ($p < 0.001$) and that in both groups operative stress sources were slightly more represented than the organisational. The intensity of stress ranged from low to medium. Higher intensity of organisational stress was perceived regarding stressors related to work appreciation, than in regard to sources related to logistic support, while the lowest intensity of stress was in regard to interpersonal relations in the organisation. In closed facilities, divorced prison officers and those who were separated from their families for a longer time have experienced higher stress intensity. Total work experience and age of prison officers had a moderate and mild effect, respectively, on organisational stressors in higher security facilities. "Fatigue", "traumatic event" and "favouritism" were the most important stressors.

Conclusion: The prison officers are exposed to stress of low to medium intensity, the operational stress sources being more represented than organisational. In higher security facilities total work experience and age had an influence on organisational stressors.

Key words: Prisons; Stress, psychological; Workplace; Occupational stress; Cross-sectional studies.

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Introduction

There are five groups of factors that influence stress on the workplace: (1) the personality of the employee, (2) the conditions on the workplace, (3) the demands of the workplace, (4) the organisation of the workplace and (5) social environment and life conditions (family problems, living and material conditions, social and society changes, sickness, sudden life events).¹

A prison is a complex institution with clearly defined rules and its own functioning and oversight system, in which people are serving sentences of imprisonment due to committed criminal offences. Prison facilities can be closed, semi-open, open and specialised facilities. Closed facilities are the most common type of facilities, known by high walls and barb wire, in modern times also by

security with highly sophisticated video-surveillance and similar equipment. Beside the technical equipment and technical security, these types of facilities also have a high level of physical security and departments for special surveillance. Semi-open facilities usually have some elements of external security and inner structure as closed ones (often seen are high walls and wire), but the internal structure is normally less strict. Aggression inside the facility is less frequently demonstrated, the interpersonal problems between the staff and the prisoners are not very expressed. Open prison facilities are defined as facilities in which there are no obstacles for the escape of prisoners, there are no walls, bars nor armed security staff. Specialised facilities can be juvenile prisons, specialised hospitals for medical treatment of prisoners, psychiatric facilities for mentally disturbed prisoners and similar. In penal-correctional facilities there are by rule organisational units for security issues, re-education, health protection, employment of prisoners, as well as units for general and common matters.² The security staff is made of prison officers (prison guards), who are armed, uniformed and of same sex as prisoners. In the Republic of Srpska there are six prison facilities of closed or semi-open types.

One of the first empirical stress evaluation studies on staff in prison facilities determined that, on average, prison staff had higher blood pressure than the inmates.³ Several studies confirmed that stressors among prison staff can be divided into two broader categories: problems with prisoners and problems with management (operative and organizational, respectively).⁴⁻⁶ In the research done by Rutter and Fielding it was concluded that stress connected with the inmates had biggest influence on the prison officers' health⁷, while other research indicated management as the most important stress source.^{5, 8} In a different research it was determined that prison staff, especially in prisons with a stricter regime, more often suffered from mental illnesses connected to stress.⁹ In the literature there are consistent findings that the organisation, oversight, support between the colleagues, problems regarding working roles, ambiguous, unclear or conflicting roles (organisational stressors) are the most important sources of stress.^{8,10-12} However, the results in the literature are not consistent in regard to the influence of the sociodemographic factors (sex, age, work experience, marital status, education) on the stress of prison officers.^{13,14}

The goal of this study was to analyse the stressors in prison officers' workplace in facilities of closed and semi-open type and their differences and the interconnection between specific socio-demographic variables (sex, age, marital status, exposed working experience, education level) and stressors in the workplaces.

Methods

The research was designed as a cross-sectional study among 477 police officers aged 19 to 65 from 6 prison facilities in the Republic of Srpska with at least 12 months of working experience. It was performed during 2015, according to the Helsinki declaration and approved by the Ethics Committee of the Institute for Occupational Health and Sports of the Republic of Srpska. The author of the article conducted the interviews personally. Subjects were informed about the aim of study and questionnaires itself. Study was voluntary and anonymous.

Stratification according to security level in the penal-correctional facility was performed. Two groups were compared to each other: (1) prison officers from the facility of the closed type (in Banja Luka, Foča and Bijeljina) and (2) prison officers from facilities of the semi-open type (in Doboј, East Sarajevo and Trebinje). The main instrument of the study were questionnaires and participation that were voluntary and anonymous. A total of 330 questionnaires were completely filled with the response rate of 69.2%. Sociodemographic questionnaire contains the main data on the respondents: sex, age, marital status, living conditions, workplace, total work experience, experience on the current workplace, education, working time, night work, habits of alcohol or tobacco consumption, use of sedatives and other drugs.

For the assessment of stress sources on the workplace questionnaires of the authors McCreary and Thompson were used: The Organisational Police Stress Questionnaire (PSQ.org) and The Operational Police Stress Questionnaire (PSQ.op).¹⁵ PSQ.org contains 20 statements and is structured into three groups: (a) organisational stress sources in narrower sense (claims number: 1, 2, 3, 4, 5, 6, 7, 8, 11, 14, 18 and 19), (b) stress sources regarding work appreciation (claims number:

10, 12, 15, 16 and 17) and (c) logistic support (claims number: 9, 13 and 20). PSQ.op contains 20 claims with which stress sources related to direct prison officer's work and problems in social environment such as: night work, injury risk, health issues, social problems, social stigma and other, are assessed. Organisational and operative stress sources are rated with answers on numeric scales of Likert's type from 1 (not stressful) to 7 (very stressful).¹⁵

Statistical tests used are Kolmogorov-Smirnov test of normality of the distribution and χ^2 or Fisher's test for comparison. The significance of the difference was analysed with the Mann-Whitney-U-Test and Student's t-test. For the comparison of three groups of respondents, parameter ANOVA with post hoc analysis and non-parameter ANOVA (Kruskal-Wallis-Test) were used. As the correlation measure Spearman's coefficient was used. The importance level for all statistical analyses was 0.05 for statistically significant difference and 0.01 for highly significant statistical difference. Statistical package IBM SPSS 17.0 was used.

Results

Out of 477 penal-correctional police officers, 330 (69.2 %) were included in the study: Banja Luka 97/131 = 74.0 %, Foča 76/129 = 58.9 %, Bijeljina 47/51 = 92.2 %, Doboј 27/66 = 40.9 %, East Sarajevo 51/65 = 78.5 %, Trebinje 32/35 = 91.4 %. The study included 312 (94.5 %) men and 18 (5.5 %) women, with the average age of 38.3 ± 7.7 years (minimum 22 and maximum 62 years of age). (Table 1).

In prison facilities of the closed type there were 220 (67 %) employees and 110 (33 %) in facilities of the semi-open type. Average age of prison officers in facilities of closed type was 38.6 ± 7.8 and in semi-open it was 37.7 ± 7.3 years. Women more often worked in facilities of semi-open type ($p < 0.01$), while employees in closed facilities more often lived apart from their families ($p < 0.05$). Groups did not show any difference regarding other assessed parameters.

There are no significant differences between these two groups regarding the habits of alcohol,

Table 1: Main sociodemographic characteristics of respondents according to the type of penal-correctional facility

Assessed Characteristics	Closed Facilities	Semi-Open Facilities	p-value
Gender (% men)	97.3	89.1	$p < 0.01$
Age (years: mean \pm SD)	38.6 ± 7.8	37.7 ± 7.3	$p = 0.29$
Marital status (%)			
single	19.1	15.5	$p = 0.38$
married	73.2	80	
living with partner	2.7	0.9	
divorced	4.1	1.8	
widower/widow	0.9	0.9	
living apart	0.0	0.9	
Lifestyle (%)			
single	5.9	2.7	$p = 0.31$
family with children	60.5	71.8	
family without children	7.3	4.5	
single with children	0.9	0.9	
with parents	25.5	20	
Separation (%)			
no	93.6	100	$p = 0.03$
during the week	3.6	0.0	
longer time	2.7	0.0	
Education (%)			
apprenticeship	13.2	11.8	$p = 0.54$
high school	60.5	63.6	
college	4.1	5.5	
university	22.3	18.2	
post graduate degree	0.0	0.9	
Total (N)	220	110	

Legend: Test: χ^2 – Chi-square test, except for age: Student's t-test;

tobacco and sedative consumption, but there was a tendency for employees in facilities of closed type to use other drugs more often.

Prison officers in facilities of closed type longer commuted, their work experience on the current

Table 2: Main characteristics of respondents' jobs in two different types of penal-correctional facilities

Assessed Characteristics	Closed Facilities	Semi-Open Facilities	p-value
Working Time (%)			
full	10.5	9.1	$p = 0.62$
shift	11.9	15.5	
shift without weekends	0.5	0.9	
shift without weekends and night work	1.4	0.0	
shift of 12 h	75.8	74.5	
Weekly overtime work (h)	3.8 ± 4.1	3.1 ± 3.6	$p = 0.08$
Duration of commuting (h)	0.8 ± 1.3	0.5 ± 0.4	$p = 0.00$
Total work experience (years)	16.1 ± 9.0	16.4 ± 8.4	$p = 0.13$
Work experience on the current workplace (years)	8.0 ± 6.6	11.0 ± 5.9	$p < 0.01$
Total shift work experience	12.3 ± 8.0	12.3 ± 7.1	$p = 0.91$
Total (N)	220	110	

Legend: Test: Mann-Whitney U-test, except for Working time: Chi-square test (χ^2); h: hours

Table 3: Organisational stress sources on workplace depending on the type of penal- correctional facility

Organisational stressors	Facility Type	Mean value	SD	p (Mann-Whitney-U- test)
1 Dealing with co-workers	Closed Semi-open	3.1 2.7	1.8 1.6	0.03
2 The feeling that different rules apply to different people (eg, favouritism)	Closed Semi-open	4.7 3.9	5.2 1.7	0.02
3 Feeling like you always have to prove yourself to the organisation	Closed Semi-open	4.0 3.1	1.7 1.7	0.00 *
4 Excessive administrative duties	Closed Semi-open	3.4 2.8	1.7 1.6	0.00 *
5 Constant changes in policy/legislation	Closed Semi-open	2.8 3.6	1.6 2.0	0.00 *
6 Staff shortages	Closed Semi-open	3.5 3.1	1.9 1.8	0.08
7 Bureaucratic red tape	Closed Semi-open	3.4 2.6	1.8 1.5	0.00 *
8 Too much computer work	Closed Semi-open	2.2 1.8	1.5 1.2	0.03
9 Lack of training on new equipment	Closed Semi-open	2.9 2.5	1.8 1.7	0.07
10 Perceived pressure to volunteer free time	Closed Semi-open	4.3 3.4	1.9 1.9	0.00 *
11 Dealing with supervisors	Closed Semi-open	2.7 2.3	1.7 1.7	0.03
12 Inconsistent leadership style	Closed Semi-open	3.5 3.1	1.9 1.8	0.03
13 Lack of resources	Closed Semi-open	3.6 3.1	1.8 1.6	0.04
14 Unequal sharing of work responsibilities	Closed Semi-open	3.8 3.3	1.9 1.9	0.02
15 If you are sick or injured your co-workers seem to look down on you	Closed Semi-open	2.7 2.1	1.9 1.4	0.01
16 Leaders over-emphasise the negatives	Closed Semi-open	3.3 2.9	1.8 1.8	0.02
17 Internal investigations	Closed Semi-open	3.3 3.0	1.8 1.9	0.11
18 Dealing the court system	Closed Semi-open	2.6 2.5	1.7 1.7	0.39
19 The need to be accountable for doing your job	Closed Semi-open	3.3 3.1	1.8 1.9	0.31
20 Dealing the court system	Closed Semi-open	3.7 2.9	1.8 1.7	0.00*

Legend: In order to avoid the first-level-error, the correction of the statistical importance level for multiple comparisons was used: $p = 0.05/40=0.001$, therefore * $p < 0.001$

workplace was on average by three years longer than that of employees in institutions of the semi-open type; the two groups did not show any other differences in regard to other job characteristics (Table 2).

In the facilities of closed type, both organisational and operative stressors were statistically significant ($p < 0.01$). Mean value for organisational stressors were 67.6 vs 57.3 (closed vs semi-open type), and for operative 69.8 vs 59.8 (Data not shown in the table).

Organisational stressors in narrower sense in facilities of closed type are in the domain moderate stressful (mean value 3.35) and in semi-open facilities in the domain not stressful (mean value 2.8). (Table 3). Highest mean value in the organisational stressors group was found for the stressor: “Feeling that different rules are applied for different persons, favouritism” (mean value = 4.7 and 3.9). A total of 19.5 % of prison officers

Table 4: Operative stress sources on workplace depending on the type of penal-correctional facility

Operative stressors	Facility Type	Mean value	SD	p (Mann-Whitney-U- test)
1 Shift work	Closed Semi-open	3.4 3.0	1.9 1.8	0.07
2 Working alone at night	Closed Semi-open	3.7 3.5	1.9 2.0	0.23
3 Over-time demands	Closed Semi-open	3.8 3.3	2.0 1.9	0.05
4 Risk of being injured on the job	Closed Semi-open	3.5 3.3	1.9 2.0	0.44
5 Work related activities on days off (e.g. court, community events)	Closed Semi-open	3.7 3.3	1.9 1.8	0.14
6 Traumatic events (e.g. death, injury)	Closed Semi-open	4.0 3.8	2.1 2.0	0.59
7 Managing your social life outside of work	Closed Semi-open	3.0 2.8	1.7 1.8	0.28
8 Not enough time available to spend with friends and family	Closed Semi-open	4.0 3.6	1.9 1.8	0.07
9 Paperwork	Closed Semi-open	3.7 2.8	1.9 1.6	0.00*
10 Eating healthy at work	Closed Semi-open	3.8 3.5	2.1 2.1	0.22
11 Finding time to stay in good physical condition	Closed Semi-open	3.5 2.8	1.7 1.8	0.00*
12 Fatigue (e.g. shift work, over-time)	Closed Semi-open	4.4 3.6	1.9 1.8	0.01
13 Occupation-related health issues (e.g. back pain)	Closed Semi-open	3.6 3.0	2.0 1.8	0.01
14 Lack of understanding from family and friends about your work	Closed Semi-open	3.2 2.6	1.8 1.6	0.01
15 Making friends outside the job	Closed Semi-open	2.7 2.1	1.8 1.7	0.00*
16 Upholding a “higher image” in public	Closed Semi-open	2.7 2.2	1.6 1.5	0.01
17 Negative comments from the public	Closed Semi-open	3.0 2.7	1.7 1.6	0.06
18 Limitations to your social life	Closed Semi-open	3.1 2.6	1.5 1.6	0.01
19 Feeling like you are always on the job	Closed Semi-open	3.8 2.9	2.0 1.8	0.00*
20 Friends / family feel the effects of the stigma associated with your job	Closed Semi-open	3.3 2.5	1.8 1.6	0.00*

Legend: In order to avoid the first-level-error, the correction of the statistical importance level for multiple comparisons was used: $p = 0.05/40=0.001$, therefore * $p < 0.001$

in closed facilities and 9.1 % in the semi-open facilities have marked the question 10 (“Perceived pressure to volunteer free time”) as the most stressful, that is with the grade 7 on Likert’s scale. Operative stressors in facilities of closed type are in the domain moderate stressful (mean value 3.49) and in semi-open facilities in the domain not stressful (mean value 2.95) (Table 4). The highest mean value among respondents from closed facilities was found for the stressor: “fatigue, shift work, overtime work” (mean value = 4.4). Among prison officers from facilities of semi-open type, the highest mean value in the group of operative stressors was found for the stressor “traumatic event” (mean value = 3.8). A total of 19.5 % of the respondents in closed facilities and 16.4 % in semi-open facilities have marked the question 6 (“traumatic event”) as the most stressful, that is with the grade 7 on Likert’s scale.

Table 5. shows the correlation between the operative and organisational stress as dependent

Job Characteristics and sociodemographic variable	Stressor	Closed Facilities		Semi-Open Facilities	
		Spearman's coefficient p	p	Spearman's coefficient p	p
Total Work Experience	Organisational stressors	0.51	0.00	0.17	0.08
	Operational stressors	0.13	0.6	0.17	0.08
Work experience on the current workplace	Organisational stressors	0.13	0.06	0.03	0.73
	Operational stressors	0.12	0.03*	0.12	0.22
Working hours	Organisational stressors	-0.03	0.70	0.13	0.19
	Operational stressors	0.01	0.26	0.13	0.17
Age	Organisational stressors	0.15	0.02	0.12	0.20
	Operational stressors	0.14	0.04	0.11	0.25

Table 5: Correlation between age and job characteristics and perceived stress in closed and semi-open facilities

variables and the sociodemographic characteristics of respondents as independent variables (univariate analysis).

Sex, age, work experience, work experience in the current position did not have influence in facilities of semi-open type on operative stressors. Total work experience and age had a moderate positive influence on organisational stressors and age had a very low positive influence on operative stressors in facilities of closed type. Other variables that were examined did not correlate with stressors in both types of facilities.

Variant analysis has determined that there is a statistically significant difference between divorced and single respondents in closed facilities in regard to organisational stressors ($p = 0.009$) and in regard to operational stressors ($p = 0.045$), as well as between the divorced and married respondents in regard to experience of organisational stressors ($p = 0.02$), the divorced experiencing higher stress.

Discussion

The results of this study have shown that prison officers in the Republic of Srpska are exposed to a larger number of professional stressors whose intensity was ranging from „moderate stressful“ to „not stressful“ and that sociodemographic characteristics did not significantly impact the perception of stress in the workplace. Moderate positive correlation in higher security facilities was found between the total work experience and

organisational stressors and mild correlation between the age and the organisational stressors.

The results of this study have shown that in closed facilities divorced prison officers experience higher intensity of organisational and operative stress when compared to singles and higher intensity of organisational stress when compared to married participants. In semi-open facilities marital status did not have any influence on stress experience. Also, the research found that respondents who were separated from their families for a longer time experience higher stress intensity when compared to those not separated. In semi-open facilities it was found that prison officers with high alcohol consumption experienced higher stress intensity. Alcohol can be an attempt to „cure stress“, but also the awareness of excessive alcohol usage can also be a source of stress itself.^{13, 14} No difference in stress experience was found in regard to education level, in both types of facilities. Most other studies, although not consistent, also show that there is no significant interconnection between the stress experience and sex, age, marital status, work experience and work satisfaction of employees in prison facilities.^{4, 6, 13, 14} It should be noted though, that some researchers have found that female and older employees in prisons experience stress of higher intensity.^{13, 14}

According to Morgan et al¹⁶ prison staff in prisons of higher security experience stress of higher intensity, while Sudipto and Avdi¹⁷ did not find that difference. This problem occupied many researchers, but the results are not consistent. In this research it was found that stress intensity was somewhat higher in closed facilities (higher

security), in the domain of “moderately stressful” and in semi-open facilities in the domain of “not stressful”. In facilities of closed type there was a statistically much higher load both with organisational and operational stressors when compared to the semi-open facilities ($p < 0.01$, statistically highly important difference) was found. Besides that, operative stress sources are in both groups somewhat more represented than organisational, but this is of no statistical significance. The result of this study is in contrast to the studies from Europe and USA, which emphasise organisational stressors, that is stressors related to interpersonal relationships in the organisation.^{7,8} There are consistent findings in the literature that support from the management, from the organisation and from colleagues, role problems, ambiguous, unclear and conflict loaded roles, the conflict work-family and dangers are the most important sources of stress.^{8, 10-12} In the study on stress with prison employees in Ireland, Regan stated that prison employees experienced significant stress in the workplace and predictors of stress were problems with the management, concern for own safety, overload, overtime work, work-family conflicts.⁴

In our country and in countries of Eastern Europe which have gone through economic, political and social reforms, the value system is somewhat different than in developed western countries, so that the perception of important work stressors is also different. Besides that, a pre-selection of candidates based on health demands of the workplace is done in the Republic of Srpska before employment and for police officers this is regulated in separate regulations, so this can also be a factor for the lesser experience of stress intensity in work. In this way some of the differences in the results and specifics regarding our prison facilities can be explained.

In the research which was conducted in 2009, in the prison facility East Sarajevo (facility of semi-open type), 55 % of prison officers have stated that they suffer from stress in their workplace and 41 % have stated that shift and overtime work are the most important stress sources in work.¹⁸ These results are almost totally consistent with this research.

According to this research “fatigue due to overload, shift work, overtime work without compen-

sation” is the most important stress source in facilities of closed type in the operative stressors group. In earlier research this stressor was marked as one of the most important stress sources, and its role remains important even today.^{4, 19} In one English study overtime work, lack of support and appreciation were marked as significant stress sources in work.²⁰ According to the results of an Israeli study, the most important stressors of prison officers are overtime work without compensation, low wages and a difficult job.²¹

“Traumatic event” is the most important stress source in the operative stressors group in facilities of semi-open type. Traumatic events can be a physical attack on the prison officer, injury or death of other persons, suicide of inmates, prison riots, conflicts between prisoners, fear of contagious illness while contacting secretion of sick or infected inmates and similar. In USA there were 113 deaths at work among prison officers from 1999 to 2008, the death rate being 2.7/100,000 a year.²² According to the report of US Justice Department from 2000, non-fatal incidents on 1,000 prison officers are higher than in any other profession apart from police officers.³² Lambert and Paoline have determined that perception of danger was the highest predictor of stress on work,²⁴ and fear of illness the second most powerful predictor.²⁵ The prison officers as well as the police officers confront the most violent, anti-social and problematic elements of the society and sometimes find themselves in life-threatening situations. This can lead to stress manifestations such as posttraumatic stress reactions, behavioural disorders, acute, chronic and permanent stress manifestations and health consequences. Prison staff working in prisons all over Texas showed that the perception of danger had the highest correlation with stress in work, while fear of sickness was in the second place.²⁶

In this research the highest mean value in the organisational stressors group in prisons of closed and semi-open type was found for the stressor “favouritism”. This finding is consistent with findings of other researchers.^{11, 27} If in the same workplace the rules are not the same for all employees, the principle of justice is disturbed, and it comes to favouritism and not deserved privileges. This factor mirrors in situations when there is inequality in workload or in pay, then through the

experience of injustice or betrayal, when there is no reward or promotion to match the achievements. Over this dimension self-respect is shown and self-value is confirmed. Due to impairment of the possibility to show own's abilities and to get appreciation, promotion or reward for those, there comes to frustration and dissatisfaction.²⁸ It is generally known that our society is suffering from corruption, nepotism and disturbed value system, which is a fertile ground for "injustice" and privileges in the workplace.

The advantage of this study is the representativity of the sample, which realistically describes the studied population. The study has a methodological limitation because it is designed as a cross-sectional study that shows the current state without changes in time and does not allow for conclusions on the direction of cause-and-effect connection. Apart from that, for the assessment of variables the method of self-report was used, which is subjective, and the possibility of wrong answers cannot be ruled out. According to the results of this research it is necessary to perform interventions for the prevention of professional stress with the population of prison officers.

Conclusion

According to the results, it can be concluded that in facilities of closed type both organisational and operative stressors were much more represented, while the operative stress sources were generally more represented in both groups. The results show their orientation towards lower values, from not stressful to moderately stressful. Sources regarding work appreciation are perceived with a higher intensity of organisational stress, then sources in regard to logistic support and stress sources related to interpersonal relationships in the organisation with the lowest intensity. In higher security facilities total work experience had a moderate positive influence on organisational stressors, and the age of respondents a mild positive effect. Divorced respondents experienced higher intensity of stress. Other sociodemographic factors did not influence stress. "Fatigue", "traumatic event" and "favouritism" were the most important stressors.

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Conflict of interest

None.

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