Stress management standards: a warning indicator for employee health

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Background
Psychological stress is a major cause of lost working days in the UK. The Health & Safety Executive (HSE) has developed management standards (MS) to help organizations to assess work-related stress.

Aims
To investigate the relationships between the MS indicator tool and employee health, job attitudes, work performance and environmental outcomes.

Methods
The first phase involved a survey employing the MS indicator tool, General Health Questionnaire-12 (GHQ-12), job attitudes, work performance and environmental measures in a call centre from a large utility company. The second phase comprised six focus groups to investigate what employees believed contributed to their perceived stress.

Results
Three hundred and four call centre employees responded with a response rate of 85%. Significant negative correlations were found between GHQ-12 and two MS dimensions; demands (Rho = −0.211, P < 0.001) and relationships (Rho = −0.134, P < 0.05). Other dimensions showed no significant relationship with GHQ-12. Higher levels of stress were associated with reduced job performance, job motivation and increased intention to quit but low stress levels were associated with reduced job satisfaction. Lack of management support, recognition and development opportunities were identified as sources of stress.

Conclusions
The findings support the utility of the MS as a measure of employee attitudes and performance.

Key words
Occupational health; risk assessment; stress; stress management.

Introduction
A review of the health of Britain’s working population reported that 175 million days were lost to illness in 2006 [1]. Stress is now the most common reason for sickness absence, with the average length of stress-related sick-leave being 22.6 days [2]. In 2004, the UK Health & Safety Executive (HSE) launched the management standards (MS) (www.hse.gov.uk/stress/standards) that offers a step-by-step approach to the assessment and management of the causes of work-related stress [3]. The MS define the characteristics and culture of an organization where work-related stress is being managed effectively and provide a benchmark by which an organization can measure their performance. The MS include seven work areas that cover the primary sources of stressors at work: demands, control, manager's support, peer support, relationships, role and change [3–5].

A 35-item self-report questionnaire instrument (MS indicator tool) has been developed to identify potential risk ‘hot spots’ within the seven key work areas. While the MS indicator tool was originally tested as a multidimensional measure of work-related stress [4], research has found it to be a robust instrument that could be used to calculate an overall uni-dimensional work-related stress score [6]. The tool was designed and validated as an organizational level risk assessment. However, organizations can tailor the approach to suit company processes and apply it to individual risk assessments, return-to-work interviews, or in employee opinion surveys.

Research has shown the long-term effects of psychological stress can result in negative psychological, behavioural and physical health effects [7]. For that reason, as a reliable stress risk assessment, it would seem appropriate to assume that the MS indicator tool results
should correlate with existing measures of employee health outcomes, job attitudes and work performance. The present study explored the relationships between the MS indicator tool and measures of employee health, job attitudes, work performance and the physical environment. The research also employed a qualitative phase to gain further information on the causes of work-related stress and possible interventions.

**Methods**

The research was conducted in a UK customer service call centre of a large energy supplier. Phase 1 of the study involved an employee survey and Phase 2 comprised a series of focus groups to explore employee perceptions of the sources of work-related stress. Recruitment for Phase 1 was completed over 2 weeks where the researcher was given permission to attend and present in team meetings. During each meeting, each employee was administered a paper copy of the questionnaire and asked to return completed questionnaires to the researcher onsite. At the end of the questionnaire, participants were invited to register their interest in Phase 2 of the research by contacting the researcher. All focus groups were conducted onsite, during work time and took ~60 min. The research received approval from Loughborough University ethics committee.

The HSE’s MS indicator tool, a 35-item self-report screening questionnaire was used to assess the current organizational climate. The work areas and number of questions include job demands (n = 8), control (n = 6), manager support (n = 5), peer support (n = 4), relationships (n = 4), role (n = 5) and change (n = 3). The questions asked respondents to rate themselves on a 5-point Likert scale, with lower scores for each job demand indicating a higher source of stress.

Self-reported psychological health outcomes were measured using the General Health Questionnaire-12 (GHQ-12) [8], which assesses psychological well-being. The GHQ asks respondents to report how they felt recently on a range of variables using a 4-point Likert scale, with higher scores indicating greater psychological distress. Job attitudes were measured using scales that asked respondents to rate themselves on a 7-point Likert scale, with higher scores indicating greater motivation, satisfaction or intention to quit. Job motivation was scored using a six-item measure that assessed the degree to which a person wants to work well in their job [9]. Job satisfaction and intention to quit were each assessed using a three-item measure from the Michigan Organizational Assessment Questionnaire [10].

Environmental stressors were measured using an 11-item survey that assessed physical job characteristics by asking participants to rate environmental stressors on a 3-point Likert scale. Eight questions were extracted from the USDAW Stress Questionnaire and three site-specific questions were added by the researcher after investigating the workspace [11].

Job performance data was collected using a question from the WHO’s Health and Work Performance Questionnaire (HPQ) [12]. Participants were asked to rate their overall job performance in the past four weeks using a 10-point Likert scale, with higher scores indicating greater job performance. Demographic data, job title, tenure and job type were also collected.

To assess the relationship between the MS and the GHQ-12, a Spearman’s Rho correlational analysis was performed on the individual ranked scores for each work stressor. MS responses were dichotomized into values for low stress levels and high stress levels, and a Wilcoxon Mann–Whitney U non-parametric test was conducted to investigate the relationship between these scores and the GHQ-12. Spearman’s Rho correlational analyses assessed the relationships between the MS and job attitude scales, and the MS and job performance scores.

The research team also developed a set of questions (n = 22) to conduct focus groups, which were designed to evaluate the current processes within the business. Data were recorded and transcribed with participants’ consent. The transcriptions were analysed by the sorting of material into emergent themes [13]. The six topics and number of questions comprised: job roles, responsibilities and demands (n = 2); skills needed and the training received (n = 3); management communication, support and abilities (n = 5); monitoring and feedback (n = 2); recognition and scope for responsibilities/promotion (n = 3); organizational policies and support available to help deal with stress (n = 7).

**Results**

Table 1 summarizes the demographic characteristics of the 304 survey participants (85% response rate).

<table>
<thead>
<tr>
<th>Table 1. Survey sample demographic results</th>
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<tbody>
<tr>
<td>Gender</td>
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<tr>
<td>Male</td>
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<tr>
<td>Female</td>
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<tr>
<td>Age</td>
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<tr>
<td>Years</td>
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<td>Job tenure</td>
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<tr>
<td>Months</td>
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<tr>
<td>Job type</td>
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<tr>
<td>Permanent full-time</td>
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<td>Permanent part-time</td>
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<tr>
<td>Contract/temporary employee</td>
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<tr>
<td>Job title</td>
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<tr>
<td>Customer service specialist</td>
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<tr>
<td>Manager</td>
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<tr>
<td>New connections support</td>
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<td>Operations team administrator</td>
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</table>
Table 2. Spearman’s Rho correlational analyses between the individual MS work stressors and GHQ-12 scores

<table>
<thead>
<tr>
<th>Demand</th>
<th>GHQ-12 score</th>
<th>Control</th>
<th>Manager support</th>
<th>Peer support</th>
<th>Relationships</th>
<th>Role</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demands</td>
<td>−0.211**</td>
<td>0.015</td>
<td>0.015</td>
<td>0.031</td>
<td>−0.134*</td>
<td>0.066</td>
<td>0.015</td>
</tr>
</tbody>
</table>

*P < 0.05; **P < 0.01.

Table 3. Spearman’s Rho correlational analyses between the total MS and job attitudes, performance and environmental scores

<table>
<thead>
<tr>
<th>Management Standards Indicator Tool</th>
<th>Job motivation</th>
<th>Job satisfaction</th>
<th>Intention to quit</th>
<th>Job performance</th>
<th>Mean environmental score</th>
<th>Manager support</th>
<th>Job performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand</td>
<td>0.356**</td>
<td>−0.313**</td>
<td>−0.390**</td>
<td>0.311**</td>
<td>−0.240**</td>
<td>0.015</td>
<td>235**</td>
</tr>
</tbody>
</table>

**P < 0.01.

comparing the MS and the GHQ-12 found scores for the domains of work demands and relationship to be significantly negatively correlated with GHQ-12 outcomes (Table 2). The Spearman’s Rho analysis results for the other five areas of the MS found no significant correlation with the GHQ-12.

Results from the Wilcoxon Mann–Whitney U non-parametric test showed no significant relationship between GHQ-12 scores and the MS low stress levels or high stress levels groups. A significant positive correlation was identified between the MS and job motivation (Table 3). Moreover, a significant negative correlation was found between the MS and intention to quit. However, a significant negative correlation was also found between the MS and job satisfaction.

A significant positive correlation was found between the MS score and employee job performance (Table 3). When investigating this further, the work area of manager support was the factor that was significantly positively correlated with job performance. The three most problematic environmental issues were ‘computers/automated systems breaking down’, ‘dirty or badly maintained areas of work’ and ‘overcrowding/seating arrangements’. A single mean environmental score was calculated combining all three variables so that they could be ranked and compared against the MS scores. Higher mean scores indicated greater interference from these environmental stressors. The Bonferroni Correction (P < 0.016) was applied to ensure the overall familywise significance criterion of 5% was adjusted for. There was a significant negative correlation between the MS and the combined environmental stressors.

Six focus group discussions were conducted to supplement the quantitative findings. From 118 employees who registered their interest to participate in a discussion, 43 participants were selected based on the team they worked in so that at least one participant represented each of the call centre teams. Five of the focus groups consisted of four male and three female participants and one group consisted of five female and three male participants. The employees were aged between 20 and 55 years.

Participants generally reported training to be of little value and as such identified this as their first source of stress because they were not equipped with the correct skills to do the job. Employees reported learning on the job as being most effective because their roles required more practical training (e.g. how to action a bill) than background information (e.g. how energy is delivered to the customer). See Box 1, quote 1.

Box 1

Quote 1: We did not really get hands on training … by being on the phones by myself I would learn more. I personally feel that the training aspect of it was to give you an insight into the work, which would have been fine if the system was set up so that there was a lot of support (Female, 54).

Quote 2: I have come from a background where all of the teams that I have been on I have always been told; you need to do this, you need to do that, this is a priority … I think just something as simple as training on managing your workload [and] deciding what is a priority [is required] (Female, 24).

Quote 3: There always tends to be … the situation where everyone will go to one person on the team, because it is better to go to them than to go to the manager … We get in trouble for it as well (Female, 29).

Quote 4: I had one call; customer is struggling to pay her bills. So I asked her to set up a weekly payment arrangement. She was really happy about that … and then my manager who had been listening to the call [which prompted to sell a product] questioned why I did not promote it? I did not think the customer would be able to afford it. [He said] … ‘you’re making presumptions … you have to plant that idea in their head’ (Female, 29).

Quote 5: You have got people who come into this job just to do this job and go away and not really
had a poor effect on productivity because employees were reluctant when it came to providing employee support. For employees that did receive help from their managers, some employees reported having high workloads, but complained they were reluctant when it came to providing employee support. For employees that did receive help from their managers, the employees criticized their managers’ lack of knowledge and skills with regards to job-specific tasks. This made employees feel like they lacked suitable management support and because of this they would visit a more experienced colleague (quote 3).

Customer service performance used to be assessed by systems where supervisors would listen remotely to a representative’s call and score employees on the level of service given. The call centre recently implemented a new monitoring system that records calls and also records the actions taken on the computer by the agent. This was put into practice to ensure employees were searching through the correct files. Most participants could understand why the system was in place, but some felt as though this technique was excessive. Participants also reported inconsistencies in the amount of monitoring as some were monitored weekly, some reported that they were never monitored and others were excessively monitored. Lack of monitoring caused concern because employees wanted feedback on their performance. Alternatively, excessive monitoring had a poor effect on productivity because employees double checked their work, which meant tasks took longer to complete. Management feedback was reported as unconstructive, which was attributed to lack of training and understanding of employee roles (quote 4).

Participants reported lack of recognition for effort or productivity and this was a great source of dissatisfaction. Some employees stated they just do the minimum not to get dismissed (quote 5).

There has been a recent emphasis on sales and employees reported they did receive some recognition for this. However, lack of acknowledgment for the tasks they do on a day-to-day basis (customer service) is a key factor that influences their job satisfaction and motivation (quote 6).

There were many employees who stated they wanted to take on more responsibility at work but had problems because of the shortage of development opportunities available on site. Even if a position became available, employees did not have the relevant skills for a successful application due to the lack of responsibilities given to them (quote 7).

Participants were asked what the organization could do to help reduce stress and they suggested having experienced supervisors in the call centre that might assist and advise employees with any customer related queries they had (quote 8).

Discussion

The results demonstrate that only certain dimensions of the MS indicator tool were related to the GHQ-12. Job demands were found to be a predictor of well-being, which is in line with previous research [14]. Furthermore, scores for improved work relationships were associated with lower GHQ-12 scores, which may support the suggestion that call centre employees get most pleasure from their social network [15]. This suggests that an employee’s health outcomes improve if the stress experienced from work demands and work relationships reduce.

The results suggest organizations can use the MS to indicate employee job satisfaction, job motivation, job performance and intention to quit. Employees who reported low stress scores using the MS indicator tool had higher levels of job motivation and their intentions to quit the job reduced. One unanticipated relationship was that lower levels of stress related to lower levels of job satisfaction. This conflicts with previous research that showed high levels of stress caused low job satisfaction [16]. There may be several factors interacting to generate lower stress or job satisfaction levels, such as employees finding work unrewarding or if they were searching for alternative employment. However, this association may support previous research that suggests employees need some pressure to think of their work as being significant and meaningful to the business [17]. Employees reported significantly improved job performance when manager support was high. Factors such as job control, support and demands have generally been found as essential predictors of well-being at work [14,18,19]. This suggests...
employees may need responsibilities and pressure to make their work meaningful, but they also require appropriate management support. This was reiterated in the qualitative findings as employees reported lack of support from managers as a major source of stress.

Survey results showed the main external nuisances were computers breaking down, dirty work areas and overcrowding. Previous research suggests small risks such as these are harmful if employees are exposed to these stressors cumulatively [20]. Support for this was found, as employees who had regular problems with computer systems, dirty desks and not being able to find a desk due to hot-desking (desks being shared by multiple office workers on different shifts), reported increased stress levels.

In agreement with previous research, this study highlighted monitoring as being beneficial to both the employees and organization so that a high quality of customer service is delivered [21]. However, the method of recording and type of feedback is important because a management style that provides punitive feedback is likely to achieve different results to one that provides constructive feedback [22]. Furthermore, excessive monitoring hampered employee performance because the extra pressure made them double-check their work. Lack of appropriate management support and development opportunities created a low morale that can have a negative effect on employee commitment [23]. Implementing supervisor support roles in call centres could enrich the level of support employees receive and improve training, commitment, motivation, satisfaction and job performance.

Psychometric assessments have found the MS can be used as a one-dimensional score of stress only when second-order confirmatory factor analyses were performed and not as a single-factor structure [6]. We agree with this assessment as the seven work areas measure individual features of work-related stress and one cannot expect to measure overall stress if all the questions are simply added together. Therefore, the MS indicator tool should be used as intended when initially tested; as a multidimensional measure of stress [4]. Single scores would be more manageable at organizational level, but they would have little meaning. By keeping these distinct areas separate, organizations can distinguish the contributors to employee stress and therefore interventions can be better targeted.

Several limitations must be considered when evaluating the findings of this study. Firstly, this research was a self-report study and requested questionnaire and focus group participants to be self-selecting. Therefore, the potential for bias increases and it is reasonable to assume those who participated in the focus groups were employees who experienced more stress at work. Secondly, participants were employees of the customer service field in the energy industry and the findings may not be generalized widely. Future research will need to explore other occupational groups (private and public sector) to gain a clearer picture of the impact of the MS. Thirdly, this study did not include focus groups with managers, which would have offered greater insight of how the call centre operates. Future research may wish to assess line manager knowledge of the MS and how managers think the principles of the MS can be applied within their organization.

In conclusion, this research provides some insight into how the MS indicator tool relates to other measures of health and job attitudes. The findings suggest organizations can use the MS tool to assess job attitudes and performance, but only the dimensions of demands and relationships were related to GHQ in this study. For employers, the MS indicator tool is a useful risk assessment instrument designed to identify potential causes of stress in the workplace. Rather than using multiple research tools with different Likert scale configurations, this research has demonstrated the potential employee issues that organizations may be able to infer from using this single measure. Organizations have adapted the MS indicator tool for use in other ways, such as individual risk assessments, return-to-work interviews and employee opinion surveys. While this study offers further data on the validity of the MS, more research is needed to assist the HSE to develop and evaluate a robust tool that can be applied in a variety of conditions, industries and workplaces.

Key points

- The results demonstrated the Health & Safety Executive management standards indicator tool dimensions of job demands and work relationships were significantly related to the General Health Questionnaire 12-item version.
- Employers may also be able to use the Health & Safety Executive management standards as an indicator of employee attitudes (satisfaction, intention to quit, motivation and performance).
- Implementing supervisor support roles in call centres may improve employee assistance and provide recognition and promotion opportunities that could reduce staff turnover.

Conflicts of interest

None declared.

References