The Management Standards Indicator Tool and evaluation of burnout

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Background
Psychosocial hazards in the workplace can impact upon employee health. The UK Health and Safety Executive’s (HSE) Management Standards Indicator Tool (MSIT) appears to have utility in relation to health impacts but we were unable to find studies relating it to burnout.

Aims
To explore the utility of the MSIT in evaluating risk of burnout assessed by the Maslach Burnout Inventory-General Survey (MBI-GS).

Methods
This was a cross-sectional survey of 128 borough council employees. MSIT data were analysed according to MSIT and MBI-GS threshold scores and by using multivariate linear regression with MBI-GS factors as dependent variables.

Results
MSIT factor scores were gradated according to categories of risk of burnout according to published MBI-GS thresholds, and identified priority workplace concerns as demands, relationships, role and change. These factors also featured as significant independent variables, with control, in outcomes of the regression analysis. Exhaustion was associated with demands and control (adjusted $R^2 = 0.331$); cynicism was associated with change, role and demands (adjusted $R^2 = 0.429$); and professional efficacy was associated with managerial support, role, control and demands (adjusted $R^2 = 0.413$).

Conclusions
MSIT analysis generally has congruence with MBI-GS assessment of burnout. The identification of control within regression models but not as a priority concern in the MSIT analysis could suggest an issue of the setting of the MSIT thresholds for this factor, but verification requires a much larger study. Incorporation of relationship, role and change into the MSIT, missing from other conventional tools, appeared to add to its validity.

Key words
Burnout; Management Standards Indicator Tool; Maslach Burnout Inventory; stress.

Introduction
In 2004 the UK Health and Safety Executive (HSE) released a generic Management Standards Indicator Tool (MSIT) [1] for the evaluation of psychosocial hazards associated with stress in the workplace. Studies indicate that the tool has utility when applied alongside various self-reported health impact measures [2–5], but it has not been evaluated specifically against risk of burnout.

Burnout is an outcome of long-term exposure to psychosocial hazard, and is commonly assessed using the Maslach Burnout Inventory-General Scale (MBI-GS), but a search (May 2012) of MedLine and PsycInfo databases failed to identify any studies in which the MSIT has been evaluated against the MBI-GS. This study therefore aimed to evaluate the concurrent administration of these tools.

Methods
A cross-sectional survey involving the MSIT and MBI-GS was conducted during September to October 2011 in a large UK public sector organization that provides front-line services to the public. Ethical approval was obtained from the Anglia Ruskin University Research Ethics Committee.

The MSIT [6] is a reliable 35-item self-report scale designed to evaluate psychosocial hazards in the workplace. It involves Likert-type scales that relate to seven factors: demands, control, managerial support,
peer support, relationships, role and change [7]. The MBI-GS [8] is a reliable 16-item self-report scale with questions in the form of a Likert scale which correlate to three factors related to burnout: exhaustion, cynicism and professional efficacy [9].

Piloting the combined survey amongst university colleagues (n = 24) did not identify operational issues. It was therefore distributed to a convenience sample of all employees (n = 181) of a borough council department, either via a Survey Monkey link (www.surveymonkey.com) using e-mail (n = 164) or hard copy to those without staff e-mail accounts (n = 27).

Data were largely analysed using SPSS software (version 17; SPSS Inc.), and by HSE analytical software that provides comparison of MSIT scores against benchmarks derived from organizations across the UK to identify areas with degrees of priority for intervention [10]. Sensitivity of the tool was further explored by evaluating MSIT scores following stratification of the dataset according to MBI-GS thresholds for ‘high’, ‘moderate’ or ‘low’ risk categories for all three component factors [9].

All cases were then subjected to bivariate (Pearson’s r) analysis to establish background associations, and to stepwise linear regression analysis to examine best-fit models, with MBI-GS factors as dependent variables. Statistical significance was at the P < 0.05 level.

### Results

Eight paper and 120 online responses to the survey were received, a response rate of 67%. Median ranges for respondent age and time of employment was 41–50 years (30%) and 5–10 years (29%), respectively. There was a slightly higher proportion of women respondents (47% versus 32%) although gender was unknown in 21% of cases due to non-response to this question.

Cronbach alpha coefficients of internal reliability for all factor sub-scales ranged from 0.79 to 0.93 and were deemed acceptable. Stratification of the dataset according to MBI-GS scores identified that mean scores for all MSIT factors were gradated according to burnout category (Table 1). Collective analysis of MSIT scores identified four factors—demands, managerial support, role and change—that scored lower than the 80th percentile of norms and so were considered high priorities for intervention.

Bivariate analysis of all cases (Supplementary Table 1, available as Supplementary data at Occupational Medicine Online) identified that MSIT factors were significantly correlated, except for control versus demands. MBI-GS factors were also correlated, except for exhaustion versus professional efficacy. Most MSIT factors were significantly correlated with those of the MBI-GS.

Stepwise linear regression analysis (Table 2) suggested a significant model of association (P < 0.001; adjusted

### Table 1.
Comparison of total sub-scale scores for MSIT factors for cases within MBI-GS scoring categories. Values are means ± SD. Statistical comparison by independent t-test, apart for + when Mann–Witney test was applied as normal distribution of data could not be confirmed

<table>
<thead>
<tr>
<th>MBI-GS scoring category</th>
<th>Demands</th>
<th>Control</th>
<th>Managerial support</th>
<th>Peer support</th>
<th>Relationships</th>
<th>Role</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (n = 15; 12% of total)</td>
<td>26.3 ± 5.7</td>
<td>19.6 ± 4.2</td>
<td>13.0 ± 3.4</td>
<td>12.8 ± 3.6</td>
<td>9.8 ± 3.7</td>
<td>17.7 ± 2.8</td>
<td>6.9 ± 1.8</td>
</tr>
<tr>
<td>Moderate (n = 8; 6%)</td>
<td>22.1 ± 5.0</td>
<td>23.3 ± 4.4</td>
<td>19.3 ± 3.6</td>
<td>16.2 ± 2.4</td>
<td>7.6 ± 2.2</td>
<td>21.7 ± 2.4</td>
<td>10.5 ± 2.4</td>
</tr>
<tr>
<td>Low (n = 13; 10%)</td>
<td>19.7 ± 4.8</td>
<td>23.8 ± 53</td>
<td>22.0 ± 3.5</td>
<td>18.4 ± 1.2</td>
<td>6.4 ± 2.9</td>
<td>22.7 ± 2.7</td>
<td>12.1 ± 2.2</td>
</tr>
<tr>
<td>Difference, high versus low</td>
<td>P &lt; 0.01</td>
<td>P &lt; 0.05</td>
<td>P &lt; 0.001</td>
<td>P &lt; 0.001+</td>
<td>P &lt; 0.05</td>
<td>P &lt; 0.001</td>
<td>P &lt; 0.001</td>
</tr>
</tbody>
</table>

Note: MBI-GS scoring category relates in each instance to respondents who scored in the category for ‘all 3’ component factors. Participants (n = 92; 72%) who scored in the category for just one or two factors are not included in this analysis.

### Table 2.
Stepwise linear regression analysis results with MBI-GS factors as dependent variables and MSIT factors as independent variables

<table>
<thead>
<tr>
<th>Tool</th>
<th>Factor</th>
<th>Significantly related factors</th>
<th>Coefficient estimate (B)</th>
<th>T</th>
<th>P</th>
<th>R²</th>
<th>Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maslach Burnout Inventory-General Scale</td>
<td>Exhaustion</td>
<td>Demands</td>
<td>0.767</td>
<td>7.89</td>
<td>&lt;0.01</td>
<td>0.341</td>
<td>0.331</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control</td>
<td>−0.291</td>
<td>−2.67</td>
<td>&lt;0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cynicism</td>
<td>Change</td>
<td>−0.413</td>
<td>−4.99</td>
<td>&lt;0.01</td>
<td>0.443</td>
<td>0.429</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Role</td>
<td>−0.269</td>
<td>−3.94</td>
<td>&lt;0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professional efficacy</td>
<td>Demands</td>
<td>−0.174</td>
<td>2.47</td>
<td>&lt;0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Managerial support</td>
<td>−0.655</td>
<td>4.85</td>
<td>&lt;0.01</td>
<td>0.431</td>
<td>0.413</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Role</td>
<td>−0.467</td>
<td>2.42</td>
<td>&lt;0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control</td>
<td>−0.361</td>
<td>3.41</td>
<td>&lt;0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demands</td>
<td>−0.307</td>
<td>3.23</td>
<td>&lt;0.01</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Discussion

The MSIT appeared sensitive to risk of burnout, and this study therefore supports findings from related studies involving psychological impact measures [2–5]. Priority outcomes according to MSIT thresholds were largely supported. The exception was control, which was absent as a priority outcome but appeared as an independent factor, or co-factor, in models for professional efficacy and exhaustion. Much larger studies are required to verify if this signifies uncertainty of the lower threshold for control in the MSIT in respect of burnout.

The sample represented over 70% of the department under examination but less than 10% of the whole organization. The study also was conducted at a time when economic austerity was threatening job losses. Findings therefore should be interpreted with caution.

Other ‘Job-Demand-Control-Support’ tools do not specifically include in their constructs the three factors (relationships, change and role) identified as key areas of concern by the MSIT, and as variables within the regression modelling. The MSIT therefore potentially offers flexible, and possibly better discrimination, in evaluating burnout in the workplace.

In conclusion, the MSIT generally demonstrated the utility to evaluate burnout as an outcome of workplace stress but this requires confirmation by a larger study. Its construct appears to offer a comprehensive measure for assessing workplace psychosocial hazards and associated health risk.

Key points

- The Health and Safety Executive’s Management Standards Indicator Tool has the utility to evaluate the impact of psychosocial hazards in the workplace, as measured using the Maslach Burnout Inventory.
- Results suggest that the Management Standards Indicator Tool threshold score for control requires further investigation, though the small-scale nature of the current study should suggest caution in this assertion.
- Inclusion of role, change and relationships within the Management Standards Indicator Tool adds useful extra dimensions to the Job-Demands-Control-Support model.

Conflicts of interest

None declared.

References