A new approach to evaluating the well-being of police

B. Juniper¹, N. White¹ and P. Bellamy²

¹Cranfield Health, Cranfield University, Vincent Building (52a), Cranfield, Bedfordshire MK43 0AL, UK, ²Natural Sciences, Cranfield University, Cranfield, Bedfordshire MK43 0AL, UK.

Correspondence to: B. Juniper, Cranfield Health, Cranfield University, Vincent Building (52a), Cranfield, Bedfordshire MK43 0AL, UK. Tel: +44 (0) 1234 758300; fax: +44 (0) 1234 751206; e-mail: b.juniper.s05@cranfield.ac.uk

Background

There is a growing body of evidence that links employee well-being to organizational performance. Although police forces are under increasing pressure to improve efficiency and productivity, the evaluation of well-being in law enforcement is mostly restricted to self-report stress questionnaires that are based on questionable construction methodologies. No instrument to specifically determine the well-being of police force employees currently exists.

Aims

To construct an instrument that measures the work-related well-being of officers and staff within a police force.

Methods

The approach is drawn from well-established clinical models used to evaluate the well-being of patients. Potential variables were confirmed using an item selection method known as impact analysis that places keen emphasis on frequency and importance as perceived by the respondents themselves.

Results

Analyses of 822 completed response sets showed that nine separate dimensions of police work can adversely affect well-being (advancement, facilities, home work interface, job, physical health, psychological health, relationships, organizational and workload). Overall, officers showed inferior well-being compared with their colleagues. Content validity and adequate internal reliability were confirmed.

Conclusions

This study considered a new robust approach to evaluating the well-being of all those working in law enforcement. The nine dimensions extended beyond conventional stress measures and may offer a practical alternative way of assessing the overall well-being status of an entire force using a systematic item selection framework.

Key words

Health; law enforcement; measurement; police; stress; well-being; wellness.

Introduction

A growing number of studies are providing convincing links between the overall well-being of staff and their performance in the workplace [1–4]. This has prompted the need for more robust methods to evaluate the well-being of workers so that organizational effectiveness may be better optimized.

The work of the police is generally considered to be demanding and can involve exposure to adverse events that impact negatively on health. To date, health-related police studies are mainly in the form of self-report questionnaires that examine occupational stress. Examples include the Police Stress Questionnaire 36 (PSQ 36) [5], the Operational and Organizational Police Stress Questionnaires (PSQ-Op and PSQ-Org) [6], the Police Stressors and Felt Stress Inventory [7], the Situational Stress Inventory [8] and the Police Stress Survey [9]. Additionally, the Police Daily Hassles Scale (PDHS) and Police Daily Uplifts Scale (PDUS) [10] were constructed to evaluate the minor daily experiences in police life that are salient to wider aspects of well-being rather than stress per se.

A review of these scales suggests four potential shortcomings that provide the rationale for this present study.

Firstly, variables for the stress scales are selected from previous research findings and discussions with officers about their views on potential stressors. With the exception of Hart et al. [10], no developer has sought data on actual exposure to a stressor and the degree of stress experienced to ensure the most relevant variables are included in the instrument. As Biggam et al. [5] and
Gudjonsson and Adlam [8] note, it is inappropriate to automatically assume that officers will experience stress as a consequence of exposure to an event.

Secondly, the sample sizes for many of the scale construction studies appear small. For example, Gudjonsson and Adlam [11] relied on the views of 19 junior officers to determine the most relevant stressors; Brown and Campbell [7] developed a list of 107 possible variables from discussions with some 40 officers of which the operational items were then reduced to a total of 13 by 10 judges who eliminated items that they considered to be rare, traumatic or trivial.

Thirdly, the focus to date has only been on the experiences of serving officers. As ~40% of a force is made up of civilians and the performance of a force is somewhat dependent upon this population, it is considered appropriate to examine whether one scale could embrace the well-being issues of both officers and their civilian colleagues.

And finally, a limitation arises from the fact that the majority of extant studies focus on occupational stress rather than the wider construct of well-being that can be defined as a subjective state that draws on multiple dimensions including physical, material, social, emotional, developmental and activity-based issues [12].

The aim of this study was therefore to develop an instrument that specifically and purposely measured the wider well-being of all those working within a police force. To address the aforementioned issue of being able to identify variables based on exposure and perceived severity, an approach known as impact analysis (IA) [13,14] was applied. IA is a proven methodology employed to develop Health-Related Quality of Life (HRQL) questionnaires that evaluate the well-being of patients in a clinical setting. Examples of HRQL scales include the Asthma Quality of Life Questionnaire (AQLQ) [15] and the Quality of Life in Stage II Breast Cancer Questionnaire [16]. IA invites patients to ‘score’ how they believe that their own well-being has been impacted by their ill-health based on frequency and perceived importance.

There are parallels between the assessment of impact of disease on patient well-being and the impact of work on employee well-being that this study seeks to explore. In support of this, an earlier pilot study examined the viability of applying the HRQL methodology to the workplace with encouraging results [17]. For the purposes of this study, the definition of work-related well-being (WRWB) was adapted from HRQL practices [17] as follows:

that part of an employee’s overall well-being that they perceive to be determined primarily by their work and can be influenced by workplace interventions.

This definition is important because it emphasizes the importance of employees’ own perceptions and only includes those variables that may be modified through intervention by an employer.

Methods

Approval for the study was provided by the Cranfield University School of Management Ethics Committee.

The work was conducted in collaboration with a medium-sized police force outside the metropolitan area of London.

A comprehensive list of all possible WRWB issues was generated through a series of semi-structured interviews with 64 individuals including 30 officers and 27 staff representing a wide range of directorates, departments and responsibilities. Discussions were also held with the chief constable, the force medical advisor and representatives from occupational health, welfare and human resources. The item pool was augmented by a literature review and additional management information collected by the force itself.

All officers, police community support officers (PCSOs) and civilian staff were invited to complete, anonymously, an online questionnaire that listed all items generated in the previous phase. A free text response option was added if respondents wished to record additional WRWB experiences not already covered by the variables presented. The questionnaire was pretested with a number of officers and staff to ensure that content and instructions were clear.

Respondents were asked to indicate which of the items they had experienced during the past year. A score of ‘0’ denoted that the respondent had not experienced the issue. For each item that was positively identified, they were asked to score how important and bothersome it was to their overall well-being on a 5-point scale (1 = not at all important and 5 = extremely important). As the respondents were requested to provide a score, this scale could be considered continuous [13]. Results were expressed as ‘frequency’ (the proportion of people experiencing the issue) and ‘importance’ (the mean importance for each variable listed). The ‘impact score’ was the product of ‘frequency’ and ‘importance’.

Items were ranked according to their impact score. The non-parametric test, Kendall’s Tau [18], was used to compare item rankings between the three different roles to ascertain if the same set of items could be applied to all subgroups. Probability values (P) <0.05 indicated significant correlations in the rankings between the roles.

Items were examined for normality and then item–item correlations were investigated using Pearson’s correlation coefficient (r). Items that appeared to be measuring the same impairment, for example, fatigue and tiredness, and were highly correlated (r > 0.7) were either combined or the item with the lowest impact score was discarded [13]. The remaining highest scoring variables were selected and categorized into domains based on methodological experience and dimensions documented in established instruments [13,19]. Where domain membership was ambiguous, correlations of items with items
that clearly fell in particular domains were examined [13]. Internal reliability was assessed using Cronbach’s alpha coefficient (α) [20].

To help assess the performance of IA as a scale construction method, the well-being findings for the participant force were examined. To do this, all 0 values recorded for confirmed items were replaced with a ‘1’ value since the two values denoted the same general meaning (where 0 = ‘No, I did not experience this problem’ and 1 = ‘Yes, I did experience this problem but it was not at all important or bothersome’). Variable and domain impact scores would therefore range from 1 to 5 (where 1 = Did not experience/Not at all important or bothersome and 5 = Extremely important and bothersome).

Differences in importance scores between domains and between different roles were investigated using a repeated measures analysis of variance (ANOVA), where the selected domains were the dependant variables. Residuals were tested for normality and the significance of pair-wise comparisons was examined using Fisher's Least Significant Difference (LSD) test to determine meaningful differences between group means in an ANOVA setting.

### Results

A total of 64 variables were identified in the item generation phase and loaded into an online questionnaire. In total, 822 completed assessments were returned. Responses represented 38% of the total force population (officers n = 372 (45%), PCOSOs n = 43 (19%), staff n = 383 (47%), other n = 24 (3%)) that broadly reflected the composition of the force.

From the pool of completed assessments, 159 free text responses were recorded and checked against the 64 variables. No additional areas of WRWB were identified which signified that the present item set had good content validity.

Frequency data ranged from 0.86 to 0.51 and mean importance data ranged from 2.99 to 1.72. Impact scores ranged between 2.42 and 0.88.

Impact scores for each variable were ranked by role and Kendall Tau correlations were examined. Item rankings for each role were significantly correlated with the other two roles (P < 0.05) and it was therefore deemed appropriate to construct one questionnaire for officers, PCOSOs and staff. The 24 respondents who identified themselves as ‘other’ were eliminated from further analysis since their roles were unclear.

In general, items with impact scores exceeding 1.20 were selected for inclusion in the instrument. This threshold was selected as the value indicated a degree of impairment (ranging from 1 to 5) and accommodated the need to develop a scale that would be quick to complete (<7 min/50 questions) in future administrations. A total of 52 of the 64 (81%) original items showed impact scores >1.20. Table 1 shows the overall top 5 impact scores prior to item reduction.

In total, 12 items were eliminated owing to impact scores <1.20. However, two variables were subsequently reinstated (‘Regularly having to come to work on your rest days’ and ‘Not having a clear understanding of your main work priorities’) because of their markedly high impact scores (1.70 and 1.42, respectively) among the officer cohort. The items were found to be normally distributed and examination of item–item correlations (r > 0.7) resulted in eight further items being discarded reducing the final number of variables to 46.

As shown in Table 2, the remaining items were examined closely and grouped into nine separate domains: Advancement (ADV)—impact of training and development opportunity needs; Home Work Interface (HWI)—impact of private life needs; Job (JOB)—impact of specific job aspects; Organizational (ORG)—impact of wider aspects of the force, e.g. change; Physical Health (PHY)—impact of physical health needs; Psychological Health (PSY)—impact of psychological health needs; Relationships (REL)—impact of working relationship needs; Workload (WL)—impact of workload needs and Facilities (FAC)—impact of physical environment needs. Sub-scale internal reliability (α) was satisfactory [21].

WRWB data findings relating to the participant police force were then examined. Overall, the mean WRWB score was 2.04 (score range 1–5).

A repeated measures ANOVA indicated that there were significant differences (P < 0.001) between domains, roles and the interaction between them (Table 3). Residuals were checked and did not deviate from normality.

Fisher’s LSD test indicated some significant differences when comparing domains. Differences between the PHY, WL and ADV domains were not significant nor were the differences between the REL and JOB domains or between the PSY and FAC domains. The ORG domain (mean score 2.32) was considered by respondents to be significantly more harmful to well-being than any of the remaining eight domains.

The differences between roles were investigated and Fisher’s LSD test showed that officers’ well-being (mean score 2.30) was significantly more impaired than that of PCOSOs (mean score 2.03) and staff (mean score 1.84). Differences between the well-being scores of PCOSOs and staff were not significantly different. The interaction between role and domain showed the same differences in role in the HWI, PSY, WL and FAC domains (Figure 1). However, in the REL and ORG domains, people’s well-being was similar across all three roles.

### Discussion

This study identified nine dimensions of police well-being that extended beyond conventional stress measures
currently available. For the first time, a sophisticated clinical framework used to evaluate the well-being of patients was applied to a police force that offered new practical insights on how working for the police may impair overall well-being. Uniquely, the status of civilian staff was also taken into consideration. A possible study limitation relates to how generalizable the findings are to other police force populations. At the time of the research, the participant force was undergoing significant organizational change; the uncertainty for respondents arising from this situation may have influenced unduly the make-up of the final items.

Unlike existing police stress scales, the variables were determined using both frequency and severity data drawn from a sizeable sample of 822 of which 45% held police officer positions. The data suggested that the majority of WRWB issues are experienced by all sections of the police that has practical implications for those tasked with shaping and delivering workplace interventions to improve health and performance across the whole force.

Notwithstanding the definition of WRWB that automatically discounts variables such as exposure to death and danger, no existing police stress scale contains the breadth and range of ‘modifiable’ dimensions highlighted in the present study. For example, the PSQ 36 [5] lacks questions on training, physical health or psychological health and the PSQ-Op and PSQ-Org [6] are deficient in variables relating to advancement or the physical workplace. The 86-item PDHS and 50-item PDUS [10] lack

<table>
<thead>
<tr>
<th>Rank</th>
<th>Question</th>
<th>Frequency</th>
<th>Mean impact</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Feeling overwhelmed by the amount of organizational change within the force</td>
<td>0.86</td>
<td>2.81</td>
<td>2.42</td>
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<tr>
<td>2</td>
<td>Believing that senior officers and managers do not appreciate the challenges you face in your role</td>
<td>0.78</td>
<td>2.99</td>
<td>2.32</td>
</tr>
<tr>
<td>3</td>
<td>Believing that your promotion opportunities in the force are limited</td>
<td>0.77</td>
<td>2.98</td>
<td>2.31</td>
</tr>
<tr>
<td>4</td>
<td>Being concerned about how your job may change in the future</td>
<td>0.86</td>
<td>2.69</td>
<td>2.31</td>
</tr>
<tr>
<td>5</td>
<td>Believing that opportunities to develop your career are limited within the force</td>
<td>0.77</td>
<td>2.96</td>
<td>2.28</td>
</tr>
</tbody>
</table>

*Proportion of workers reporting item as important.

<table>
<thead>
<tr>
<th>Domain (number of items)</th>
<th>Example item</th>
<th>α</th>
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<tbody>
<tr>
<td>Advancement (5)</td>
<td>Believing that your promotion opportunities in the force are limited?</td>
<td>0.74</td>
</tr>
<tr>
<td>Home Work Interface (4)</td>
<td>Having to work unsociable hours that impact on family and friends?</td>
<td>0.83</td>
</tr>
<tr>
<td>Job (7)</td>
<td>Having a job where there is little day-to-day variation</td>
<td>0.78</td>
</tr>
<tr>
<td>Organizational (7)</td>
<td>Feeling overwhelmed by the amount of organizational change within the force?</td>
<td>0.86</td>
</tr>
<tr>
<td>Physical (8)</td>
<td>Having a poor diet because of the job that you do?</td>
<td>0.87</td>
</tr>
<tr>
<td>Psychological (5)</td>
<td>Experiencing high levels of stress because of your workload?</td>
<td>0.84</td>
</tr>
<tr>
<td>Relationships (4)</td>
<td>Not feeling valued for your work by your line manager?</td>
<td>0.80</td>
</tr>
<tr>
<td>Workload (3)</td>
<td>Having to work extended hours because of your workload e.g. late nights?</td>
<td>0.80</td>
</tr>
<tr>
<td>Facilities (3)</td>
<td>Having inadequate facilities for rest during your working day?</td>
<td>0.76</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Role</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Mean square</th>
<th>F value</th>
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<td>356</td>
<td>2</td>
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<td>6360</td>
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</table>
variables associated with change and physical health other than eating.

A number of factors may explain these discrepancies. Firstly, the meaning of WRWB embraces far more aspects of police work than just those that are stress related and therefore elicits a broader spread of issues. For example, ‘Believing that your promotion opportunities in the force are limited’ is perceived by respondents to be important to their well-being (Table 1) but would not necessarily be considered a source of stress. The nine domains identified in this present study support the claims by Waddell and Burton [12] that well-being comprises multiple dimensions. The findings also share commonality with HRQL instruments such as the AQLQ [15] that are made up of domains ranging from disease symptoms through to activity limitation, environmental problems and emotional disturbance.

Another reason relates to the IA methodology that employs a systematic quantitative approach to the item selection process. Aside from the PDHS and PDUS [10], previous police researchers, for example Brown and Campbell [7], steered clear of methodical quantitative input from officers to aid final item selection. This latter approach carries with it the substantial implication that variables considered to have high impact by police workers may be excluded from a scale because they are not held in similar regard by the developers or the small teams they chose to consult with.

The findings indicate broad agreement between items among officers, PCSOs and staff. Although domain rankings varied, the present data suggest that one questionnaire would be appropriate for all those working within a police force. Being able to deploy a single questionnaire across an entire police force should be a benefit to a senior leadership team. By being able to compare and rank findings across all sections of a force using a uniform scale, management teams are more likely to make better informed evidence-based decisions on appropriate integrated programmes that meet the well-being needs of officers and staff alike. The results relating to the participant police force (Figure 1) indicate how a management team might look to enhance the well-being of their officers, PCSOs and staff.

In terms of measurement properties, content validity was confirmed and internal reliability was satisfactory. Future research will test the reproducibility and construct validity of the instrument. How the findings link to performance measures such as sickness absence will also need to verified.

This study proffers a potentially new approach to evaluating the well-being of all those working in law enforcement. Its nine dimensions extend beyond conventional stress measures and may offer a practical alternative way of assessing the overall well-being status of an entire force using a systematic framework that is comprehensive.

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**Figure 1.** Comparison of mean importance scores for each police role across domains.
in its reach and closely aligned to the needs of the overall force.

**Key points**
- In this study, the work-related well-being of police officers and staff comprised nine different domains.
- The work-related well-being of police was discernibly different to occupational stress.
- This new approach may offer a senior management team an alternative way of assessing the well-being of its entire force that may be more closely aligned to the needs and priorities of all those working within it.

**Conflicts of interest**
None declared.

**References**


