


Exposure to organizational stressors and health outcomes in a sample of Italian local police officers

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Abstract Exposure to organizational stressors is known to negatively affect police officers' well-being in terms of mental and physical health and performance. In this study, we adopted the Health and Safety Executive's Management Standards to identify specific associations between organizational stressors and health outcomes in a sample of local police officers employed in an Italian municipality ($N = 111$). Compared with benchmark data, participants were exposed to high risks in six out of seven organizational dimensions, and five of those (namely, Demands, Control, Managers' Support, Relationships, and Role) displayed significant associations with psychological and physical problems, such as perceived stress, hypertension, gastrointestinal disorders, dermatitis, and musculoskeletal pain. While most stress-reduction interventions for police forces are designed at the individual level, the results of the present study also indicate the need for designing and implementing interventions aimed at addressing and preventing organizational stressors. Therefore, periodic in-depth stress assessments to identify key issues that should be the primary targets of such interventions are recommended.

Introduction

Policing is considered as one of the most stressful occupations in terms of physical and psychological well-being and as having the lowest levels of job satisfaction (Johnson *et al.*, 2005) and high rates of chronic disease and mortality (Wirth *et al.*, 2011). Indeed, police officers are exposed to two discernible categories of stressors: operational and organizational (McCreary and Thompson, 2006; Shane,

2010). Operational stressors arise from the duties police officers carry out. Their shifts are characterized by long periods of relative inactivity punctuated by unpredictable and stressful bursts of high-intensity activities in which they face threats to their physical well-being or the physical well-being of a fellow police officer or the general public (Anderson *et al.*, 2002; Kales *et al.*, 2009). Organizational stressors derive from the nature of the police organizations in which officers perform

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their duties and include psychosocial factors, such as poor communication and lack of support (Violanti *et al.*, 2018). While organizational stressors could be easily underrated compared with the life-threatening operational risk factors, research has systematically found that overall exposure rates are highest for organizational stressors than operational duties (Brown and Campbell, 1990; Evans and Coman, 1993; Gershon *et al.*, 2009; Basińska and Wiciak, 2013). For example, the most reported stressful aspect of their job, according to a sample of Dutch police officers, is poor management in terms of incapable supervisors, negative mutual relationships, and lack of internal communication (Kop *et al.*, 1999). Indeed, management-related dimensions, such as discretionary power and the quality of managers' feedback and support, are among the strongest predictors of police stress along with lack of resources (Zhao *et al.*, 2002; Brunetto *et al.*, 2017; Queirós *et al.*, 2020).

Organizational stressors may be a greater source of stress for police officers because, as compared with operational stressors, they are perceived as oppressive, unnecessary, and inescapable (Shane, 2010) and not balanced by adequate rewards (Basińska and Wiciak, 2013). Specifically, the perception that one own contribution at work is not fully reciprocated by the organization, for example, due to inadequate staffing to meet demands or lack of resources, is known to be a source of negative emotions, which will in turn increase the risk of work-related stress (Duran *et al.*, 2021).

Exposure to organizational stressors in policing is a significant predictor of psychological outcomes, such as burnout and perceived distress (McCarty *et al.*, 2007; Acquadro Maran *et al.*, 2018; Violanti *et al.*, 2018; see Purba and Demou, 2019 for a recent review), health-related outcomes, including metabolic syndrome and cardiovascular disease (Yoo and Franke, 2011), and behavioural outcomes, such as reduced performance (Shane, 2010). While most studies explored associations

between exposure to organizational stressors in general and their outcomes, Shane's (2010) study showed that it is possible to isolate the specific organizational stressors that may negatively affect police officers' worklife—performance in this case.

The management standards approach for assessing organizational stress

Management Standards is a prevention-oriented approach that has been developed by the UK's Health and Safety Executive (HSE) to help organizations fulfil their legal duty for assessing work-related stress risk (Cousins *et al.*, 2004; Mackay *et al.*, 2004; Houdmont *et al.*, 2012). According to this approach, seven common organizational domains have been identified as factors that, if not properly managed, could lead to work-related stress and health impairment: demands, control, managers' support, peer support, relationships, role, and change. To assess the risk in each of these seven factors, the HSE developed a self-report questionnaire called the Health and Safety Executive Management Standards Indicator Tool (HSE-MS IT), which has been shown to have good psychometric properties (Edwards *et al.*, 2008; Marcatto *et al.*, 2014). Since it assesses a broad spectrum of common organizational psychosocial hazards, the HSE-MS IT has been used in studies involving different kinds of workers, such as veterinary surgeons (Bartram *et al.*, 2009), bank clerks (Guidi *et al.*, 2012), facility management workers (Marcatto *et al.*, 2021), prison service employees (Bevan *et al.*, 2010), and police officers (Houdmont *et al.*, 2012). Moreover, the HSE-MS IT scales are sensitive to different work-related stress outcomes, such as job satisfaction and motivation, burnout, anxiety–depression symptoms, musculoskeletal pain, gastrointestinal disorders, and insomnia (Bruschini *et al.*, 2018; Kerr *et al.*, 2009; Marcatto *et al.*, 2016).

Overall, an approach that integrates the HSE-MS IT with further measures of stress-related outcomes can facilitate the identification of the organizational domains that might warrant

prioritization when designing stress-reduction interventions (Bevan *et al.*, 2010). Therefore, in the present study we followed the Management Standards risk assessment process to identify specific self-reported organizational stressors that may increase the risk of suffering from psychological and physical problems in a sample of Italian local police officers. Local police, also called municipal police, is a community-level police force, having a competence limited to the administrative boundaries of the local authority (usually the municipality, Caneleppe, 2013). Local police officers have mainly administrative duties, such as enforcing urban regulations and traffic control (Devroe and Ponsaers, 2017), but since the early 2000s their responsibilities have increased and they often work together with the state police in an integrated approach for preventing crime and disorder problems in the communities (Caneleppe, 2013). We chose to focus specifically on local police officers because, as compared to state police officers, they perform a relatively less life-threatening job, have more organizational duties, and have also been less studied (Pancheri *et al.*, 2002).

Method

Participants and procedure

The study was conducted as part of the mandatory periodic work-related stress assessment required by Italian law. All local police officers ($N=111$) employed in the municipality of a medium-sized city situated in northern Italy were recruited during a refresher course about safety that was carried out before the COVID-19 pandemic. Participants were informed that their answers would have been used for both the work-related stress assessment and for academic research, that the study was approved by their health and safety manager, organizational psychologist, and trade unions, that participation was absolutely voluntary and they

could refuse to participate or withdraw at any time without giving any reason, and that all measurement instruments were anonymous and only aggregated data would be fed available to the municipality.

The research conformed to the provisions of the Declaration of Helsinki, and all ethical guidelines were followed as required when conducting human research, including APA ethical standards and adherence to the legal requirements of Italy. Additional ethical approval was not required since there was no treatment involved in the research, including medical, invasive diagnostics or procedures, which might have caused psychological or social discomfort for the participants, nor were any patients the subject of data collection. All 111 recruited police officers agreed to take part in the study and no one withdrew or failed to fill out substantial portions of the questionnaire (response rate = 100%). The majority of respondents were male (74%), and the age distribution was as follows: 10% were 30–39 years old, 43% were 40–49 years old, 41% were 50–59 years old, and 6% were older than 59 years.

Measures

Participants received a booklet containing three self-report questionnaires: the HSE-MS IT, the Perceived Occupational Stress (POS) scale, and a self-report health assessment questionnaire.

The HSE-MS IT is a 35-item questionnaire aimed at assessing exposure to organizational stress factors based on the Management Standards approach developed in the UK by the HSE (Cousins *et al.*, 2004; Mackay *et al.*, 2004). The HSE-MS IT is composed of seven scales: Demands (eight items), Control (six items), Managers' Support (five items), Peer Support (four items), Relationships (four items), Role (five items), and Change (three items). Higher scores on the HSE-MS IT scales indicate a lower exposure to stressors. For the present sample, all Cronbach's alphas for the seven scales were ≥ 0.70 (from Control, $\alpha =$

0.71, to Managers' Support, $\alpha = 0.90$) with the only exception being the Change scale ($\alpha = 0.60$) that is known to be the weakest dimension of the Italian version of the HSE-MS IT (Magnavita, 2012; Rondinone *et al.*, 2012), and were comparable with the alpha values observed in previous studies (Marcatto *et al.*, 2011, 2016). Due to the low psychometric properties of the three-item Change scale, it has been suggested to merge it with Managers' Support into a new "Elasticity" scale (Magnavita, 2012). To our knowledge, however, this new scale has not yet been used in research and there are no benchmark data available. Therefore, we decided to stick with the original seven HSE-MS IT scales (i.e. by considering Change and Managers' Support as two separate scales).

The POS scale is a four-item measure assessing the perception of working under stressful conditions. Higher scores on the POS indicate stronger perceived stress at work. The scale has good psychometric properties and is associated with burnout and stress-related health complaints (Marcatto *et al.*, 2021). Cronbach's alpha for the present sample was 0.86.

For assessing self-reported health, we used a two-section questionnaire similar to the one used in another study (Marcatto *et al.*, 2016). In the first section, participants were asked to report how much musculoskeletal pain they experienced in the last month in four areas of the body (neck, shoulders, upper back, and lower back). Ratings were on a 11-point Numeric Pain Rating Scale (0 = no pain, 10 = severe pain; McCaffery and Pasero, 1999). In the second section, participants were asked whether they suffered from a list of health complaints, including hypertension, insomnia, anxiety–depression symptoms, gastrointestinal disorders, and dermatitis (yes/no). The only difference from the original version of this questionnaire is that we decided to include dermatitis in the list of health complaints due to its relationship with stress (Suárez *et al.*, 2012).

As demographic data, age, gender, length of service, and rank were collected.

Analysis

Descriptive statistics including means, standard deviations, and proportions were used to describe the data. To first explore the data, means were compared using *t*-tests and proportions using the chi-square test. Subsequently, we conducted three sets of hierarchical logistic regressions to analyse the associations between the seven HSE-MS IT scales and the outcomes of stress (POS, musculoskeletal pain, and health complaints). To calculate the odds ratio (OR) statistic with a 95% confidence interval (CI), the outcomes of stress measures were dichotomized. Consistent with previous studies (McCaffery and Pasero, 1999; Marcatto *et al.*, 2016), musculoskeletal pain scores of ≥ 7 were recoded as 1, meaning severe pain levels, and lower scores were recoded as 0, indicating zero to moderate pain levels. POS scores of ≥ 3.50 (80th percentile, according to benchmark data; Marcatto *et al.*, 2021) were recoded as 1, indicating high perceived stress, and lower scores were recoded as 0. Moreover, HSE-MS IT mean scores were reverse-scored so that higher values indicate an increased exposure to organizational stressors. Missing data were rare ($< 3\%$) and listwise deletion of cases was used in the logistic regression analyses.

Results

Table 1 presents descriptive statistics observed for the HSE-MS IT, POS, and musculoskeletal pain scales in our sample. Compared with Italian benchmark data (Rondinone *et al.*, 2012), the average scores were above the 50th percentile for the Peer Support scale only (with a result labelled as "Good, but need for improvement"). Demands, Control, Managers' Support, and Relationships were between the 20th and the 50th percentile (with a result labelled as "Clear need for improvement"), and Role and Change were below

Table 1: Average scores on the measures of interest

Measures of Interest	Total	Gender	
		Male	Female
HSE-MS IT demands	3.30 (0.59)	3.30 (0.59)	3.33 (0.59)
HSE-MS IT control	3.17 (0.62)	3.21 (0.66)	3.03 (0.52)
HSE-MS IT managers' support	3.25 (0.95)	3.21 (1.06)	3.29 (0.85)
HSE-MS IT peer support	3.80 (0.68)	3.88 (0.69)	3.65 (0.75)
HSE-MS IT relationships	3.72 (0.71)	3.85 (0.64)	3.41 (0.74)
HSE-MS IT role	3.75 (0.75)	3.79 (0.74)	3.67 (0.79)
HSE-MS IT change	2.64 (0.84)	2.67 (0.86)	2.57 (0.80)
POS	3.10 (0.79)	3.03 (0.78)	3.27 (0.81)
Neck pain	3.83 (3.29)	3.22 (3.03)	4.96 (3.38)
Shoulder pain	3.43 (3.10)	2.85 (2.98)	4.91 (3.19)
Upper back pain	2.95 (2.96)	2.65 (2.81)	3.78 (2.88)
Lower back pain	4.56 (3.20)	4.03 (3.10)	5.26 (3.09)

Notes. For the HSE-MS IT scales, lower scores indicate higher exposure to organizational stressors. Standard deviations in parentheses. Theoretical possible values of the HSE-MS IT and POS scales range from 1 to 5, while the pain scales range from 0 to 10.

the 20th percentile (with a result labelled as “Urgent action needed”). The average POS score was slightly above the mid-point of the scale, between the 50th and the 80th percentile of the normative data (Marcatto *et al.*, 2021), and 42 participants (37.8% of the sample) scored above the 80th percentile. Average musculoskeletal pain scores were lower than the mid-point of the pain rating scale, with the lower back area being the more painful area and the upper back area the less painful. A series of *t*-tests were conducted to compare ratings for men versus women. Homoscedasticity was confirmed by Levene’s tests for equality of variances (all $P > 0.05$). Females were significantly more at risk than males in the Relationships dimension ($P < 0.01$) and reported higher pain in the neck ($P < 0.05$) and shoulders ($P < 0.01$).

Prevalence rates of stress-related health complaints are reported in Table 2. Insomnia and gastrointestinal disorders were the most prevalent health complaints, affecting more than one police officer out of

Table 2: Prevalence of stress-related health complaints

Stress-related health complaints	Total (%)	Gender	
		Male (%)	Female (%)
Hypertension	16.0	17.2	16.0
Insomnia	22.8	15.6	36.0
Anxiety–depression symptoms	12.0	7.8	28.0
Gastrointestinal disorders	22.8	20.3	24.0
Dermatitis	15.8	14.1	24.0

Notes. Sample size = 111.

five, while anxiety and depression symptoms were the least frequent, being reported by about 1 police officer out of the 10. A series of chi-square tests were conducted to compare the prevalence of health issues between men and women. Females were more likely to suffer from insomnia, $\chi^2_{(1)} = 4.45$, $P < 0.05$, and from anxiety–depression symptoms, $\chi^2_{(1)} = 6.28$, $P < 0.05$, than men.

As compared to the results of a previous study on a sample of public sector employees that adopted a very similar self-report health questionnaire (Marcatto *et al.*, 2016), local police officers reported less musculoskeletal pain and a higher prevalence of hypertension, insomnia, and anxiety–depression symptoms (in women officers).

Table 3 reports the ORs between exposure to organizational stressors and POS and musculoskeletal pain, controlling for age and gender. Demands and Role were significantly associated with POS, increasing the risk of suffering from high stress by 9.44 and 7.91 times, respectively. Lack of Control was associated with an increased risk of suffering from neck pain (14.38 times) and shoulder pain (8.48 times). Exposure to a Relationship stressor was significantly associated with shoulder pain (risk increased 5.53 times). No associations emerged between exposure to organizational stressors and upper or lower back pain.

The ORs between exposure to organizational stressors and stress-related health complaints, controlling for age and gender, are reported in Table 4. Demands were significantly associated with an increased risk of dermatitis (5.15 times), while

Table 3: Associations between organizational stressors, perceived stress, and musculoskeletal pain

Predictors	Perceived stress (POS)	Neck pain	Shoulder pain	Upper back pain	Lower back pain
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Age (≥ 50)	1.09 (0.33–3.65)	1.46 (0.37–5.64)	2.05 (0.46–9.10)	0.21 (0.03–1.47)	1.23 (0.43–3.52)
Gender (female)	0.69 (0.17–2.74)	0.86 (0.17–4.25)	0.80 (0.16–4.06)	0.72 (0.11–4.49)	1.23 (0.35–4.34)
Demands	9.44* (2.34–38.12)	3.06 (0.85–11.03)	2.30 (0.61–8.62)	0.88 (0.13–6.18)	0.84 (0.26–2.69)
Control	3.62 (0.83–15.85)	14.38* (2.18–94.81)	8.48** (1.41–50.82)	1.09 (0.17–6.80)	1.48 (0.49–4.52)
Managers' support	0.38 (0.14–1.04)	0.84 (0.31–2.32)	0.52 (0.18–1.51)	1.42 (0.41–4.95)	0.93 (0.44–1.95)
Peer support	1.80 (0.60–5.34)	1.30 (0.43–3.96)	1.02 (0.31–3.35)	0.51 (0.12–2.19)	0.60 (0.23–1.55)
Relationships	2.12 (0.60–7.44)	3.57 (0.98–13.00)	5.53** (1.30–23.47)	4.70 (0.84–26.28)	2.53 (0.87–7.38)
Role	7.91* (2.11–29.67)	0.69 (0.22–2.18)	0.66 (0.20–2.16)	1.19 (0.29–4.92)	1.41 (0.54–3.69)
Change	0.40 (0.12–1.25)	0.42 (0.11–1.52)	0.41 (0.11–1.46)	3.63 (0.67–19.64)	1.65 (0.69–3.96)

Note: OR = odds ratio; CI = confidence interval.

* $P < 0.01$;

** $P < 0.05$.

Table 4: Associations between organizational stressors and stress-related health complaints

Predictors	Hypertension	Insomnia	Anxiety–depression symptoms	Gastrointestinal disorders	Dermatitis
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Age (≥ 50)	9.44* (1.88–47.33)	3.55 (0.94–13.41)	2.61 (0.39–17.49)	0.47 (0.15–1.51)	1.83 (0.49–6.89)
Gender (female)	0.41 (0.88–1.91)	3.03 (0.80–11.31)	8.98** (1.36–59.57)	0.84 (0.22–3.31)	3.01 (0.69–13.08)
Demands	0.26 (0.50–1.36)	1.09 (0.31–3.87)	1.00 (0.15–6.57)	1.52 (0.50–4.66)	5.15** (1.38–19.16)
Control	0.77 (0.18–3.20)	0.76 (0.21–2.78)	0.40 (0.06–2.68)	1.65 (0.47–5.76)	1.36 (0.32–5.85)
Managers' support	0.88 (0.33–2.33)	2.04 (0.82–5.05)	1.61 (0.53–4.91)	2.35** (1.02–5.39)	1.21 (0.46–3.12)
Peer support	0.60 (0.19–1.86)	1.27 (0.46–3.47)	1.73 (0.39–7.71)	1.79 (0.67–4.78)	0.85 (0.28–2.56)
Relationships	5.37** (1.11–25.76)	1.43 (0.41–5.05)	2.48 (0.43–14.34)	1.45 (0.47–4.48)	0.59 (0.14–2.49)
Role	1.65 (0.47–5.83)	0.99 (0.34–2.85)	0.50 (0.11–2.26)	1.27 (0.47–3.39)	0.37 (0.11–1.21)
Change	1.13 (0.37–3.41)	1.37 (0.46–4.07)	6.76 (0.94–48.65)	1.23 (0.48–3.20)	1.18 (0.38–3.68)

Note: OR = odds ratio; CI = confidence interval.

* $P < 0.01$;

** $P < 0.05$.

two context-related factors, Managers' Support and Relationships, were significantly associated with gastrointestinal disorders (2.35 times) and hypertension (5.37), respectively. No associations emerged between exposure to organizational stressors and insomnia or anxiety–depression symptoms.

Discussion

This study evaluated the risk associated with exposure to organizational stressors in terms of work-related stress and health outcomes in a sample of local police officers working in the same municipality, a category of workers known to be highly exposed to stressors at work. Notably, all

organizational dimensions that showed greater risk when compared with the Italian benchmark displayed significant associations with psychological and physical problems, the only exception being the Change dimension, which is also known to be the weakest dimension of the Italian version of the HSE-MS IT (Magnavita, 2012; Rondinone *et al.*, 2012), and to be poorly associated with health outcomes (Marcatto *et al.*, 2016).

The perception of working in a stressful environment was significantly associated with the Demands and Role dimensions. The role was already highlighted by the benchmark comparison as one of the strongest stress risk factors for the present sample, and coherently it resulted to be significantly associated with perceived occupational stress. The Demands dimension includes excessive workload and work pace, and it is known to be one of the strongest sources of perceived stress (Houdmont *et al.*, 2019). Moreover, high workload and role ambiguity were associated with fatigue, a feeling of lack of energy or tiredness commonly reported by individuals who experience stressful situations at work (Nixon *et al.*, 2011). Two organizational dimensions, Control and Relationships, emerged as risk factors for musculoskeletal pain. Coherently, with existing literature, a low degree of control at work was shown to be associated with an elevated risk of pain in the neck and shoulder areas (Bongers *et al.*, 1993; Houtman *et al.*, 1994; Hollmann *et al.*, 2001). Pain in the shoulder area was also associated with interpersonal conflict, which is known to be one of the strongest psychological risk factors for musculoskeletal pain (Nixon *et al.*, 2011). It has been hypothesized that the relationship between exposure to stressors and musculoskeletal pain is due to the downregulation of the immune system and increased inflammation caused by the low cortisol levels and elevated prolactin levels during times of stress, which lead to an increased pain sensitivity (Huysse and Parker, 1999; McLean *et al.*, 2005, 2006).

Regarding health complaints, Demands were a specific risk factor for dermatitis, Managers'

Support for gastrointestinal disorders, and Relationships for hypertension. The association with dermatitis is not surprising, since numerous studies have already illustrated the 'vicious circle' of stress and dermatitis: stress exacerbates dermatitis, which in turn causes significant stress and impaired quality of life (Arndt *et al.*, 2008; Oh *et al.*, 2010; Suárez *et al.*, 2012). Stress has been suggested as a central factor in the development and maintenance of gastrointestinal disorders (Mayer and Collins, 2002). Stressors are postulated to evoke gastrointestinal symptoms through an alteration of intestinal function mediated by the immune system, the hypothalamic–pituitary–adrenal axis, and the autonomic nervous system (Pinto *et al.*, 2000). In our sample, a lack of support from management significantly increased the risk of suffering from gastrointestinal disorders. Finally, hypertension is known to be common among police officers (Van Hasselt *et al.*, 2008), who also have higher cardiovascular disease risk mortality rates compared with other occupations and the general population (Vena *et al.*, 1986; Franke *et al.*, 2002). Vast evidence has linked hypertension, and cardiovascular disease in general, to psychosocial stress (for a review, see Rosenthal and Alter, 2012). Indeed, exposure to psychological and social stressors at the workplace, such as negative social relationships and low levels of social support, is known to increase cardiovascular reactivity (O'Riordan *et al.*, 2020). Moreover, according to Siegrist (2010), their effect on cardiovascular disease 'is likely to parallel or even outweigh the contribution of the more traditional occupational stressors (physical and chemical hazards)'.

Some limitations of this study have to be acknowledged. First, the number of participants is small. Although the whole population of local police officers working in the same municipality took part in the study, and this was perfectly fine since the aim was to identify the risks associated with exposure to organizational stressors in a specific workplace, the limited number of participants ($N=111$) suggests some caution in generalizing

the results to local police officers in general or to other police forces. For this aim, bigger-scale studies are needed. Secondly, although the cross-sectional design is useful for identifying significant associations among variables, it does not allow any conclusion regarding causal or temporal directions. It is worth noting, however, that a meta-analysis found coherence between cross-sectional and longitudinal results, proving evidence of temporal consistency of the relationship between occupational stressors and physical symptoms (Nixon *et al.*, 2011). Third, results are based on self-report measures only. While these are commonly adopted in research due to their obvious advantages, the common method variance could produce biased results. Further research should use different sources, such as medical files or external judges, to reduce this potential bias.

Conclusion

Police officers are known to be at high risk of stress due to their exposure to both operational and occupational stressors. The recent COVID-19 pandemic worsened this condition, since it presented police officers with novel and exacerbated stressors, and officers have been at the frontline of danger for many months maintaining public order and promoting safer communities (Stogner *et al.*, 2020; Frenkel *et al.*, 2021; Jiang, 2021).

In this study, conducted before the outbreak of the COVID-19 pandemic, we focused on the prevalence of organizational stressors and their outcomes in a sample of Italian local police officers. Participants were at high risk in six out of seven organizational domains measured by the HSE-MS IT and, accordingly, reported high levels of perceived occupational stress. Moreover, consistent with evidence on the contribution of psychological problems at work to the development of physical and psychological disorders (Marratto *et al.*, 2016), exposure to organizational stressors significantly increased the odds of suffering from

different health outcomes, such as hypertension, gastrointestinal disorders, dermatitis, and musculoskeletal pain.

Overall, the results of this study provide further evidence that policing is a high-stress occupation. Notably, this is also due to organizational factors, and we showed that by using the Management Standards risk assessment process it is possible to isolate the specific organizational stressors which played a significant role in the prevalence of different psychological and physical problems and should, therefore, be the main targets of stress management interventions.

Traditionally, most stress-reduction interventions for police forces are designed at the individual level, such as remedial employee assistance programs and training for improving coping mechanisms (Collins and Gibbs, 2003; Waters and Ussery, 2007; Shane, 2010; Houdmond *et al.*, 2012). Evidence from this and other studies, however, clearly suggests the need for designing and implementing interventions aimed at addressing and preventing organizational stressors. Therefore, periodic in-depth stress assessments using broad range measures such as the HSE-MS IT together with other short measures of stress-related outcomes are recommended to identify the key issues that should be the primary targets of such interventions (Bevan *et al.*, 2010).

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