

Field Study

Occupational Stress and Mental Health among Correctional Officers: A Cross-Sectional Study

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Abstract: Occupational Stress and Mental Health among Correctional Officers: A Cross-Sectional Study: Ali GHADDAR, et al. Escuela Andaluza de Salud Pública, Spain—A harsh psychosocial environment in the workplace might cause adverse health events, but the association has not been well demonstrated in the penitentiary environment. This cross-sectional study was designed to explore the association between workplace psychosocial risks and the mental health of correctional officers in a Spanish penitentiary center. A self-administered questionnaire was distributed to correctional officers. A total of 164 responded anonymously (response rate 43%). The SF36 survey was used to measure mental health and ISTAS21 (Spanish version of Copenhagen Psychosocial Questionnaire) was used to measure exposure to workplace psychosocial conditions. Low scores were obtained for mental health, high scores were obtained for psychological demands, low self-esteem, and low control and influence and moderate scores for low social support, double exposure, and insecurity at work. A linear regression analysis was constructed to study the influence of workplace psychosocial conditions (independent variables) on mental health (dependent variable). The effect was adjusted for sex, age, seniority, and occupational group. Psychological demands (highest impact), low control and influence, and double exposure had significant inverse associations with mental health. The association between low social support, low self-esteem, and insecurity at work with mental health was insignificant. Psychosocial work conditions are a potential target for mental health promotion programs at work.
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Key words: Mental health, Occupational stress, Psychosocial work conditions, Penitentiary center, Correctional officers

The effect of psychosocial work conditions on workers' health has been well documented over the past decade^{1–4}. Previous studies have described an association between a harsh working environment and a wide range of diseases including mental health disorders^{5–7} and cardiovascular disease^{8–11}.

Exposure to workplace psychosocial risk factors varies according to the type of occupation and job role. Teachers, firefighters, and hospital workers, especially nurses, have been reported to experience higher than average levels of work-related stress^{12, 13}. High levels of psychosocial risk factors have also been observed in the penitentiary work setting¹³, especially for individuals in direct contact with detainees, who work in a largely austere and regimented environment characterized by a high level of psychological demands. The two main functions of correctional officers are to maintain security and internal discipline in the prison and to facilitate the social reinsertion of inmates. They are regularly exposed at work to insults, threats, and aggression from detainees, who often suffer from psychological disorders. Hence, the penitentiary sector is characterized by high exposure to psychosocial risks, and correctional officers are at a high risk of developing stress-related health problems. It is well documented that correctional officers have a greater prevalence of anxiety, hypertension, psychosomatic disorders, and behavioral reactions (e.g., drug abuse) compared with many other occupations^{13, 14}. Various studies have described a high frequency of stress-related reactions in this occupational group, including absenteeism, turnover¹⁵, and psychological disorders^{16, 17}. Furthermore, a shorter life expectancy has been reported for correctional officers than for workers in other professions, and it has been attributed to their occupational stress¹⁸. In a recent comparative study of 26 professions,

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correctional officers obtained low scores for physical health and psychological well-being and the lowest score for job satisfaction¹³).

The psychosocial conditions of correctional officers and their effects on their mental health have not been well documented in Spain. However, an increase in the level of exposure to psychosocial risk factors has been reported in European detention facilities over the past few years, explained by higher prison populations and the introduction of new social reinsertion programs for detainees. In addition, measures adopted in defense of detainees' rights, which have helped to improve their prison conditions, have also had an impact on the working conditions of correctional officers. As a result, correctional officers have been faced with higher demands in both the quantity and quality of their work. Greater ambiguities in the role of correctional officers and higher psychological pressures have been implicated in adverse effects on their health^{19, 20}.

The present study aimed to explore the association between workplace psychosocial risks and the mental health of correctional officers in a Spanish penitentiary center.

Subjects and Methods

Study design

This cross-sectional study was conducted at a Penitentiary Center (PCA) in the province of Granada (Southern Spain). The PCA (inaugurated in 1997) is a typical example of the penitentiary centers recently created by the government under a new plan for the creation and standardization of Spanish penitentiary centers. The PCA is a multi-purpose prison that includes detainees of all categories and social profiles (male, female, juvenile, adult, healthy, ill, sentenced, awaiting trial) held separately in different buildings²¹. In August 2006, the PCA contained 1,008 cells with 1,820 detainees, 94% males and 6% females.

Study subjects

The PCA employed 534 correctional officers during the study period (August 2006), of whom 28% were absent due to sickness, leave, or vacations and were excluded from the study.

Consequently, 384 correctional officers of all work categories, present during the data collection period, were administered a voluntary written self-reporting survey. Only 164 subjects completed the questionnaire, *i.e.*, a response rate of 43%.

Data collection

In a preparatory phase, seven meetings were held with the prison director, labor union representatives, and a group of correctional officers between July 1 and July 25, 2006. The objective of these visits was to become

familiar with the workplace dynamics, to arrange logistical aspects of the project (permission and transport), and to sensitize the workers and motivate them to participate in the study. The information obtained in this phase was also used to adapt the questionnaire to the reality of the social and work conditions of PCA workers. The anonymous self-administered questionnaire was distributed by hand over 10 consecutive days in August 2006 to all correctional officers present at the PCA. The questionnaire included different items and scales to measure workplace psychosocial risks, working and sociodemographic characteristics, and the mental health of PCA workers. The questionnaire also included an open-ended question to gather subjective opinions of participants on their working conditions and major problems.

Assessment of workplace psychosocial risk factors

One recently developed model to measure occupational psychosocial stressors uses the COPSOQ (Copenhagen Psychological Questionnaire) developed by the National Institute of Occupational Health in Denmark (Kristensen *et al.*, 2005)²². It measures exposure to workplace psychosocial risk factors, *e.g.*, "Psychological demands" (both quantitative and emotional), "Insecurity at Work", "Double Exposure", "Low Work Control and Influence", "Low Self-esteem" and "Low Social Support", and explores basic health dimensions of workers, *e.g.*, mental health, general health, and vitality. It assumes that high exposure to psychosocial risk factors has negative effects on workers' health.

ISTAS21, the Spanish adaptation of the Copenhagen Psychosocial Questionnaire (COPSOQ), was used to measure six major scales of psychosocial conditions in the workplace. The instrument has been shown to have good reliability, with Cronbach's alpha coefficients of 0.66–0.92 for all scales²³. The questionnaire used consisted of 32 items with 4-point Likert type response options (0=never, 4=always). The scores for each scale of the ISTAS21 are formed by adding the points of the individual questions, giving equal weight to each question. Scores are obtained for the following scales: psychological demands (6 items on time pressure and emotional and cognitive demands), low work control and influence (10 items on workplace autonomy and possibilities for development), low social support (10 items on social relationships at work and support from superiors), low self-esteem (6 items on recognition and feedback from superiors), insecurity at work (4 items), and double exposure (4 items)²³. Exposure of PCA personnel to workplace psychosocial risk factors was calculated by transforming the scores of each scale into categorical values. In this study, correctional officers were classified according to their score in one of three groups of exposure ("Risk", "Intermediate", or

Table 1. Criteria for classification of individuals in risk groups according to their scores in each of the psychosocial risk scales. Values established in a reference population²³⁾

Dimension	Scores of individuals in each risk group		
	Favorable exposure for health (■)	Intermediate (□)	Exposure presenting risk for health (■)
1 Psychological demands	0 – 7	8 – 10	11 – 24
2 Control and influence	40 – 26	25 – 21	20 – 0
3 Insecurity at work	0 – 1	2 – 5	6 – 16
4 Social support	40 – 29	28 – 24	23 – 0
5 Double exposure	0 – 3	4 – 6	7 – 16
6 Self-esteem	16 – 13	12 – 11	10 – 0

“Favorable”) for each scale, according to criteria already established by the authors of ISTAS21 based on a study in a reference working population in Spain²³⁾ (Table 1).

Assessment of mental health

One of the eight dimensions of the SF36 questionnaire (mental health dimension; 5 items) was applied to measure the mental health of PCA workers, scored on the scale used by the SF-36 (never=0, always=5) was used. The Spanish adaptation of the SF-36 has demonstrated adequate validity and reliability, with a Cronbach’s alpha coefficient of 0.79²⁴⁾. Item scores were transformed into continuous variables on a scale of 0 (worst mental health) to 100 points (best mental health)²⁴⁾.

Sociodemographic and work-related variables

The following independent categorical variables were considered in the analysis: sex, age (≥ 45 yr/ < 45 yr), seniority (≥ 10 yr/ < 10 yr), and occupational group (V1 guards, V2 guards, V3 guards, healthcare personnel, administrative personnel, and social workers). V1 guards were the only group who spent 100% of their working time in direct contact with detainees and the only group that worked night shifts. V2 guards were characterized by greater work flexibility and less direct contact with detainees. V3 guards performed administrative tasks and had very little contact with the detainees.

The continuous variables age and seniority were re-coded into categorical variables of following the intervals established by ISTAS21²³⁾. The cut-off value of 45 yr for the age variable was selected as the nearest value to the median age of the sample.

Statistical analysis

The statistical program SPSS version 11.5 was used for the statistical analysis. A descriptive analysis was conducted on the sample and on the exposure to workplace psychosocial risk factors, followed by a multivariate analysis to explore the variables influencing

the mental health of the workers.

Ordinary least square (OLS) regression analysis, with mental health as the dependent variable was used to examine the adjusted impact of each psychosocial risk factor on mental health (as a numerical dependent variable) of PCA workers. The psychosocial risk dimensions and sociodemographic and work-related variables studied were taken as independent variables. Dummy variables were created for the independent variable, occupational group, considering V3 guard as the reference category. The level of statistical significance in the OLS regression analysis was 5%.

In addition, written comments were analyzed to identify negative and positive subjective aspects of PCA work conditions.

Results

One hundred sixty-four individuals participated in this study. The internal consistencies of each scale were 0.84 for mental health (SF36) and 0.82 for psychological demands, 0.83 for control and influence, 0.84 for social support, 0.76 for insecurity at work, 0.78 for double exposure, and 0.85 for self-esteem (ISTAS21).

Table 2 describes the characteristics of the study population. The majority of participants were males (76%), < 45 yr old (57%), with > 10 yr experience (82%), and were V1 guards (54%).

In relation to psychological demands, 52% of participants affirmed that they always had to work too quickly and 54% recorded that their work was emotionally tough. In relation to control and influence at work, 41% responded that they never had any influence on their assigned workload.

Exposure of the personnel of the PCA to workplace psychosocial risk factors

Respondents reported an overall high level of exposure to all psychosocial risk factors. A “Risk” exposure was shown by 68% of respondents for psychological demands,

Table 2. Sociodemographic characteristics and occupational groups of respondents (n) and study population (N)

	N° respondents	% of respondents	% of study population
Sex			
Men	124	76%	78%
Women	40	24%	22%
Total N	164	100%	100%
Occupational group			
V1	89	54%	55%
V2	19	12%	13%
V3	10	8%	4%
Administrative	13	8%	16%
Healthcare	20	12%	8%
Social worker	13	6%	4%
Total N	164	100%	100%
Age			
≤45 yr	93	57%	49%
>45 yr	70	43%	51%
Total N	164	99%	99%
Seniority			
≤10 yr	30	18%	8%
>10 yr	134	82%	92%
Total N	164	100%	100%

n=164; N=384

The occupational group V1 guard is the only group that works night shifts and spends 100% of its working time in direct contact with detainees.

The occupational group V2 guard has less contact with the detainees and performs tasks with a lot of mobility and flexibility.

The occupational group V3 guard has very little contact with the detainees and performs administrative tasks.

by 65% for low control and influence, by 48% for insecurity at work, by 59% for double exposure, by 76% for low self-esteem and by 50% for low social support.

Mental health of PCA personnel

In the mental health dimension, the mean and median scores of participants were 61 and 60, respectively (scale of 0–100), ranging widely from 12 to 100.

Association between the workplace psychosocial conditions and mental health of PCA personnel

Table 3 lists results of the OLS regression equation used to examine the relationship between the mental health of PCA personnel and their level of exposure to workplace psychosocial risk factors as independent variables.

This model (Table 3) shows separately the adjusted effect of the six risk factors and sex, age, seniority, and

occupational group (independent variables). According to R^2 statistics, 28% of the variance of mental health scores was explained by the influence of the independent variables. Mental health was found to have a significant inverse relationship with psychological demands, low influence and control, and double exposure. Psychological demands had the largest impact on mental health (13 points), followed by control and influence (9 points) and double exposure (6 points). The written comments of respondents were categorized as positive or negative. The most frequent negative aspects reported were an imbalance between staffing and work demands, lack of promotion, and the poor social image of correctional officers. Among positive aspects, the salary and work schedule were the most frequently mentioned.

Discussion

The present study is one of the few studies that have

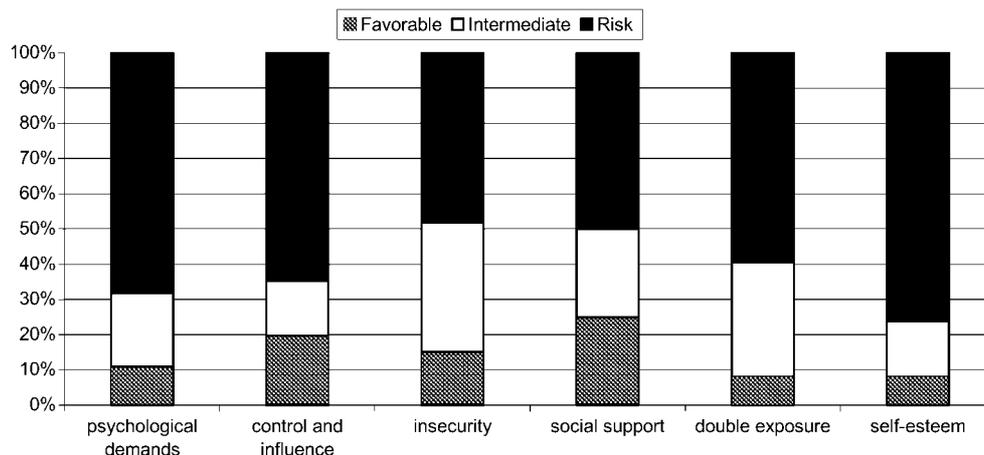


Fig. 1. Psychosocial risks among correctional officers in the PCA. % of workers in each reference risk group according to his/her score per dimension (■: exposure presenting risk for health; □: intermediate; ▨: favorable exposure for health).

addressed the issue of occupational stress and psychosocial risks in a penitentiary setting in Spain. However, interpretation of the results should take account of several study limitations, including the cross-sectional design of the study, and the relatively small study sample. The representativeness of the study sample ($n=164$) to the total population of the CPA ($N=534$) is also debatable because of the relatively low number of correctional officers who participated in the study: 28% of the total population was excluded due to vacations and leave, and only 43% of the remaining correctional officers responded to the questionnaire. In other words, the study sample comprised only 30.7% of the total population. As inferred from Table 2, the study population seems more representative of V3 and health workers, while less representative of administrative staff. Moreover, the study population was rather young and represented officers with shorter seniority (10 yr or less). Such described deviances between the study sample and the study population in terms of sociodemographic characteristics and occupational groups evidence a clear limitation of the study. A further study limitation is the common method variance due to self-reporting of both the independent and dependent variables.

A high percentage of PCA correctional officers experienced occupational stress and were exposed to all psychosocial risk dimensions, with an especially high exposure to psychological demands, low control and influence, and low self-esteem. In comparison with SF36 survey results obtained from a Spanish general working population²⁴, these correctional officers reported lower mental health (mean score of 61 vs. 73.3 for general population). These findings are in agreement with previous European studies which reported high

occupational stress and low mental health among penitentiary workers^{13, 14}.

It was previously reported that correctional officers in direct contact with detainees experience a higher level of occupational stress and perceive lower control in their work compared with their colleagues²⁰. Moreover, working at night is known to be associated with stress-related health problems²⁵. Nevertheless, no significant association between V1 guards and mental health, and significant associations between mental health and social/healthcare workers were found in the present study. Part of these findings might be due to the selection bias (non-representativeness of the sample). Further research in a larger sample is warranted to investigate workplace psychosocial conditions among correctional officers, taking account of occupational group, the degree of contact with the detainees, and night shifts.

As predicted by the theories of COPSOQ, as well as Karasek and Siegrist^{26, 27}, low mental health among PCA staff was most influenced by high psychological demands (greatest impact) and by low control and influence. Double exposure was also an important factor in shaping mental health; this was in agreement with previous studies based on Hall's theory²⁸.

Interesting findings emerged from the written comments of participants. In the context of reducing psychological demands, they emphasized the need to obtain a balance between staffing levels and the incorporation of new tasks and work demands. "Social rejection" was one of the most frequently mentioned negative aspects. Psychological work conditions are a potential target for mental health related programs at work among correctional officers.

Table 3. Ordinary Least Squares (OLS) Regression Results for dependent variable: mental health

Variable	b	SE (b)	B
Psychological demands	-13.04	3.20	-0.37**
Low Control and influence	-9.38	3.71	-0.27*
Double exposure	-6.23	2.72	-0.19*
Low social Support	-3.20	3.17	-0.10
Low self-esteem	2.19	3.71	0.05
Insecurity at work	-0.39	2.59	-0.02
Sex			
Women	5.50	3.39	0.14
Age			
> 45 yr	-7.15	2.62	-0.27**
Seniority			
> 10 yr	-2.28	3.53	-0.05
Occupational Group Guard V2	0.05	6.29	0.01
Occupational Group Social Worker	-15.47	7.24	-2.18*
Occupational Group Administrative	1.87	6.73	0.03
Occupational Group Healthcare	-12.76	6.23	-0.27*
Occupational Group Guard V1	2.21	5.35	0.07
R ²			0.28**

NOTE: b represents the un-standardized OLS regression coefficient, SE(b) represents the estimated standard error of the slope, and B represents the standardized OLS regression coefficient. Reference values: The Group “No risk” for the six psychosocial risks; Men for the variable sex; ≤ 45 yr for the variable age; ≤ 10 yr for the variable seniority; Guard V3 for the variable occupational group.

* $p \leq 0.05$. ** $p \leq 0.01$.

Previous research on correctional officers has demonstrated a clear association between their health and psychosocial risk factors in the workplace^{15, 29}) Notwithstanding European Union recommendations, the reduction of psychosocial risk factors in the penitentiary setting does not appear to have received adequate attention. Despite evidence of an association between psychosocial risk factors in the workplace and cardiac mortality/morbidity that is independent of lifestyle-related risk factors³⁰), most prevention campaigns still focus on changing personal habits (nutrition, tobacco, and physical exercise). A wider approach is suggested by the results of this and other studies, ranging from improvements in staffing and detainee-staff relationships³¹) to campaigns to transform the social image of correctional officers' profession. The present investigation contributes data on the current situation in a Spanish penitentiary centre. Further studies are warranted to confirm these findings and to explore the specific working conditions that might explain the high psychological demands and low control experienced by these professionals.

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