

Work-related wellbeing in UK prison officers: A benchmarking approach

Abstract

PURPOSE: This paper utilises a benchmarking approach to examine the wellbeing of UK prison officers.

APPROACH: The Health and Safety Executive (HSE) Stress Indicator Tool is widely used in the UK to assess key psychosocial hazards in the workplace encompassing demands, control, support from managers and co-workers, relationship quality, role and change management.

This study utilises this approach to examine the extent to which a sample of UK prison officers meets the HSE recommended minimum standards for the management of work-related wellbeing. Levels of mental health and job satisfaction in the sector are also assessed using measures with extensive occupational norms. The psychosocial hazards that make the strongest contribution to mental health and job satisfaction are also considered.

FINDINGS: Respondents reported lower levels of wellbeing for all of the hazard categories than recommended. Moreover, mental health and job satisfaction were considerably poorer among prison officers than other occupational groups within the emergency and security services in the UK. Considerable variation was found in the psychosocial hazards that predicted mental health and job satisfaction.

IMPLICATIONS: The high levels of stressors and strains experienced by UK prison officers gives serious cause for concern. Priority areas for interventions to enhance wellbeing in the sector are considered and areas for future research discussed.

ORIGINALITY/VALUE: This study highlights the value of a benchmarking approach to investigating work-related stressors and strains at the sector level.

There is evidence that people working within the emergency and security professions, such as the police, firefighters, paramedics members of the armed forces and security guards, are at increased risk of work-related stress (Iverson et al., 2008; Langan-Fox and Cooper, 2011; Leino et al., 2011). Research findings indicate that prison officers experience particularly high levels of job-related stressors, which can impair their wellbeing and job performance. A review of the literature highlights a range of working conditions that are considered particularly stressful in this sector which include organisational hazards such as high demands; heavy workload; time pressures; lack of input into decision making, lack of resources and rewards; poor feedback; lack of variety; poor quality training; challenging organisational structure and climate; poor physical working environment, as well as features of work that are more specific to the working environment such as high emotional demands and aggression and threats from prisoners (Bourbonnais *et al.*, 2007; Crawley, 2004; Deguchi et al., 2013; Finney *et al.*, 2013; Hartley *et al.*, 2013; Holmes and MacInnes, 2003; Kunst, 2011; Lambert *et al.*, 2009; Liebling *et al.*, 2011; Mahfood, 2013; Rutter and Fielding, 1988; Schaufeli and Peeters, 2000; Senol-Durak *et al.*, 2006).

Studies have also highlighted interpersonal difficulties, such as bureaucratic and unsupportive management practices, lack of support from managers, and poor quality working relationships, as particularly salient sources of stress for prison officers (Lancefield *et al.*, 1997; Schaufeli and Peeters, 2000). There is also evidence that people who work in correctional settings are at higher than average risk of bullying from co-workers and supervisors which has been linked with a number of negative outcomes such as psychological distress, burnout and sickness absence (Bourbonnais et al. 2007; Kunst, 2011; Vartia and Hyyti, 2002). Conversely, positive perceptions of social support and relationship quality at work exert powerful main effects on wellbeing and also have potential to attenuate the negative impact of job demands on wellbeing (Viswesvaran *et al.*, 1999). The key role

played by support from supervisors and management in protecting the wellbeing of prison officers has been highlighted in studies (Brough and Williams, 2007; Harvey, 2014; Lambert *et al.*, 2012).

Exposure to stressful working conditions can have a negative impact on employees that is wide-ranging. Prison officers appear to be at considerable risk of physical health problems, psychological distress and post-traumatic stress disorder (Borritz *et al.*, 2006; Denhof and Spinaris, 2013; Dollard and Winefield, 1995; Finney *et al.*, 2013; Harvey, 2014). As human service employees as well as workers within the emergency and security services, it could be argued that prison officers may be at particular risk of burnout. This has been confirmed in studies of officers in several countries. Moreover, the negative impact of correctional working environments on work-life balance and the quality of personal relationships has been highlighted (Kinman *et al.*, in press; Moon and Maxwell, 2004). There is also evidence that the stress experienced by officers can reduce their job satisfaction, morale and commitment (Armstrong *et al.*, 2015; Griffin *et al.*, 2009; Rutter and Fielding, 1988) which, in turn, predicts turnover intentions (Lambert & Hogan, 2009). Nonetheless, a study of nearly 2,000 front-line staff working in prisons across the USA conducted by Leip and Stinchcombe (2013) found high levels of job satisfaction and low turnover intentions suggesting that officers might gain a considerable degree of satisfaction from their work as well as stressors and strains.

Some insight has been provided into the characteristics that underpin job satisfaction in prison environments with job control, supervisor support, procedural justice, feelings of safety, role balance and clarity, and compensation/benefits being particularly salient (Armstrong *et al.* 2015; Griffin *et al.*, 2009; Rutter and Fielding, 1988; Stinchcomb and Leip, 2015). Relationships with co-workers, in particular, have emerged as important sources of satisfaction in correctional settings (Paoline *et al.* 2006). A review of the literature conducted

by Schaufeli and Peeters (2000) concluded that improving the social work environment was a particularly promising way to reduce stress and increase job satisfaction in correctional settings.

The brief review of the literature provided here indicates that prison officers experience job-related stress from a wide range of sources and may also be at risk of mental health problems. The findings of studies that have examined wellbeing in correctional environments are mixed, but some insight has been gained into the aspects of the job that are considered to be particularly hazardous. Organisational change has been identified as a major source of stress for employees (Biron, Karanika-Murray and Cooper, 2012). The prison estate in the UK has been extensively reorganised, with fundamental changes made to terms and conditions of work at a national level. The prison population has also been steadily increasing and staffing levels reducing, which has resulted in overcrowding in many prisons (Bureau of Justice, 2015; Howard League for Penal Reform, 2014; Pitts *et al.*, 2014). Moreover, major incidents, such as rioting and hostage taking, and serious attacks on staff have increased dramatically (Hardwick, 2014; Tartaro and Lester, 2009). The incidence of self-harm among the prison population has also risen steeply over the last few years (Hawton *et al.*, 2014; Inquest, 2016). These factors are likely to have compounded the stressors already inherent in the prison officer's role, thus highlighting the need to assess wellbeing in the sector on a regular basis using a well-validated and highly-structured approach that can track the impact of change over time. It is also important to examine the stressors that are the most powerful sources of strain in the sector in order to guide the development of precisely-targeted interventions.

A benchmarking approach

The present study adopts a benchmarking approach to assess the stressors, mental health and job satisfaction experienced by officers working in UK prisons. Specifically, it utilises a widely-used and well-validated framework to consider the extent to which officers are at risk of experiencing the working conditions that can lead to negative stress-related outcomes. Comparisons will be made between levels of key stressors (or psychosocial hazards) reported by prison officers and national UK standards for the management of work-related wellbeing. This study also utilises measures of mental health and job satisfaction that are commensurate with a benchmarking approach to gain a baseline assessment and to allow comparisons with members of other emergency and security services.

A benchmarking approach facilitates the estimation of psychosocial risk in working populations and is widely considered to be one of the most effective ways of managing work-related wellbeing (Bevan et al., 2010; Donaldson-Feilder et al. 2011; Biron et al., 2012). The approach taken in this study, therefore, has strong potential to raise awareness of working conditions and levels of mental health and job satisfaction in the sector and identify the factors that underpin work-related wellbeing. A benchmarking approach can also form the basis for a longitudinal assessment of working conditions and employees' reactions to them. The findings of such research can also highlight priorities for intervention and inform more precisely-targeted initiatives to improve wellbeing and satisfaction in correctional settings.

The Health and Safety Executive approach

The Health and Safety Executive (HSE: the UK body responsible for policy and operational matters related to occupational health and safety) has developed a comprehensive

system to help employers manage the wellbeing of employees. The HSE framework is novel in that it advocates a risk-assessment approach where stress is considered a serious health and safety issue, and psychosocial stressors are diagnosed, measured and managed like any other physical workplace hazard. The process is based on a set of standards of good management practice (known as benchmarks) that measure the extent to which employers prevent work-related stress from occurring at source (Mackay *et al.*, 2004). This approach reflects the findings of a body of research demonstrating that primary (or organisational-led) interventions are substantially more effective than initiatives that expect employees to accommodate to stressful working conditions (Donaldson-Feilder *et al.*, 2011; Biron *et al.*, 2012).

The management standards cover several aspects of work design (known as psychosocial hazards) that are considered relevant to most job roles and have a strong evidence base as the most important predictors of strain (Mackay *et al.*, 2004). The hazards included in the HSE framework are those relating to demands, control, social support (from managers and peers), interpersonal relationships, role clarity, and organisational change. The relevance of these factors to the wellbeing of prison officers was highlighted in the literature reviewed earlier in this paper. Each of the hazard categories encompasses several elements that provide in-depth information on perceptions of working conditions. *Demand* comprises workload, pace of work and working hours; *Control* assesses levels of autonomy over working methods and pacing and timing; *Managerial Support* encompasses supportive behaviours from line managers and the organisation itself, such as the availability of feedback and recognition of good work; *Peer Support* considers the extent to which colleagues provide help and assistance; *Relationships* assesses interpersonal conflict at work, including bullying and harassment; *Role* examines role clarity and the extent to which employees believe that their work meets the goals of their organisation; *Change* reflects how effectively

organisational changes are managed and communicated. Of particular relevance to the aims of the current study, previous studies that have utilised the HSE framework have found significant relationships between hazard categories (most notably job demands) and several stress-related work outcomes, such as anxiety and depression and job dissatisfaction (Kerr *et al.*, 2009).

Benchmark data is available from a substantial number of organisations within the public and private sectors in the UK to allow comparisons with the scores obtained for each of the hazards and recommended national levels (HSE, 2015). Since its inception, the HSE risk assessment framework has been widely utilised to monitor the working conditions that lead to stress (Edwards *et al.*, 2008; Mellor *et al.*, 2011). The framework has been used to provide reference values for exposure to job-related stress in different occupational groups to allow comparisons with recommended standards and highlight the job characteristics that require urgent attention (Houdmont *et al.*, 2012; Kinman and Wray, 2013). This approach can also inform evidence-based interventions to protect employee wellbeing by identifying the hazards that fail to meet the required standards, as well as those that are most strongly related to specified strain outcomes. It can also provide a base-line measure of wellbeing that can be monitored over time in response to changes experienced at the organisational and sector level and in response to stress management interventions.

As far as can be established, only one previous study has used the HSE framework method in the prison sector. Based on research conducted in several London prisons in 2009, Bevan *et al.*, (2010) found wellbeing in relation to change, role and support to be considerably lower than recommended standards. Employees who viewed their working environment negatively were three times more likely to report poor psychological wellbeing

than those who were more positive about their working conditions. It should be emphasised, however, that the data were not drawn exclusively from officer grades and there was an unrepresentatively high proportion of women respondents. The findings were therefore not comparable with the profile of respondents in the present study who were exclusively prison officers.

Summary

This study has several aims: Firstly, to assess the extent to which UK prison officers are at risk of experiencing the working conditions that can lead to negative stress-related outcomes and to compare the hazards experienced by officers with HSE benchmarks. Secondly, to identify levels of mental health and job satisfaction in the sector and compare with those reported in studies of other emergency and security personnel. Finally, to identify the hazards that are the key predictors of mental health and job satisfaction in correctional settings.

METHOD

Sample

An online questionnaire was completed by 1,682 prison officers working in UK prisons (85 percent male). Officers were invited to participate via a link on the website of the Prison Officer Association which represents the majority of prison officers (and associated employees such as prison escorts and healthcare staff) employed in the UK. The age of respondents ranged from 20 to 67 years (mean = 47; SD = 8.25). Length of employment in the prison service ranged from one to 41 years (mean = 18 years; SD=7.9) and the majority (94 percent) was employed on a full-time basis. It is not possible to calculate a true response rate using online questionnaires where the number of potential participants who were exposed

to the survey is unknown. Nonetheless, comparisons with the age, gender and occupational tenure of the respondents indicated that they were broadly representative of the wider population of prison officers in the UK at the time the research was conducted (MoJ, 2014). The one exception is that women were under-represented in the study sample. Participants provided a code to facilitate follow-up research.

Measures

Details of the measures utilised in the study and are provided below.

Psychosocial hazards

The 35-item HSE Indicator Tool (Mackay *et al.*, 2004) was used to assess the extent to which respondents experienced each of the psychosocial hazards described above: i.e. in relation to demands, control, support from managers and co-workers, role, relationships and change management. Studies of various occupational groups have found the measure to be psychometrically sound (Edwards *et al.*, 2008; Kinman and Wray, 2013). A five-point response scale was utilised from 1 = never to 5 = always. Mean scores were calculated across each of the hazard categories with higher scores representing more wellbeing and lower scores denoting more distress.

In line with HSE guidelines, comparisons were made between the mean scores obtained in the present study for each hazard with benchmarks obtained from a wide range of organisations within the UK that are provided for this purpose (Webster and Buckley, 2008). Mean scores are categorised as ‘*red*’: urgent action required (within the 20th percentile in relation to benchmark data), ‘*yellow*’: definite need for improvement (below average, but not below the 50th percentile); ‘*blue*’: good, but some improvement necessary (better than

average, between the 50th and 80th percentile) and ‘green’: performing well (above, or close to the 80th percentile). Cronbach alphas: demands = .85; control = .81; manager support = .86; peer support = .81; relationships = .71; role = .84; change = .73.

Mental health

This was assessed by the General Health Questionnaire (GHQ-12: Goldberg, 1978). Although designed as a context-free measure of mental health, it is commonly used to assess psychological distress in employees (Goodwin *et al.*, 2013; Jackson, 2007). The GHQ-12 assesses three key dimensions of mental health: *anxiety/insomnia* (e.g. feeling under strain and losing sleep over worry); *social dysfunction* (e.g. feeling incapable of making decisions and being unable to enjoy everyday life) and *depression* (e.g. being unable to enjoy everyday activities and feeling that life is hopeless).

The GHQ-12 is frequently used to identify ‘caseness’ levels of mental ill-health in populations (i.e. where some degree of intervention is recommended). Data are available from large samples of employees in different occupational groups which allows comparisons between the extent of mental health problems reported by respondents in the present study and in research conducted with other ‘safety critical’ occupational groups. Caseness rates are available from large samples of emergency and security service employees, such as the police, doctors, ambulance personnel, the fire and rescue service and the armed forces, (Goodwin *et al.*, 2013; Stride *et al.*, 2007). As yet, very few published studies have used the GHQ to measure the mental health of prison officers. Two studies conducted in Australian correctional settings in the 1980s/early 1990s found caseness rates of between 26-29% (see Dollard *et al.*, 2001). More recently, research conducted by Walker *et al.* (2015) found a caseness level of 95 percent in a sample of 57 officers working in a therapeutic community prison in the UK. Although the sample size was small and unrepresentative of the wider

population of officers, this is considerably higher than any other published study that has used the measure (see Goodwin *et al.*, 2013).

Each question in the GHQ-12 is assessed on a 4-point scale whereby 0 = better/healthier than usual, and 3 = much worse than usual. Two types of scoring were used in this study (Goldberg, 1978). Firstly, the 'Likert' method where mean scores are taken across items with higher scores representing more mental health problems. Cronbach alpha = .92. Secondly, the caseness rate was calculated using a binary method of scoring where the two least symptomatic answers (i.e. better than usual, or the same as usual) are coded as 0 and the two most symptomatic answers (i.e. worse than usual, or much worse than usual) are coded as 1. Any score exceeding the threshold value of 4 is classified as a 'case' (Goldberg, 1978). The overall caseness rate is represented by a percentage of the sample.

Job satisfaction

The study measures job satisfaction using a widely-used tool developed by Warr *et al.* (1979). This instrument captures the global level of job satisfaction (i.e. all of the items combined) and the extent to which employees are satisfied by *intrinsic* features (e.g. variety, recognition and opportunity for skill use) and *extrinsic* aspects of work (e.g. pay, hours of work and promotion opportunities). As with the GHQ measure described above, extensive norms are available to compare the extent of intrinsic and extrinsic job satisfaction found among prison officers with other occupational groups within the emergency and security services (see Stride *et al.*, 2007). The only study that can be located that has previously utilised Warr *et al.*'s scale in correctional settings is a study of Australian prison officers that assessed global satisfaction only (Dollard *et al.*, 2003).

This study assessed intrinsic and extrinsic satisfaction only. Responses to each of the questions are obtained on a seven-point scale ranging from 1 = extremely dissatisfied to 7 =

extremely satisfied. Mean scores were obtained across both of the sub-scales, with higher scores representing a higher level of satisfaction. Cronbach alphas: intrinsic satisfaction = .87; extrinsic satisfaction = .77.

Analytical approach

The scores for each of the psychosocial hazard categories were compared with benchmark data from several published sources using the ‘traffic light’ system described above. The caseness rate of psychological distress and the mean scores for intrinsic and extrinsic job satisfaction found in the present study was compared with those obtained from large-scale studies of emergency and security personnel. Correlations between each of the psychosocial hazards and the outcome variables (i.e. GHQ and intrinsic and extrinsic job satisfaction) examined the strength of association. A series of hierarchical regression equations was conducted to examine the proportion of variance explained by the psychosocial hazards and those that made the strongest contribution to the variance in each of the outcomes. At the first step of these equations, gender, age and occupational tenure were included in order to assess and control for their potential effects. Levels of mental health problems and job satisfaction are compared with norms published in a benchmarking manual that draws on studies of a wide range of occupational groups with a range of sample sizes (Stride et al. 2007) and a systematic review of studies that have utilised the GHQ-12 in workplace settings (Goodwin et al. 2013).

RESULTS

Psychosocial hazards

The mean scores for each of the HSE psychosocial hazards are shown in Table 1. The findings of the current study are compared with the HSE benchmarks (as described above), with the shortfall shown in brackets. The need for action (i.e. whether scores for each of the hazards are categorised as red, yellow, blue or green) is also identified.

TABLE 1 ABOUT HERE

As can be seen above, respondents had lower scores for all of the hazard categories than the HSE recommended levels (indicating poorer wellbeing). A particularly large shortfall was found between mean scores for job demands, control, manager support, relationships and change and minimum standards. Perceptions of support from peers and levels of role clarity were typically more favourable, but were nonetheless lower than recommended levels. Six out of the seven hazard categories were identified as ‘red’, emphasising the need for urgent action. Peer support was categorised as ‘yellow’ suggesting a clear need for improvement.

Mental health

Seventy-two percent of the sample scored at the GHQ-12 threshold point of 4 or above; 48 percent scored above 10, 27 percent above 15 and 11 percent (more than one respondent in 10) above 20. The caseness rate found in this survey was high compared to those found in studies of other occupational groups within the emergency and security services in the UK: for example, police officers (47 percent); ambulance personnel (32 percent); accident and emergency consultants (44 percent); armed forces personnel (32 percent) (see Stride *et al.*, 2007; Goodwin *et al.*, 2013). It was considerably lower, however,

than a study of officers in a therapeutic prison in the UK (i.e. 95 percent) (Walker *et al.*, 2015).

Job satisfaction

The levels of intrinsic and extrinsic job satisfaction found in this study were low compared with those reported in studies of other emergency and security personnel (see Stride *et al.*, 2007). The mean score for intrinsic job satisfaction was 3.05 (SD = .97) compared with studies of police (3.88), ambulance personnel (4.47) and healthcare workers (4.55). The mean score for extrinsic job satisfaction was 3.28 (SD = 1.11), compared with police (4.00), ambulance personnel (4.68) and healthcare workers (4.62).

Correlations between the psychosocial hazards, mental health and intrinsic and extrinsic job satisfaction can be seen in Table 2. As can be seen, strong relationships were found between each of the hazards and all three outcomes. Table 3 provides details of the hierarchical multiple regressions that examined the pattern of predictors of mental health problems and job satisfaction and the proportion of variance explained at each step. The model accounted for 36 per cent of the variance in GHQ scores. Age, entered in step 1, was significant (in a negative direction) and, although all but two of the psychosocial hazards contributed to the observed variance, the most powerful predictors were relationships, role and demands. Support from managers and peers did not make a significant contribution to the variance in mental health. For intrinsic job satisfaction, gender (female) and age (in a positive direction), entered in step 1, made a positive contribution to the 56 per cent of the variance that was accounted for. With the exception of peer support, all of the psychosocial hazards made significant contributions to intrinsic satisfaction, but control, manager support, and change had the strongest effects. In terms of extrinsic job satisfaction, the model explained 55 per cent of the variance. Gender (female) and age in a positive direction made a significant

contribution in step 1. All of the psychosocial hazards contributed significantly to the variance, but manager support, relationships and change were the most powerful predictive factors.

TABLE 2 ABOUT HERE

TABLE 3 ABOUT HERE

DISCUSSION

This study has extended knowledge of the psychosocial working conditions, mental health and job satisfaction of prison officers. The utility of a benchmarking approach in identifying the level of stressors and strains experienced by prison officers and comparing them with benchmarks obtained from other occupational groups has been supported. Also identified are the hazards that make the strongest contribution to poor mental health and low job satisfaction. The findings have clear potential to highlight key areas for change at the sector and institutional level in order to enhance the wellbeing of employees.

The management standards framework developed by the HSE was used to examine the extent to which UK prison officers experience the working conditions associated with negative stress-related outcomes. Six out of seven of the psychosocial hazards measured were categorised as requiring urgent attention, with serious implications for the wellbeing of officers and the functioning of prisons. Previous research has highlighted some of these issues, such as work overload, role ambiguity and lack of management support, as sources of stress in correctional settings (e.g. Bevan *et al.*, 2010; Finney *et al.*, 2013; Lambert *et al.*, 2005; Senol-Durak *et al.*, 2006). The present study, however, identified additional hazards

such as low autonomy, ineffective management of change and lack of support from colleagues.

The level of demand relating to workload, the pacing of work and working hours was particularly high; indeed, there was a considerable discrepancy between the mean score for demands found in this study and the minimum standards recommended by the HSE. Moreover, demands made a strong contribution to mental health symptoms and low satisfaction with intrinsic and extrinsic aspects of work. These findings build on previous studies of work-related stress in the prison sector that have identified work overload and long working hours as powerful sources of burnout (e.g. Kunst, 2011; Morgan et al., 2002; Schaufeli and Peeters, 2000). The importance of workload management to the wellbeing of employees and organisations more generally was highlighted in a recent meta-analysis, whereby strong associations were observed with several indices of psychological and physical health, lack of commitment, absenteeism and intention to quit (Bowling *et al.*, 2015). It should also be noted that the level of job demand found in the present study was considerably higher than that obtained from research conducted in several London prisons that also used the HSE framework (Bevan *et al.*, 2010). This may indicate that working conditions in London prisons are more favourable than in the rest of the UK, or that the reductions in staffing levels and increased overcrowding more recently experienced in the sector has increased workload, which raises serious concerns for the long-term wellbeing of officers and underlines the need to monitor this over time.

A review of 43 studies that had examined the stressors and strains experienced by prison officers in the 1980s and 1990s highlighted role ambiguity as one of the most common sources of stress (Schaufeli and Peeters, 2000). The high level of role ambiguity found in the present study suggests that it remains a cause for concern. Role also made significant contributions to the variance in all strain outcomes, with particularly powerful effects

observed for extrinsic job satisfaction and mental health. Clarity about duties and responsibilities, having the information necessary to do the job, and awareness of organisational goals and objectives are essential, not only for the wellbeing of staff but also for the safe running of prisons.

The importance of organisational support and trust to the wellbeing of prison officers has previously been recognised (Brough *et al.*, 2007; Finney *et al.*, 2013). The present study builds on this knowledge by differentiating between support provided by managers and colleagues. The level of support from management, in terms of the provision of feedback and their ability to help officers manage the emotional demands of the job, was perceived to be low. Officers' dissatisfaction with emotional support may arise from a lack of availability on the part of line managers, or managers may not necessarily see the provision of such support as part of their role. Moreover, officers may be reluctant to disclose emotional reactions to their work to line managers due to a general culture of mistrust. There is evidence that trust in management is a crucial resource for protecting prison officers against burnout (Lambert *et al.*, 2012). The need for more research into support from managers in correctional settings is discussed further below. This study found that satisfaction with help and support received from co-workers was considerably higher than from managers. Perceptions of colleague support were typically more positive, but the mean score failed to reach the HSE minimum standards. The importance of management support for the well-being of prison officers was confirmed as it made the strongest contribution to the variance in both aspects of job satisfaction. Nonetheless, although satisfaction with support from managers and co-workers was negatively associated with GHQ scores, neither source of support made a significant contribution to mental health problems in the regression analysis. The findings suggest that lack of support is a less potent source of depression, anxiety and social dysfunction than poor quality working relationships.

The hazard category 'relationships at work' considers the extent of friction and anger between colleagues and the incidence of bullying and harassment. Positive working relationships have previously been identified as a strong source of satisfaction for prison officers that can protect them against adverse reactions to stress (Lancefield *et al.*, 1997). Nonetheless, there is evidence that correctional settings are high-risk environments for workplace bullying (Bourbonnais *et al.*, 2007). A study of Finnish prison officers conducted by Vartia and Hyyti (2002), reported that 20 per cent of participants perceived themselves as victims of bullying which had a serious impact on their health. In the present study, 27 per cent of the sample indicated that they were subjected to bullying at least sometimes, with more than one in ten frequently experiencing such behaviour. The fact that poor quality working relationships made the strongest contribution to mental health problems and were key predictors of low job satisfaction indicates that priority should be given to interventions that aim to enhance the quality of the social environment at work and to identify and manage the structural and cultural factors that allow bullying to flourish.

As yet, little focus has been placed on job control in correctional settings, but there was some evidence that a lack of input into decision-making can impact on health and retention in prison officers (Slate and Vogel, 1997; Slate *et al.*, 2011). The present study has highlighted the importance of additional aspects of control, such as skill discretion, schedule flexibility and the ability to take a break when required, in underpinning work-related stress in correctional settings. The importance of adequate breaks for employee wellbeing and job satisfaction has been emphasised (Hunter and Wu, 2015). Sufficient time for respite and recovery during the working day is likely to be crucial for people who work in safety critical jobs who need to maintain a high level of vigilance. There was a substantial shortfall between the overall level of control found in the present study and the HSE minimum standard, and it made significant contributions to the variance in mental health and job

satisfaction. Job control seems particularly important for satisfaction with intrinsic aspects of work, as it made a stronger contribution to the variance in this outcome than any other psychosocial hazard measured in this study.

The prison sector in the UK has experienced intense and wide-ranging change involving privatisation, major structural and operational reforms and reductions in staffing, alongside a substantial increase in the prison population. Perhaps unsurprisingly, deteriorating safety and performance across the prison estate in the UK has been documented (House of Commons, 2015). Perceptions of the management of change found in the present study were generally poor. More specifically, officers indicated that they were rarely consulted about changes at work and it was seldom clear about how these changes would affect them. Poor change management also made a strong contribution to the variance in mental health problems and were strong predictors of intrinsic and extrinsic satisfaction with the job role. Effective change management strategies and clear channels of communication are clearly vital under conditions of such profound and on-going transformation of the sector.

The level of mental health problems among prison officers who participated in this study was considerably higher than published norms for other emergency and security professionals. An unusually high proportion of the sample (72 per cent) achieved a score on a widely-used measure of psychological distress that indicates some intervention is required (Goldberg, 1978). This far exceeds the rates found in studies of other emergency and security professions such as the police, paramedics and the fire and rescue service; it is also more than double the rate found in a study of Australian prison officers (Dollard *et al.*, 2001). This indicates that urgent action is taken to improve mental health in the prison sector in the UK. The findings of this study indicate that attention to improving working relationships, role clarity and reducing demands would be effective starting points.

This study explored the extent to which prison officers were satisfied with intrinsic and extrinsic aspects of their work. In contrast to previous research suggesting that people working in correctional settings experience a high level of job satisfaction (Leip and Stinchcombe, 2013), the mean scores were considerably lower than those reported in studies of similar occupational groups. The psychosocial hazards predicted a similar proportion of variance in both sources of job satisfaction. Support from managers had the strongest effects on both aspects of job satisfaction whereas good quality working relationships, role clarity, job control, demands and the effective management of change made lesser, but nonetheless significant, contributions. Nonetheless, job control appears to be particularly important for intrinsic satisfaction, whereas job demands had stronger effects on satisfaction with extrinsic aspects of work. Moreover, peer support made a significant contribution to extrinsic but not intrinsic satisfaction. This suggests that support from co-workers is more relevant to satisfaction with external features of work, such as working hours and physical working conditions, than with aspects that are more integral to the job.

The findings of this study raise safety concerns, not only for the wellbeing of prison officers but also for the safe running of prisons. Lack of support and autonomy, role ambiguity, poor quality working relationships, and ineffective management of change represent serious hazards. The extent of mental health problems and the low level of job satisfaction identified are also problematic. As yet, very few studies have evaluated the impact of stress management interventions in correction settings. There is some evidence that secondary strategies, such as emotion self-regulation techniques, may be effective (McCraty *et al.*, 2009). Nonetheless, the findings of this study strongly indicate that primary interventions are urgently required to improve the wellbeing of prison officers effectively and sustainably.

As discussed above, the high workload demands and lack of control and manager support found in this study are obvious starting points for interventions. There is evidence that strategies that aim to enhance job control and support can attenuate the negative impact of demands on wellbeing (Van der Doef and Maes, 1999). Studies of Australian prison officers conducted by Dollard and Winefield (1998) and Brough et al. (2007) found some support for the Job Demand-Control-Support model (Karasek and Theorell, 1992; Johnson and Hall, 1988) and this should be tested in the UK under current working conditions. Nonetheless, other frameworks of job-related stress may have greater potential in informing interventions to enhance the wellbeing of prison officers. The Job Demands-Resources model (JDR: Bakker and Demerouti, 2001) allows the inclusion of a wider range of work features with the potential to moderate the relationship between workplace psychosocial hazards and strain. As the present study found that role, relationships and change were as (of not more) important for the wellbeing of prison officers as demands, control and support, the JDR model has clear potential to inform a broader range of initiatives.

It has been argued that the introduction of participatory management initiatives has strong potential to alleviate stress in criminal justice organisations (Lancefield *et al.*, 1997; Slate and Vogel, 1997). As discussed above, interventions are also required to enhance emotional support from managers as well as increase the availability of help with operational concerns. To inform such initiatives, more insight is needed into the competencies required by managers to help them protect the wellbeing of employees in what is undoubtedly an emotionally demanding occupation. Donaldson-Feilder *et al.* (2011) have developed a framework to help managers, and those that recruit them, consider the extent to which they possess the behaviours that are effective for preventing and reducing stress at work. The aim is to help managers reflect on their management style and behaviour and identify areas for future growth. To guide the development of such a framework, more information is needed

into the specific manager competencies required to attenuate stressors and enhance wellbeing in prison officers who work in different correctional settings. It is also crucial to bear in mind that managers are themselves likely to be experiencing work-related stress and require support to protect their own wellbeing. These issues should be examined in future research.

Although this study did not aim to examine demographic factors, some differences were observed when controlling for gender and age in the regression analyses. Women officers reported higher levels of intrinsic and extrinsic satisfaction than men. The small number of female participants in the present study means that an examination of gender differences in levels of stressors and strains would be of questionable validity, but future studies should utilise purposive sampling to explore this issue more systematically. Older workers of both sexes were typically more satisfied and less likely to report mental health problems than their younger counterparts. Such findings may indicate that younger officers working in UK prisons are experiencing particularly poor mental health and low job satisfaction and should therefore be prioritised for intervention. Nonetheless, they may be attributable to the ‘healthy worker effect’, where employees who experience serious health problems, or who are particularly dissatisfied and demotivated, are more likely to have gained alternative employment or retired (Li and Sung, 1999). These issues should be further examined in order to help target interventions to groups who are most vulnerable.

This study has some limitations. Firstly, like all cross-sectional studies, the direction of causation cannot be established. It is likely, however, that the study will form the first wave of longitudinal research in the UK prison sector to allow levels of job-related stressors and wellbeing to be tracked over time. Daily diary methodology that draws on the JDR model outlined above has particularly strong potential to provide insight into the type of situations that prison officers find stressful and how specific resources, such as control, support from managers and colleagues and role clarity, might moderate the negative impact

of these demands on their wellbeing. Moreover, the study utilised a general measure of work-related stressors so the contribution of more job-specific hazards, such as exposure to violence and harassment to the stress process could not be examined. A body of evidence, including with prison officers, indicates that organisational stressors such as work overload and poor resources and communication are more powerful sources of strain than more intrinsic aspects of work (see Biron et al. 2012; Finney et al. 2013). Nonetheless, future research with prison officers should supplement the HSE framework with psychosocial hazards that are of particular relevance to the working context. A further limitation of this study relates to the sampling strategy utilised. Although the sample size was substantial and generally representative of the wider population of prison officers in the UK in terms of age and tenure, it is not possible to establish the extent to which the study captured the views and experiences of all officers working in the UK or in different types of correctional facility within the UK. There is evidence, however, that working in particular types of correctional institutions, such as within therapeutic prisons, may be more hazardous and stressful than others (Walker et al. 2005). Moreover, the sample was employed within the public sector, so the views of officers working in privately-funded prisons were not represented. As respondents were members of a trade union, it is possible that they were motivated to exaggerate the demands of their work and their reactions to them in an attempt to improve terms and conditions of employment. Nonetheless, there is evidence that members of trade unions constitute a valid sample for studies of this kind and they are at least as satisfied with their working conditions than those who are not unionised (Georgellis and Lange, 2009).

Conclusions

The findings of this study indicate that working conditions in the prison sector in the UK are far from satisfactory. None of the benchmarks for the management of key psychosocial

hazards were met and levels of mental health problems and job satisfaction were considerably poorer than those reported by other emergency and security services. The information obtained has strong potential to inform interventions to improve the wellbeing of prison officers and provide the basis for further investigation.

References

Armstrong, G. S., Atkin-Plunk, C. A. and Wells, J. (2015). "The Relationship Between Work–Family Conflict, Correctional Officer Job Stress, and Job Satisfaction". *Criminal Justice and Behavior*, Vol. 42 No. 2, pp. 1066-1082.

Bevan, A., Houdmont, J. and Menear, N. (2010). "The Management Standards Indicator Tool and the estimation of risk". *Occupational Medicine*, Vol. 60 No. 7, pp. 525-531

Biron, C., Karanika-Murray, M., & Cooper, C. (Eds.). (2012). *Improving Organizational Interventions for Stress and Well-being: Addressing Process and Context*. Routledge.

Borritz, M., Rugulies, R., Bjorner, J. B., Villadsen, E., Mikkelsen, O. A. and Kristensen, T. S. (2006). "Burnout among employees in human service work: design and baseline findings of the PUMA study". *Scandinavian Journal of Public Health*, Vol. 34 No. 1, pp. 49-58.

Bourbonnais, R., Jauvin, N., Dussault, J. and Vézina, M. (2007). "Psychosocial work environment, interpersonal violence at work and mental health among correctional officers". *International Journal of Law and Psychiatry*, Vol. 30 No. 4, pp. 355-368.

Bowling, N. A., Khazon, S., Meyer, R. D. and Burrus, C. J. (2015). "Situational strength as a moderator of the relationship between job satisfaction and job performance: A meta-analytic examination". *Journal of Business and Psychology*, Vol. 30 No. 1, pp. 89-104.

Brough, P. and Williams, J. (2007). "Managing occupational stress in a high-risk industry: Measuring the job demands of correctional officers". *Criminal Justice and Behavior*, Vol. 34 No. 4 pp. 555-567.

Bureau of Justice (2014) *Correctional Populations in the United States, 2013*

Crawley, E. M. (2004). "Emotion and performance: Prison officers and the presentation of self in prisons". *Punishment & Society*, Vol. 6 No. 4, pp. 1462-4745.

Deguchi, Y., Inoue, K., Muramatsu, T., Iwasaki, S., Yamauchi, T., Nakao, T. and Kiriiike, N. (2013). "Relationships between occupational stress and depressive symptoms among prison officers in Japan". *Osaka City Medical Journal*, Vol. 59 No. 2, pp. 91-98.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), pp. 499-512

Denhof, M. D. and Spinaris, C. G. (2013). "Depression, PTSD, and comorbidity in United States corrections professionals: Prevalence and impact on health functioning". *Desert Waters Correctional Outreach*. Retrieved from <http://desertwaters.com/wp-content/uploads/2013/08/Corrections-Fatigue-Model-Attachment-Document.pdf>

Dollard, M. F. and Winefield, A. H. (1995). "Trait anxiety, work demand, social support and psychological distress in correctional officers". *Anxiety, Stress and Coping*, Vol. 8 No.1), pp. 25-35.

Dollard, M. F. and Winefield, A. H. (1998). "A test of the demand-control/support model of work stress in correctional officers". *Journal of Occupational Health Psychology*, Vol. 3 No. 3, pp. 243-264.

Dollard, M. F., Winefield, H. R. and Winefield, A. H. (2001). *Occupational strain and efficacy in human service workers: When the rescuer becomes the victim*. Kluwer Academic Publishers, The Netherlands

Dollard, M., Winefield, H. R. and Winefield, A. H. (Eds.). (2003). *Occupational Stress in the Service Professions*. CRC Press, Australia.

Donaldson-Feilder, E., Lewis, R. and Yarker, J. (2011). *Preventing Stress in Organizations: How to Develop Positive Managers*. John Wiley & Sons, Chichester.

Edwards, J. A., Webster, S., Van Laar, D. and Easton, S. (2008). "Psychometric analysis of the UK Health and Safety Executive's Management Standards work-related stress Indicator Tool". In: *British Academy of Management Annual Conference*, 10-12 Sep 2008, Harrogate, UK. Available at <http://oro.open.ac.uk/25007/2/> accessed 15/9/15

Finney, C., Stergiopoulos, E., Hensel, J., Bonato, S. and Dewa, C. S. (2013). "Organizational stressors associated with job stress and burnout in correctional officers: A systematic review". *BMC Public Health*, Vol. 3 No. 1, pp. 82.

Goldberg, D. P. (1978). *Manual of the General Health Questionnaire*. NFER, Windsor.

Goodwin, L., Ben-Zion, I., Fear, N. T., Hotopf, M., Stansfeld, S. A. and Wessely, S. (2013). "Are reports of psychological stress higher in occupational studies? A systematic review across occupational and population based studies". *PLoS ONE*, Vol. 8 No. 11, pp. 1-22.

Griffin, M. L., Hogan, N. L., Lambert, E. G., Tucker-Gail, K. A. and Baker, D. N. (2009). "Job involvement, job stress, job satisfaction, and organizational commitment and the burnout of correctional staff". *Criminal Justice and Behavior*, Vol. 37 No. 2, pp. 239-255.

Hardwick, N. (2014). *HM Chief Inspector of Prisons for England and Wales Annual Report 2013 –14*, available at <https://www.justiceinspectorates.gov.uk/hmiprison/inspections> accessed 8/9/15

Hartley, D. J., Davila, M. A., Marquart, J. W. and Mullings, J. L. (2013). "Fear is a disease: The impact of fear and exposure to infectious disease on correctional officer job stress and satisfaction". *American Journal of Criminal Justice*, Vol. 38 No. 2, pp. 323-340.

Harvey, J. (2014). "Perceived physical health, psychological distress and social support among prison officers". *The Prison Journal*, Vol. 94 No. 2, pp. 242-259.

Hawton, K., Linsell, L., Adeniji, T. and Fazel, S. (2014). "Self-harm in prisons in England and Wales: An epidemiological study of prevalence, risk factors, clustering, and subsequent suicide". *The Lancet*, Vol. 383 No. 9923, pp. 1147-1154

Health and Safety Executive. *HSE Management Standards Analysis Tool*. Available at http://www.the-stress-site.net/uploads/2/7/0/6/2706840/analysis_tool_manual.pdf, Accessed 14/9/15

Holmes, S. and MacInnes, D. (2003). "Contributors to stress among prison service staff". *The British Journal of Forensic Practice*, Vol. 5 No. 2, pp. 16-24.

Houdmont, K., Kerr, R. and Randall, R. (2012). "Organisational psychosocial hazard exposures in UK policing; Management standards indicator tool reference values". *Policing. An International Journal of Police Strategies & Management*, Vol. 35 No. 1, pp. 182-197.

House of Commons Justice Committee (2015). *Prisons: Planning and Policies*. The Stationery Office Limited, London. Available at <http://www.publications.parliament.uk/pa/cm201415/cmselect/cmjust/309/309.pdf> accessed 15/9/15

Howard League for Penal Reform (2014) *Breaking point: Understaffing and overcrowding in prisons*, available at https://d19ylpo4aovc7m.cloudfront.net/fileadmin/howard_league/user/pdf/Publications/Breaking_point_1.pdf accessed 15/9/15

Inquest (2016). Deaths in prison. <http://www.inquest.org.uk/statistics/deaths-in-prison> accessed 12.3.16

Iversen, A. C., Fear, N. T., Ehlers, A., Hughes, J. H., Hull, L., Earnshaw, M., ... & Hotopf, M. (2008). Risk factors for post-traumatic stress disorder among UK Armed Forces personnel. *Psychological Medicine*, 38(04), 511-522.

Jackson, C. (2007). "The General Health Questionnaire", *Occupational Medicine*, Vol. 57 No.1, p.79

Johnson, J. V., & Hall, E. M. (1988). Job strain, workplace social support, and cardiovascular disease: a cross-sectional study of a random sample of the Swedish working population. *American Journal of Public Health*, 78(10), 1336-1342.

Karasek, R., & Theorell, T. (1992). *Healthy Work: Stress, Productivity, and the Reconstruction of Working Life*. Basic Books.

Kerr, R., McHugh, M., & McCrory, M. (2009). "HSE management standards and stress-related work outcomes", *Occupational Medicine* Vol. 59 No. 8, pp. 574-579.

Kinman, G. & Wray, S. (2013). *Higher Stress: A Survey of Stress and Wellbeing among Staff in Higher Education*, London: UCU Publications

Kunst, M. J. J. (2011). "Working in prisons: A critical review of stress in the occupation of correctional officers". In J. Langan-Fox & C.L. Cooper (Eds.), *Handbook of Stress in the Occupations* (pp.241-283) Edward Elgar Publishing, Northampton.

Lambert, E. and Hogan, N. (2009). "The importance of job satisfaction and organizational commitment in shaping turnover intent: A test of a causal model". *Criminal Justice Review*, Vol. 34, No. 1, pp. 96-118.

Lambert, E. G., Hogan, N. L., Barton-Bellessa, S. M. and Jiang, S. (2012). "Examining the relationship between supervisor and management trust and job burnout among correctional staff". *Criminal Justice & Behavior*, Vol. 39 No. 7, pp. 938-957.

Lambert, E. G., Hogan, N. L., Dial, K. C., Jiang, S. and Khondaker, M. I. (2012). "Is the job burning me out? An exploratory test of the job characteristics model on the emotional burnout of prison staff". *The Prison Journal*, Vol. 92 No. 1, pp. 3-23.

Lambert, E. G., Hogan, N. L., Moore, B., Tucker, K., Jenkins, M., Stevenson, M. and Jiang, S. (2009). "The impact of the work environment on prison staff: The issue of consideration, structure, job variety, and training". *American Journal of Criminal Justice*, Vol. 34 No. 3-4, pp. 166-180.

Lancefield, K., Lennings, C. J. and Thomson, D. (1997). "Management style and its effect on prison officers' stress". *International Journal of Stress Management*, Vol. 4 No. 3, pp. 205-219.

Leino, T. M., Selin, R., Summala, H., & Virtanen, M. (2011). Violence and psychological distress among police officers and security guards. *Occupational Medicine*, 61(6), 400-406.

Leip, L. A. and Stinchcomb, J. B. (2013). "Should I stay or should I go? Job satisfaction and turnover intent of jail staff throughout the United States". *Criminal Justice Review*, Vol. 38 No. 2, pp. 226-241.

Li, C. Y., & Sung, F. C. (1999). A review of the healthy worker effect in occupational epidemiology. *Occupational Medicine*, 49(4), 225-229.

Liebling, A., Price, D., & Shefer, G. (2010). *The Prison Officer*. (2nd ed.). Willan Publishing, Cullompton, Devon

Mackay, C. J., Cousins, R., Kelly, P. J., Lee, S. and McCaig, R. H. (2004). "Management standards' and work-related stress in the UK: Policy background and science". *Work & Stress*, Vol. 18 No. 2, 91-112.

Mahfood, V. W., Pollock, W. and Longmire, D. (2013). "Leave it at the gate: job stress and satisfaction in correctional staff". *Criminal Justice Studies*, Vol. 26 No. 3, pp. 308-325.

McCraty, R., Atkinson, M., Lipsenthal, L., & Arguelles, L. (2009). "New hope for correctional officers: An innovative program for reducing stress and health risks". *Applied Psychophysiology & Biofeedback*, Vol. 34 No. 4, pp. 251-272.

Mellor, N., Mackay, C., Packham, C., Jones, R., Palferman, D., Webster, S. and Kelly, P. (2011). "Management Standards' and work-related stress in Great Britain: Progress on their implementation". *Occupational Health and Safety Management, issues and challenges, Safety Science*, Vol. 49 No. 7, pp. 1040-1046.

- Ministry of Justice (2014). National Offender Management Service Workforce Statistics Bulletin, September 2014. Ministry of Justice
- Morgan, R., Van Haveren, R. & Pearson, C. (2002). "Correctional officer burnout: Further analyses". *Criminal Justice and Behavior*, Vol. 29 No 2, pp. 144-160
- Moon, B., & Maxwell, S. R. (2004). The sources and consequences of corrections officers' stress: A South Korean example. *Journal of Criminal Justice*, 32(4), 359-370.
- Paoline, E. A., Lambert, E. G., & Hogan, N. L. (2006). A Calm and Happy Keeper of the Keys. The Impact of ACA Views, Relations With Coworkers, and Policy Views on the Job Stress and Job Satisfaction of Correctional Staff. *The Prison Journal*, 86(2), 182-205.
- Pitts, J. M. A., Griffin, O. H. and Johnson, W. W. (2014). "Contemporary prison overcrowding: Short-term fixes to a perpetual problem". *Contemporary Justice Review*, Vol. 17 No. 1, pp. 124-139.
- Rutter, D. R. and Fielding, P. J. (1988). "Sources of occupational stress: An examination of British prison officers", *Work & Stress*, Vol. 2 No. 4, pp. 291-299.
- Schaufeli, W.B. and Peeters, M.C.W. (2000). "Job stress and burnout among correctional officers: A literature review". *International Journal of Stress Management*, Vol. 7 No. 1, pp. 19-48.
- Senol-Durak, E., Durak, M. and Gençöz, T. (2006). "Development of work stress scale for correctional officers". *Journal of Occupational Rehabilitation*, Vol. 16 No. 1, pp. 157-168.
- Slate, R. N. and Vogel, R. E. (1997). "Participative management and correctional personnel: A study of the perceived atmosphere for participation in correctional decision making and its impact on employee stress and thoughts about quitting". *Journal of Criminal Justice*, Vol. 25 No. 5, pp. 397-408.
- Slate, R. N., Vogel, R. E., & Johnson, W. W. (2001). "To quit or not to quit: Perceptions of participation in correctional decision making and the impact of organizational stress". *Corrections Management Quarterly*, Vol. 5, pp. 68-78.

Stride, C., Wall, T. D. and Catley, N. (2007). *Measures of job satisfaction, organizational commitment, mental health and job-related wellbeing: A benchmarking manual* (2nd ed), Wiley, New York.

Tartaro, C. and Lester, D. (2009). *Suicide and self-harm in prisons and jails*, Lanham, Lexington.

Van der Doef, M. and Maes, S. (1999). "The job demand-control (-support) model and psychological well-being: A review of 20 years of empirical research". *Work & Stress*, Vol. 13 No. 2, pp. 87-114.

Formatted: German (Germany)

Vartia, M. and Hyyti, J. (2002). "Gender differences in workplace bullying among prison officers". *European Journal of Work and Organizational Psychology*, Vol. 11 No. 1, pp. 113-126.

Viswesvaran, C., Sanchez, J. I. and Fisher, J. (1999). "The role of social support in the process of work stress: A meta-analysis". *Journal of Vocational Behavior*, Vol. 54 No. 2, pp. 314-334.

Walker, E.J., Jackson, C.A., Egan, H. H. and Tonkin, M. (2015). "Workability and mental wellbeing among therapeutic prison officers". *Occupational Medicine*, DOI: 10.1093/occmed/kqv084

Warr, P., Cook, J. and Wall, T. (1979). "Scales for the measurement of some work attitudes and aspects of psychological well-being". *Journal of Occupational Psychology*, Vol. 52 No. 2, pp. 129-148.

Webster, S. and Buckley, P. (2008). *Psychosocial working conditions in Britain in 2008*, Health and Safety Executive, available at <http://www.hse.gov.uk/statistics/pdf/pwc2008.pdf> accessed 8/9/15

TABLE 1: Mean scores for the HSE hazard categories (with HSE means and need for action)

	<i>Current study mean</i>	<i>HSE mean (shortfall)</i>	<i>Need for action</i>
Demands	1.88	3.44 (-1.56)	Red
Control	2.39	3.32 (-0.93)	Red
Manager support	2.57	3.77 (-1.20)	Red
Peer support	3.46	4.03 (-0.57)	Yellow
Relationships	2.75	4.13 (-1.38)	Red
Role	3.58	4.61 (-1.03)	Red
Change	2.21	3.54 (-1.33)	Red

SDs: demands = .56; control = .73; manager support = .85; peer support = .71; relationships = .76; role = .74; change = .75

N.B. High scores for demands, control, support, role, relationships and change represent higher well-being

TABLE 2: Correlations between study variables

	1	2	3	4	5	6	7	8	9	10
1. Demands	1.0									
2. Control	.32	1.0								
3. Manager support	.28	.49	1.0							
4. Peer support	.18	.18	.35	1.0						
5. Role	.32	.41	.46	.34	1.0					
6. Relationships	.45	.34	.40	.32	.38	1.0				
7. Change	.25	.52	.58	.26	.49	.33	1.0			
8. Psychological distress	-.40	-.35	-.35	-.25	-.42	-.51	-.36	1.0		
9. Intrinsic job satisfaction	.40	.58	.60	.28	.51	.47	.56	-.52	1.0	
10. Extrinsic job satisfaction	.43	.50	.61	.34	.53	.51	.54	-.55	.81	1.0

All correlations significant at $p < .001$.

N.B. High scores for demands, control, support, role, relationships and change represent higher well-being

TABLE 3: Hierarchical regressions showing the psychosocial hazards as predictors of mental health problems (GHQ scores) and job satisfaction

Predictors	GHQ scores	Intrinsic satisfaction	Extrinsic satisfaction
Gender	.02	.08**	.07**
Age	-.13**	.16***	.13***
Occupational tenure	.01	-.03	-.06
<i>Step 1 R²</i>	.02***	.02***	.02***
Demands	-.16***	.10***	.15***
Control	-.07**	.24***	.12***
Manager support	-.01	.25***	.25***
Peer support	-.02	.00	.05**
Role	-.17***	.13***	.16***
Relationships	-.31***	.14***	.18***
Change	-.08**	.16***	.16***
<i>Step 1 R²</i>	.34***	.54***	.53***
Total R²	.36***	.56***	.55***

** p <.01; *** p <.001