Psychosocial Working Conditions in Great Britain in 2004

Health and Safety Executive

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SUMMARY

Work stress and related conditions are the second most commonly reported work-related ill-health problems in Great Britain, with an estimated half a million people suffering from stress, anxiety or depression caused or made worse by work. To address this HSE launched the Stress Management Standards in November 2004. The Standards provide organisations with a process to risk-assess and tackle psychosocial working conditions that could lead to stress in the workplace. The ultimate aim of the Management Standards is to improve psychosocial working conditions for British workers thereby reducing the levels of work-related stress.

The aim of this report is to document the results of two surveys undertaken to provide a snap shot of psychosocial working conditions in the British working population prior to the launch Stress Management Standards. This will then assist in the assessment and monitoring of psychosocial working conditions post-launch of the Standards.

The results section reports the level of psychosocial working conditions in the working population in Spring 2004, 6 months before the launch of the Management Standards. These results are not intended to be used to draw conclusions about stress at work, but to provide a baseline for future monitoring of trends in psychosocial working conditions within the British workforce.

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1. INTRODUCTION

1.1 BACKGROUND

Work stress and related conditions are the second most commonly reported work-related ill-health problem in Great Britain, with an estimated half a million people suffering from work-related stress, anxiety or depression (HSE, 2004). In 2003/4 an estimated 12.8 million days off work were attributed to work-related stress, anxiety or depression, making this one of the leading causes of work-related ill-health absence (HSE, 2004).

In 2000 the Health and Safety Commission (HSC) set out a 10-year strategy to improve health and safety at work that included targets for reducing work-related ill-health incidence, work-related injuries and deaths, and related sickness absence (http://www.hse.gov.uk/revitalising/index.htm). These targets require a 20% reduction in ill-health incidence by 2010 and a 30% reduction in related sickness absence in the same time frame. Given its relatively large contribution to the current burden of work-related ill-health incidence and related sickness absence, it was clear that significant reductions in work-related stress would be required if these targets are to be met. To address this, HSE developed a programme of work on stress which included the development of standards for stress management. In November 2004, HSE launched the Stress Management Standards. These standards are in the form of guidance and provide employers with a process to enable them to undertake a risk assessment and develop appropriate interventions and controls for work stress.

Mackay et al (2004) sets out the background to how HSE has developed these Management Standards. The overall aim of the Management Standards is to obtain a general population shift in the main psychosocial working conditions believed to lead to work-stress outcomes, through improvements and interventions where the Standards are not being met.

The Management Standards comprise six standards that address:

- Demands – includes issues such as workload, work patterns and the working environment,

- Control – how much say the person has in the way they do their work,

- Support – includes the encouragement, sponsorship and resources provided by the organisation, line management and colleagues,

- Relationships – includes promoting positive working to avoid conflict and dealing with unacceptable behaviour,

- Role – whether people understand their role within the organisation and whether the organisation ensures the person does not have conflicting roles,

- Change – how organisational change (large or small) is managed and communicated in the organisation.

Although aspects of work culture are also believed to be an important cause of work-related stress, they were not included as a separate standard, as it was felt that these were pervasive throughout the above six standards.

Part of the Management Standards process requires organisations to assess their current state with respect to psychosocial working conditions to help focus effort on further actions required, if any, within the Management Standards process. In order to assist organisations in this respect, HSE developed a set of questions (the HSE Indicator Tool) that could help organisations gain a broad indication of the state of psychosocial working conditions within each of the standard areas in their organisation. This Indicator Tool was developed via a large study in a local authority population using standard development techniques. The standards process does not prescribe use of the indicator tool, indeed it is recommended that other data sources be used where available to supplement results of any questionnaire based assessment. Further details of this indicator tool development process are given in Cousins et al (2004) and Clarke (2004). Full details of the Standards process can also be found at (www.hse.gov.uk/stress/standards/index.htm).

Originally a two stage process was proposed for the indicator tool involving a small set of filter questions (first pass questions) that could avoid further questions (second pass questions) in this standard area, if performance was highly likely to be satisfactory. However, initial development work suggested such an approach might not be appropriate, although potential first pass questions were identified (Clarke, 2004). Analyses and discussion within this report will explore whether such an approach is tenable.

1.2 AIM OF REPORT

This report analyses and reports on two surveys undertaken in the Spring of 2004 with the aim of providing a snap-shot of psychosocial working conditions in the British workforce prior to launch of the Stress Management Standards (3rd November, 2004). It is planned to repeat these surveys in future years. This will allow further assessment and the monitoring of possible improvements in psychosocial working conditions among the whole British workforce, the ultimate aim of the Stress Management Standards. This survey and further surveys will therefore assist in the evaluation of the Standards and HSE stress programme.

Analyses of the data in this report also provided a basis for the aspirational targets set for each of the standards within the Stress Management Standards process.

2. METHODOLOGY

2.1 Omnibus survey

In 2004 HSE commissioned a series of questions in two of the Office for National Statistics (ONS) Omnibus Surveys. Questions were included in a module of the Omnibus for two months: March and April. The Omnibus is a multi-purpose survey developed by the ONS for use by government departments, and other public bodies. It is a vehicle for questions on topics too brief to warrant a survey of their own, and also for topics of immediate interest. Interviewing is carried out every month. Each month's questionnaire covers a variety of topics, reflecting users' requirements and a core of demographic questions.

2.1.1 Sample

The ONS conduct a random probability sample using the Postcode Address File of 'small users', that includes private household addresses, as the sampling frame. This sample was stratified by region, the proportion of households renting from the local authorities and the proportion in which the head of household is in Socio-economic groups 1-5 or 13 (For a description of socio-economic groups see http://www.statistics.gov.uk/methods_quality/ns_sec/continuity.asp). The postal sectors were selected with probability proportionate to size and within each sector, 30 addresses were selected randomly.

If an address contained more than one household, the interviewer used a standard ONS procedure to select just one household randomly. Within households with more than one adult member, just one person aged 16 or over was selected, using random tables. The interviewer only interviewed the selected person, no proxy interviews were taken.

2.1.2 Weighting

As only one household member was interviewed, people in households containing few adults had a better chance of selection than those in households with many. A weighting factor was therefore applied to correct for this unequal probability of selection. To ensure representativeness, the results were presented using weighted data. Therefore, some frequencies and totals presented in the results may not be whole numbers, nor perfectly matching any sample numbers reported.

2.1.3 Fieldwork

All interviews were carried out face-to-face by interviewers trained to carry out ONS surveys. Advanced letters were sent to all the selected households giving a brief account of the survey. Interviewing was completed within a two-week period in both months. Interviewers called at all selected addresses (unless refusal had been made beforehand in response to the advanced letter). The interviewer made at least three calls at an address at different times of the day before abandoning the attempt to contact and interview the selected household.

2.2 Questionnaire

The psychosocial working conditions questions used consisted of all questions developed as part of HSE Management Standards indicator tool. Some details of the development of this tool are given in Cousins et al (2004) with full details in Clarke (2004). The indicator tool comprises 7 separate scales of Demand, Control, Managerial Support, Peer Support, Role, Relationships and Change that map onto the 6 Management Standards. Additional questions to identify eligible respondents (see section 2.3.1 below) and to assess current activity in respect to the management of stress were also included. For reasons stated below, the questionnaire had to be split into two separate modules. These modules are shown in appendix A.

Along with the module on psychosocial working conditions, each Omnibus survey also contained other modules and a core set of demographic and occupational questions. In Omnibus surveys, the number of questions per module are strictly limited and organisations are only permitted one module in each survey month. Due to these restrictions the psychosocial working conditions questions were split into two modules; (i) role, relationship and change questions and (ii) demand, control and support questions; these modules were included in the March 2004 and April 2004 surveys respectively. However, both HSE modules contained key questions termed first pass questions, that were thought to best represent each of the six standards.

2.3 Response Rate

The response rate is calculated as the number of achieved interviews as a percentage of the eligible sample. The overall response rate for March was 63% and for April 61%.

Table 1. Overall Response Rates from March Survey

		%	%
Selected addresses	3,000	100	
Ineligible addresses	225	7	
Eligible addresses	2775	92	
Refusals	*707*		*25*
Non-Contacts	*317*		*11*
Interviews Achieved	***1751***		***63***

Table 2. Overall Response Rates for April Survey

		%	%
Selected addresses	3000	100	
Ineligible addresses	222	7	
Eligible addresses	2778	93	
Refusals	742		27
Non-Contacts	350		13
Interviews Achieved	***1686***		***61***

2.3.1 Responses to HSE modules

HSE's psychosocial working conditions modules were administered to all current employees and those currently self-employed who worked like employees. This was because the questioning was based largely on work-relationships and structures that would be of little relevance to self-employed people who worked largely on their own with control over their work.

Those eligible to answer HSE modules (1727 respondents) were filtered on those in paid employment who stated that they were classified as employees. Those who

were self-employed and reported that they worked as an employee also answered HSE's module (see question M346_SEm in appendix A).

2.4 Analysis

2.4.1 Derivation of standard scores

One of two 5-point Likert response scales were used for all psychosocial working conditions questions. These were either a 5-point balanced frequency scale from Never to Always, or a 5-point balanced scale of agreement from Strongly Disagree to Strongly Agree, with responses coded 1 to 5 respectively. However, in derivation of scores for the scales representing Demand, Control, Managerial Support, Peer Support, Role, Relationships and Change, the numerical values for the question items were realigned so 1 represented the most unfavourable working conditions and 5 the most favourable. This resulted in question items in the demand and relationships scales having their scoring derived from reversed coding.

The overall score for each of these seven scales was calculated for each respondent by adding the item scores for each question in that scale answered and dividing by the total number of questions answered in that scale. In this way a mean score standardised to between 1 and 5 was derived for each of the seven scales representing the standards. This had the effect of standardisation of scale scores regardless of the number of items in the scale and treating missing items as being the equivalent of the mean of other items in the scale for that individual respondent.

2.4.2 Occupational analysis

Occupations were coded by ONS using the Standard Occupation Classification (SOC). The SOC codes have been grouped into 17 categories, with an additional category, "missing" where occupational details were not provided, for whatever reason, at interview. Groups were chosen to bring together occupational units doing similar work with similar working conditions.

2.4.3 Other derived variables

The sample size was not large enough to enable analysis to be conducted on small groups of respondents, for instance, occupational groups. Comparative analysis was carried out between males and female, and between those 40 years old and under with those 41 years old and over.

To enable some kind of comparison between occupational groups, respondents were split into two groups; manual workers and non-manual workers. Manual workers were categorised from the occupational description in the core element of the questionnaire. Those categorised as “Managerial and Professional” or “Intermediate” occupations were re-classified as non-manual workers for the purposes of analysis. Those classified as “Routine and Manual Occupations” or “Not Classified” (<10%) were re-classified as manual workers.

2.5 Sampling Error

All estimates based on sample surveys are subject to statistical errors (sampling errors), which arise from the fact that no single sample of the population will give an exact representation of the total. The extent to which an estimate may be in error varies with the number of sample cases it is based on – the smaller the number of cases the bigger the error.

2.6 Statistical Methods

SPSS files were received from ONS and were cleaned so that statistical analysis could be carried out on those respondents who met the employment criteria (see paragraph 2.3.1).

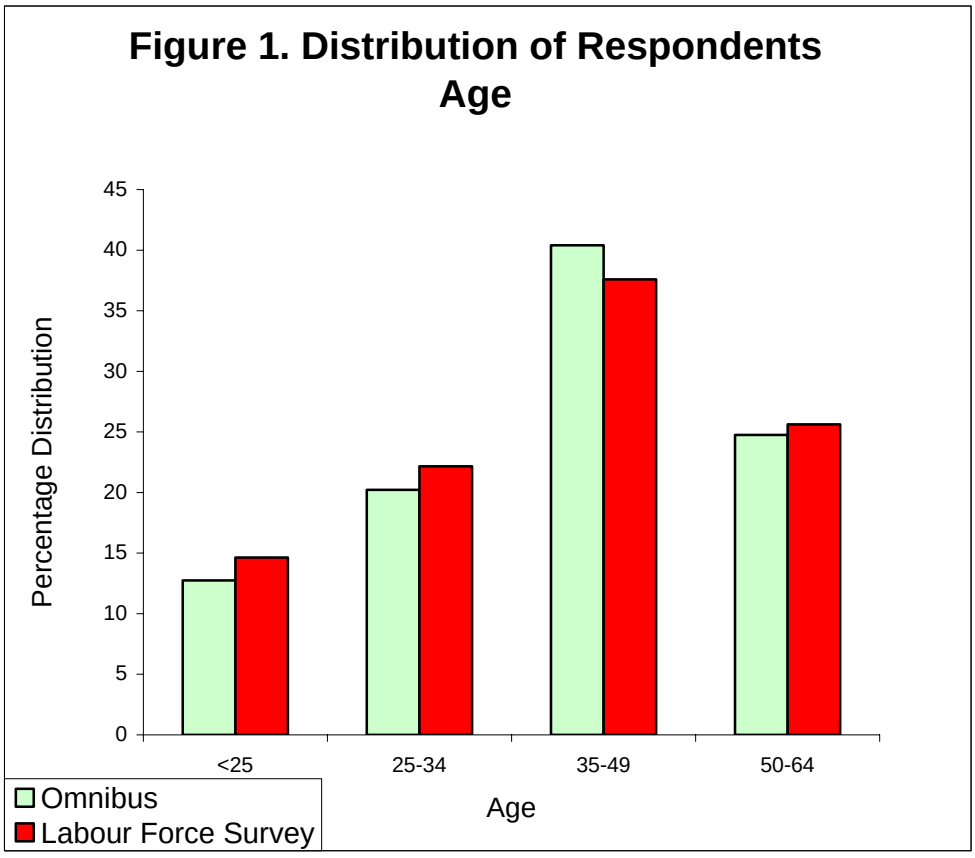
SPSS version 10 (SPSS, 1999) was used for statistical analyses. Statistical differences between groups were investigated using Pearson’s chi-squared test for nominal data (all cell sizes were >5) and Mann-Whitney U tests for ordinal data. Factor analysis used the same approach as in the indicator tool development (Cousins, et al. 2004; Clarke, 2004). Principal Components factor extraction from the correlation matrix was used to maximise variance loading, an oblique promax rotation method was used, kappa was set to 3, to distribute variance across factors. Factor analysis used pairwise deletion for missing values.

3. RESULTS

3.1 Demographics

From a total of 3474 respondents to the March 2004 and April 2004 Omnibus surveys, 1727 were currently working like employees and were therefore eligible to respond to HSE's modules. This consisted of 891 out of 1751 respondents to the March 2004 survey and 836 out of 1686 respondents to the April 2004 survey.

Of the 1727 respondents to HSE's modules 47% were male and 53% were female. Figure 1 shows the age distribution of respondents compared with data from the Labour Force Survey (Feb-Apr 2004). This shows that the employees who responded to HSE's module in the Omnibus Survey were a similar distribution to the general working population.



Similarly, Table 3 shows the geographical distribution of respondents compared with the general working populations, as shown by the Labour Force Survey (LFS) at the same time as the Omnibus survey was undertaken.

These crude comparisons suggest the data is representative of the British working population as would be expected from the sampling methodology and design.

Table 3. Distribution of Respondents by Government Office Regions.

Region	Percentage of Respondents in Survey	Percentage of Total Working Population in Great Britain
North East	4.0	4.0
North West	10.7	11.2
Yorkshire and the Humber	8.6	8.4
East Midlands	8.7	7.4
West Midlands	8.6	9.0
East of England	10.5	10.0
London	8.9	12.8
South East	17.7	15.0
South West	8.6	8.8
Wales	6.2	4.6
Scotland	7.5	8.8

3.2 Assessment of Questionnaire Structure

Originally the indicator tool questionnaire with its seven scales of Demand, Control Managerial Support, Peer Support, Role, Relationships and Change was developed using factor analysis from a larger set of questions (Cousins, *et al.* 2004; Clarke, 2004). Direct reassessment of the same factor structure within these surveys wasn't possible as the questionnaire was split between two modules in separate survey months. However, factor analysis was carried out utilising the original methodology (see methods section 2.6) on each month's data separately to determine whether the scale items were retrieved within the appropriate factors.

The March data for questions related to Role, Relationships and Change indicated sufficient commonality for factor analysis (see significant KMO statistic and Bartlett's test of sphericity, appendix B Table B1). Examination of scree plots, factor eigenvalues and cumulative proportion of variance explained suggested that a three factor solution was appropriate for the March data consistent with what was expected (see appendix B Table B3). Further examination of factors and loadings showed that

the items clustered together in the appropriate scales as expected with high factor loadings and relatively limited cross-loading (see appendix B Table B5)

The April data for questions related to Demand, Control, Managerial Support and Peer support indicated sufficient commonality for factor analysis (see significant KMO statistic and Bartlett's test of sphericity, appendix B Table B2). Examination of scree plots, factor eigenvalues and cumulative proportion of variance explained suggested that a three factor solution was appropriate for the April data (see appendix B Table B4). This wasn't consistent with the expected 4 scales within the question set. Further examination of factors and loadings for a three factor solution showed that the items clustered into elements representing Demand, Control and Support with items in the Demand and Control scales clustering as expected and the Peer Support and Managerial Support clustering together into one Support factor (see appendix B Table B6).

Reliability analyses (Cronbach's Alpha) were conducted to test the internal consistency of the scales. Results shown in Table 4 below indicate good internal reliability of the scales.

Table 4. Reliability of Scales

Scale	No of Items	Alpha
Demand	8	0.821
Control	6	0.798
Managers Support	5	0.835
Peer Support	4	0.768
Overall Support	9	0.878
Role	5	0.825
Relationships	4	0.705
Change	3	0.688

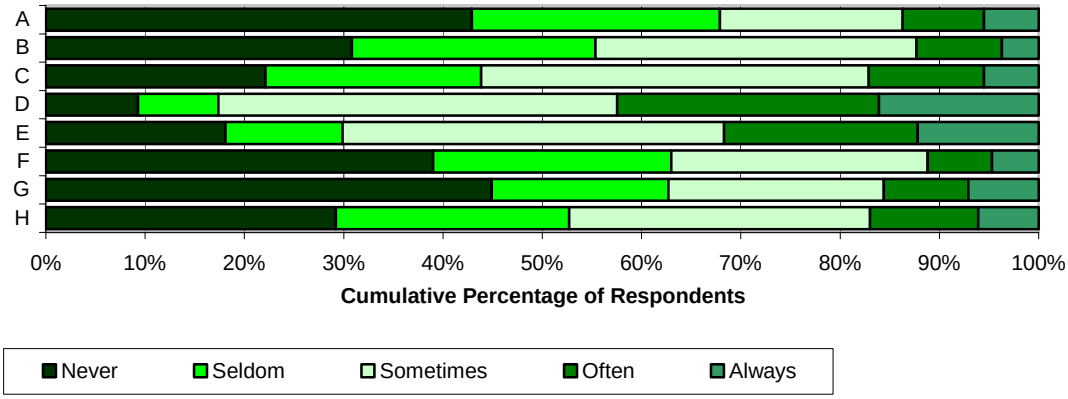
This assessment of the questionnaire structures indicates the suggested structure is robust and the scales hold together well giving acceptable reliabilities. The only issue was the combination of Support into one scale. However, as noted the two Support scales represent one Management Standard and as these gave acceptable reliabilities these scales were used in subsequent analyses within the report. This issue is discussed further in the Discussion (Section 4).

3.3 Management Standards

3.3.1 Distribution of scores for all employees

For each of the seven scales of Demands, Control, Managerial Support, Peer Support, Role, Relationship and Change a mean score for each respondent was calculated as described in the section 2.4.1. Figures 2 to 8 show the percentage distribution of responses across the Likert responses for each of the items within a scale. Further tables below these figures show the item non response.

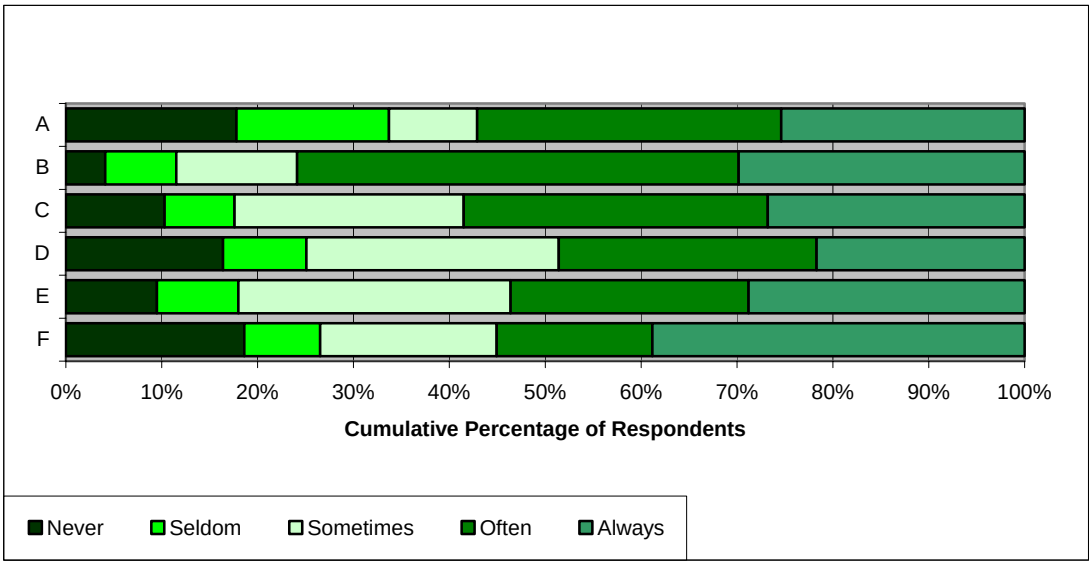
Figure 2. Responses to Demand Questions



Question Key and Non-responses:

Letter	Question	Percentage non-responses
A	I have unrealistic time pressures	1.9
B	I am pressured to work long hours	0
C	I have unachievable deadlines	0
D	I have to work very fast	0
E	I have to work very intensively	0
F	I have to neglect some tasks because I have too much to do	0
G	Different groups demand things from me that are hard to combine	0
H	I am unable to take sufficient breaks	0

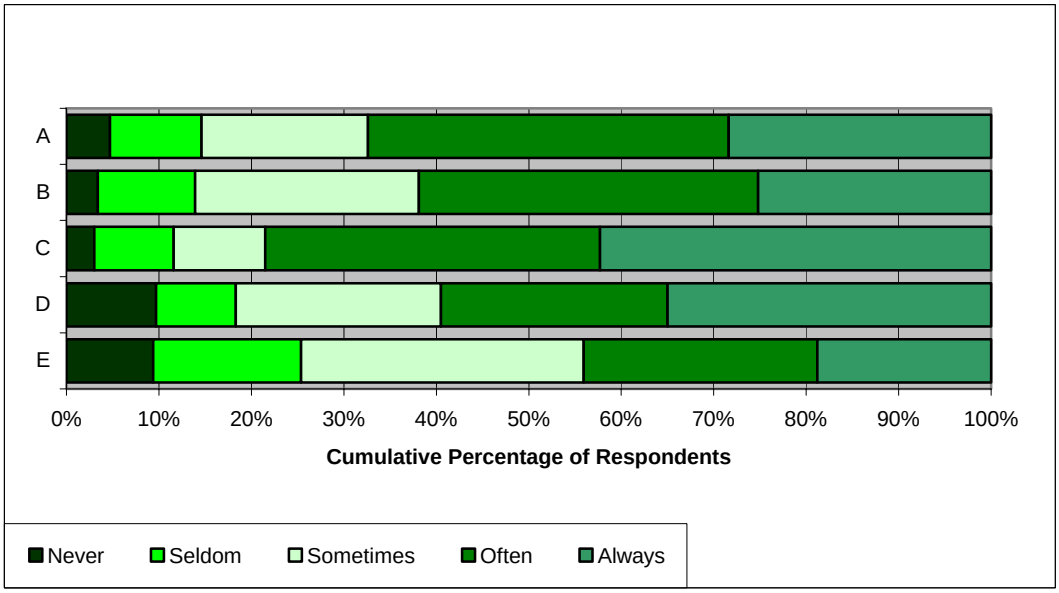
Figure 3. Responses to Control Questions



Question Key and Non-responses:

Letter	Question	Percentage non-responses
A	I can decide when to take a break	0.4
B	I have a say in my own work speed	0.7
C	I have a choice in deciding what I do at work	1.8
D	I have a choice in deciding how I do my work	0.6
E	I have some say over the way I work	0.8
F	My working time can be flexible	0.8

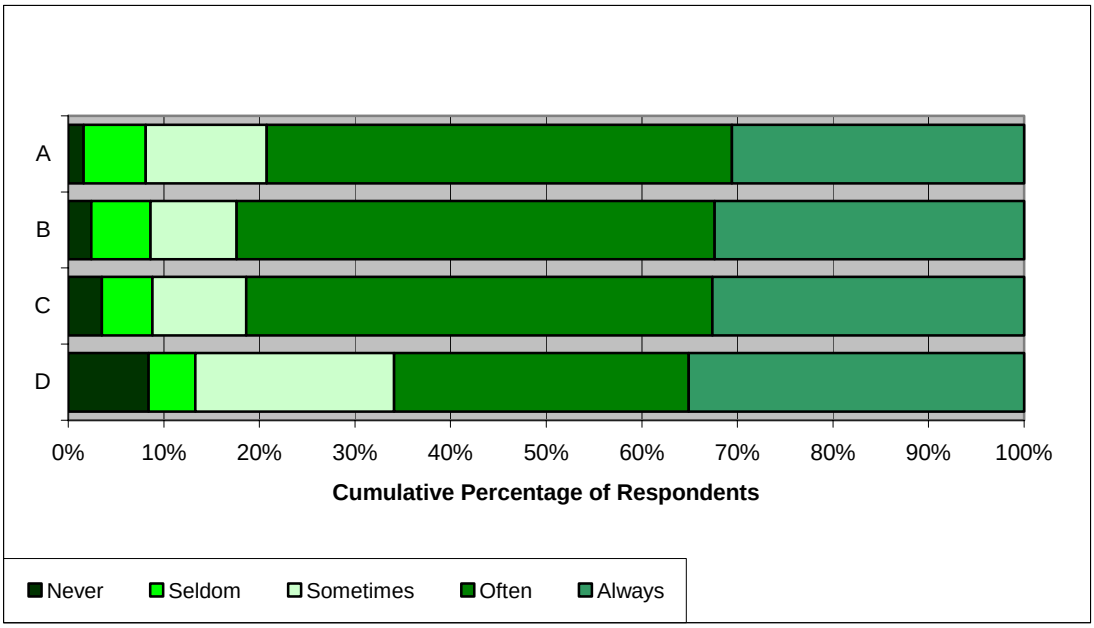
Figure 4. Responses to Management3 Support Questions



Question Key and Non-responses:

Letter	Question	Percentage non-responses
A	I am given supportive feedback on the work I do	0.9
B	I can rely on my LM to help me out with a work problem	1.5
C	I can talk to my line manager about something that has upset or annoyed me about work	1.1
D	I am supported through emotionally demanding work	1.1
E	My line manager encourages me at work	2.7

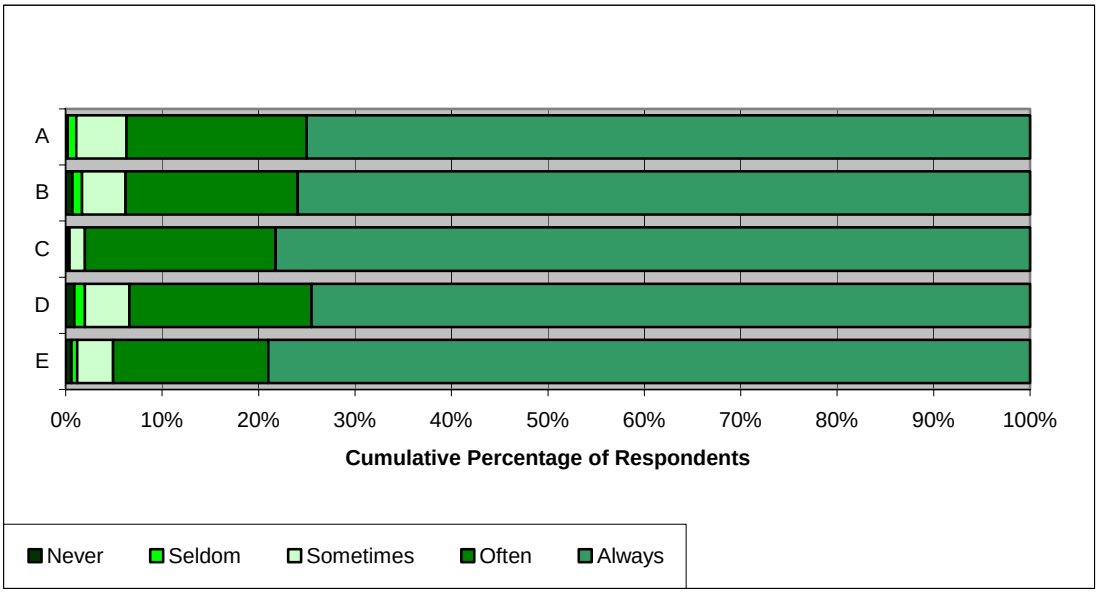
Figure 5. Responses to Peer Support Questions



Question Key and Non-responses:

Letter	Question	Percentage non-responses
A	If the work gets difficult, colleagues will help me	0.7
B	I get help and support I need from colleagues	1.0
C	I receive the respect at work I deserve from my colleagues	0.8
D	My colleagues are willing to listen to my work-related problems	0.9

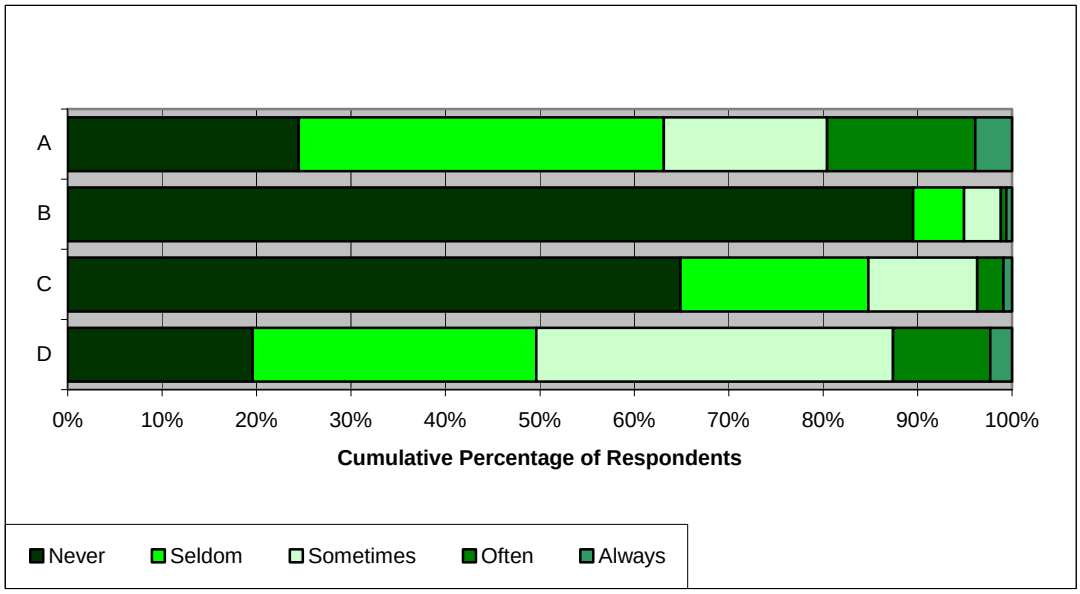
Figure 6. Responses to Role Questions



Question Key and Non-responses:

Letter	Question	Percentage non-responses
A	I am clear what is expected of me at work	0.9
B	I am clear about the goals and objectives for my department	1.0
C	I know about how to go about getting my job done	0.9
D	I am clear what my duties and responsibilities are	1.8
E	I understand how my work fits into the overall aim of the organisation	1.0

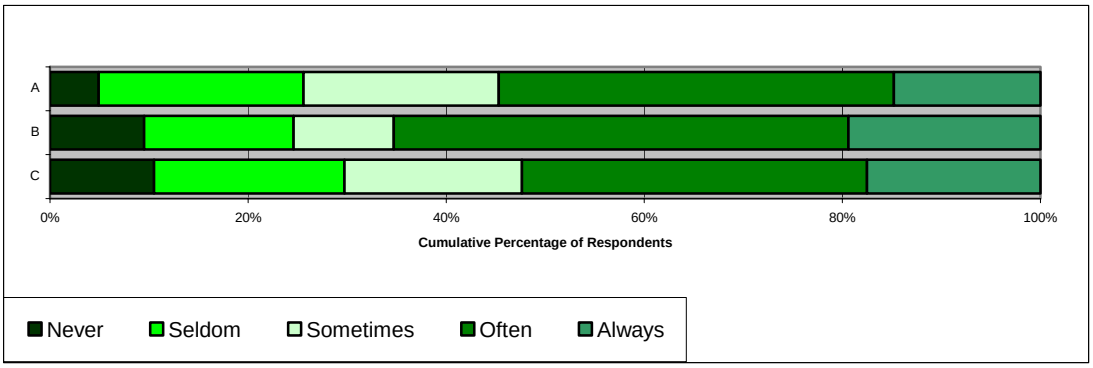
Figure 7. Responses to Relationship Questions



Question Key and Non-responses:

Letter	Question	Percentage non-responses
A	There is friction or anger between colleagues	0
B	I am subject to personal harassment	0
C	I am subject to bullying at work	1.8
D	Relationships at work are strained	2.0

Figure 8. Responses to Change Questions



Question Key and Non-responses:

Letter	Question	Percentage non-responses
A	Staff are consulted about change at work	2.3
B	I have sufficient opportunities to question managers about change	1.2
C	I am clear how changes will work in practice	1.2

All psychosocial working conditions questions within the scales had a low item non-response (all <3% item non-response) consistent with the questionnaire development (Clarke, 2004) and indicative that the questions were interpretable to respondents.

Histograms showing the distribution of the standard scale scores for Demands, Control, Managerial Supports, Peer Support, Role, Relationship and Change are shown below in Figures 9 to 15 respectively. Further data showing the scores by cumulative percentiles of the respective score distribution are shown in Table 5 below.

Figure 9. Mean Scores for Demand Questions

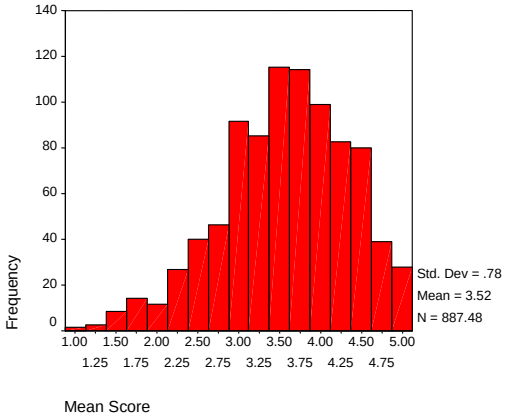


Figure 10. Mean Scores for Control Questions

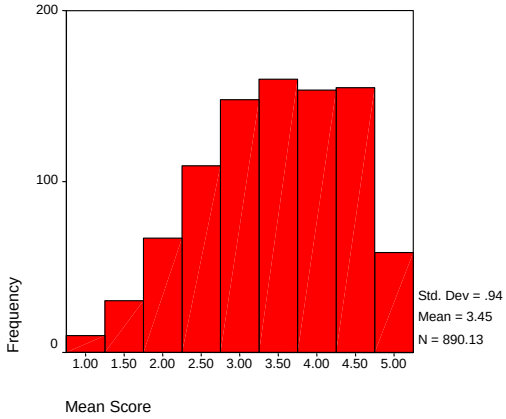


Figure 11. Mean Scores for Management Support Questions

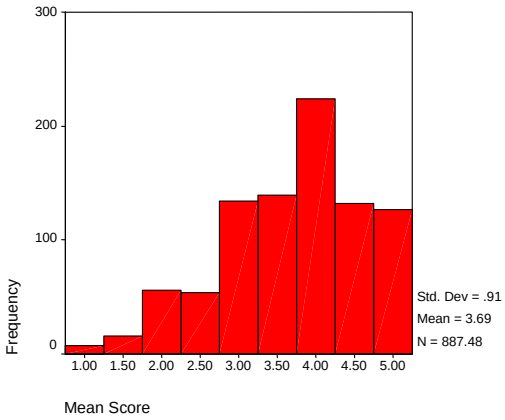


Figure 12. Mean Scores for Peer Support Questions

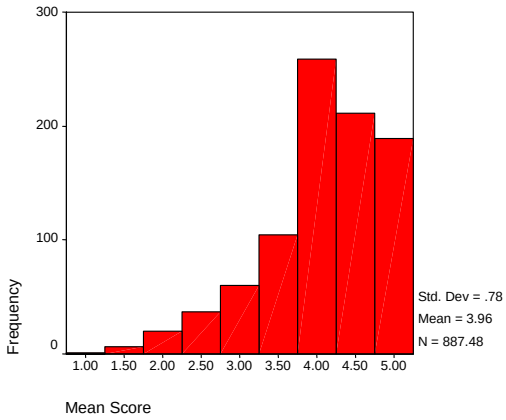


Figure 13. Mean Scores for Role Questions

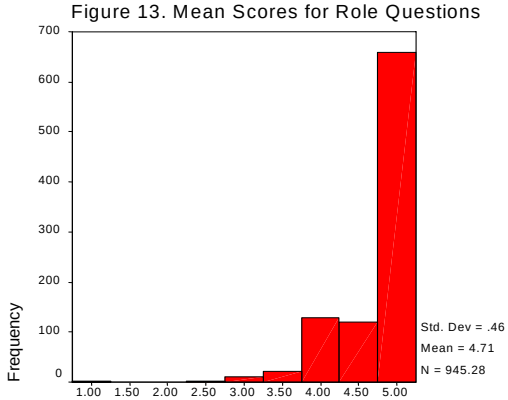


Figure 14. Mean Scores for Relationship Questions

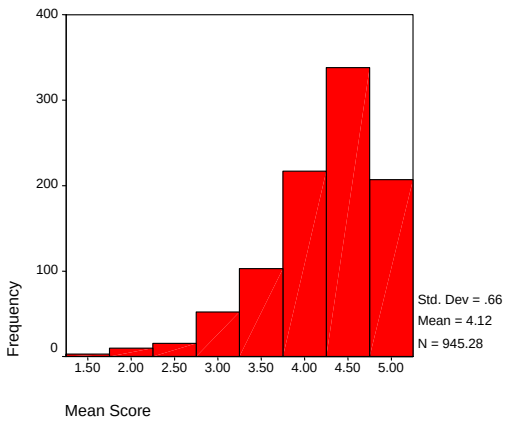


Figure 15. Mean Scores for Change Questions

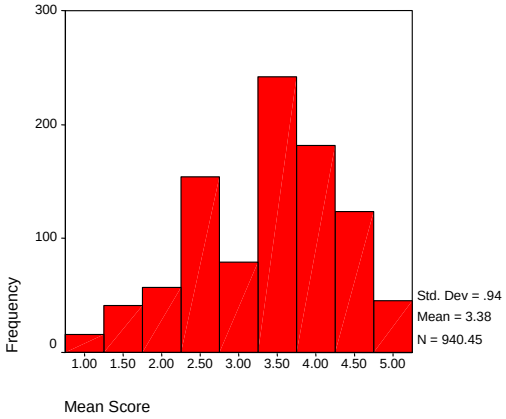


Table 5. Percentile Figures for Each Standard

Percentile	1	10	20	30	40	50	60	70	80	90	99
Demand	1.4	2.5	2.88	3.13	3.38	3.5	3.75	4.0	4.25	4.5	5.0
Control	1.25	2.17	2.67	3.0	3.17	3.5	3.83	4.0	4.33	4.67	5.0
Managers Support	1.4	2.4	3.0	3.24	3.6	3.8	4.0	4.2	4.6	4.8	5.0
Peer Support	1.75	2.75	3.33	3.75	4.0	4.0	4.25	4.5	4.75	5.0	5.0
Role	3.2	4.0	4.4	4.6	4.8	5.0	5.0	5.0	5.0	5.0	5.0
Relationship	2.0	3.25	3.75	4.0	4.0	4.25	4.26	4.5	4.75	5.0	5.0
Change	1.0	2.0	2.67	3.0	3.33	3.67	3.67	4.0	4.0	4.67	5.0

These data were used to identify potential aspirational targets within each of the standards *a priori*. It was thought that organisations should strive to ensure their employees achieve the level of those currently in the top 20% of the distribution for each of the standards i.e. be at or above the 80th percentile baseline of 2004.

3.3.2 Differences Between Groups for 80th Percentile

To assess the impact of population demographics on the population distributions the differences in the 80th percentile level for age, sex, and crudely measured social class are shown below in Table 6.

Table 6. 80th Percentile score for scales by selected demographics

	Demand	Control	Managers Support	Peer Support	Role	Relation-ship	Change
All	4.25	4.33	4.60	4.75	5.00	4.75	4.00
Male	4.12	4.67	4.60	4.50	5.00	4.75	4.00
Female	4.74	4.50	4.80	4.75	5.00	4.98	4.33
<=40 years old	4.50	4.50	4.80	4.57	4.50	4.75	4.33
>40 years old	4.50	4.67	4.60	4.75	5.00	4.98	4.33
Manual Workers	5.00	4.33	4.60	4.75	5.00	4.75	4.00
Non-Manual Workers	4.00	4.67	4.80	4.75	5.00	4.75	4.33

The 80th percentile level in the score distribution did not appear to vary markedly between sexes, different age groups or between manual and non manual workers with the possible one exception of the Demand score between manual and non-manual workers. However, in this case the lower 80th percentile score for Demand for non-manual workers is close to the overall 80th percentile for Demand.

To supplement this crude comparison of the 80th percentile levels, non-parametric statistical tests were used to assess whether there were statistically significant differences between the distributions of the Demand, Control, Managerial Support, Peer Support, Role, Relationships and Change score by sex, age group and manual/non manual status. Only those differences that were found to be statistically significant are reported below.

Significant differences were found between males and females with respect to Demand, Control, Managerial Support, Peer Support and Role score (see appendix C Table C2). These significant differences relate to females reporting generally better support from their managers and peers, lower work demands and better understanding of their work role than males. However, females indicate they have generally lower work control than male workers.

With respect to manual, non-manual status, significant results were found between these groups for answers relating to Demand, Control and Role (See appendix C

Table C3). Interestingly, non-manual workers report that they understand their role better than manual workers.

3.4 Stressfulness

Respondents on both surveys were asked to rate how stressful they felt their job was, on a 5-point balanced Likert scale from *Not at all stressful* (coded 1) to *Extremely stressful* (coded 5). Below shows the distribution of scores in response to this single question. Nearly 16% of respondents report that they find their job either very or extremely stressful. This is in line with previous research (Smith et al, 2000).

Figure 16 "Stressfulness"

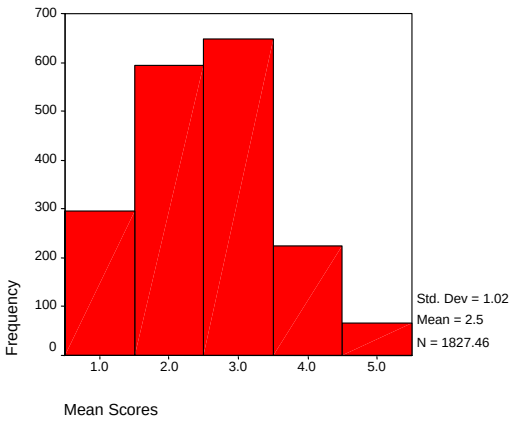


Table 7. Frequency of Responses to "Stressfulness" Question

	Frequency	Valid Percent
Not at all stressful	297	16.2
Mildly stressful	593	32.5
Moderately stressful	648	35.5
Very stressful	223	12.2
Extremely stressful	66	3.6
Total	1827	100.0

3.4.1 Stressfulness by Standard scores

Figures 17 - 23 graphically demonstrate the reported job stressfulness against the scale scores for Demand, Control, Managerial Support, Peer Support, Role, Relationships and Change. The mean scores for scales all show a reasonable inverse linear relationship that is in the expected direction, i.e. more unfavourable

working conditions associated with greater reported job stressfulness, with the exception of Control where the relationship isn't so clear.

I = Confidence interval.

Figure 17. Mean score of Demand questions by Stressfulness

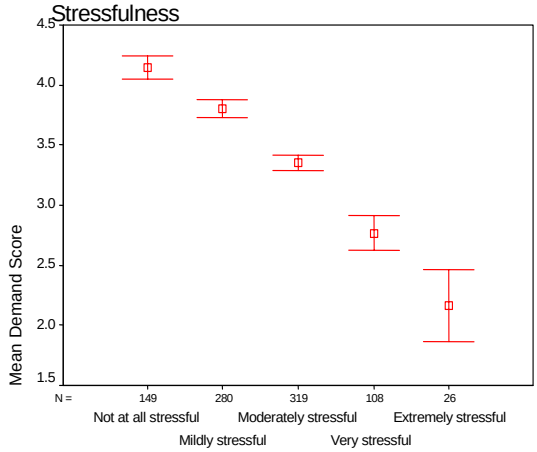


Figure 18. Mean scores of Control questions by Stressfulness

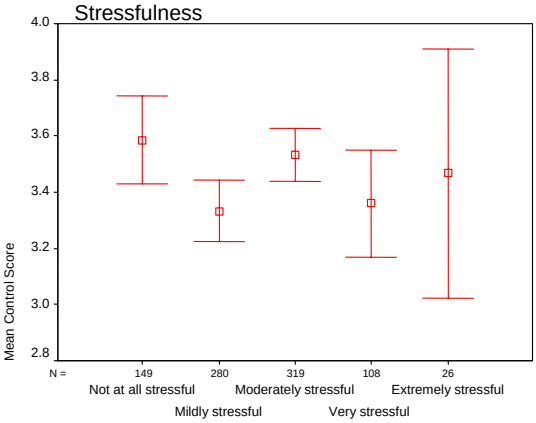


Figure 19. Mean scores of Management Support questions by Stressfulness

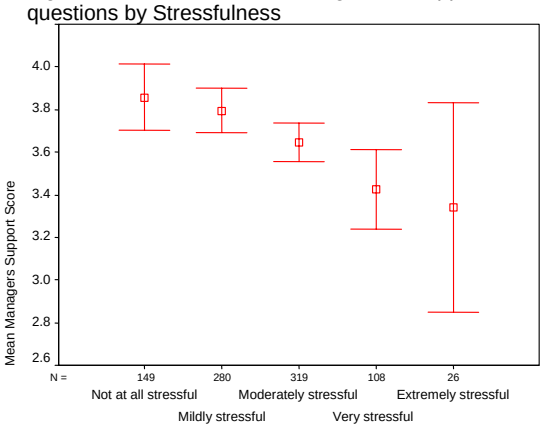


Figure 20. Mean scores of Peer Support questions by Stressfulness

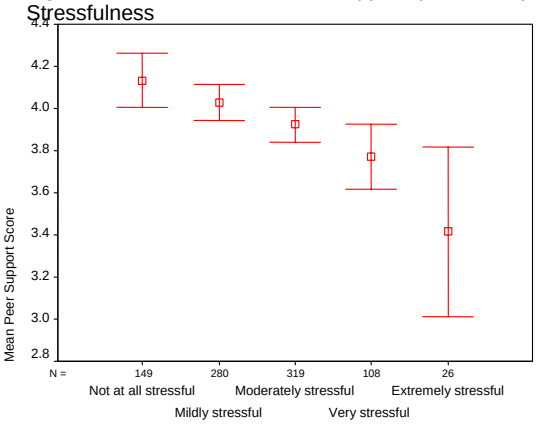


Figure 21. Mean scores of Role questions by Stressfulness

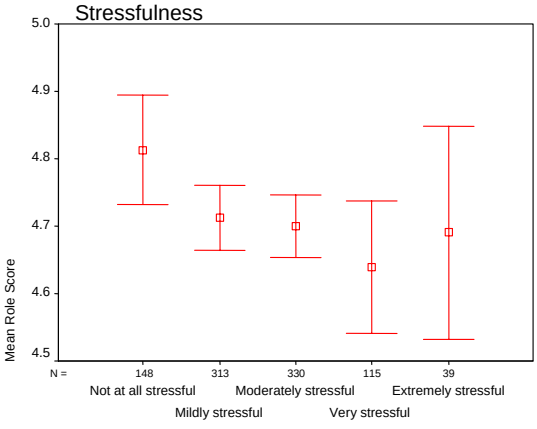


Figure 22. Mean scores of Relationship questions by Stressfulness

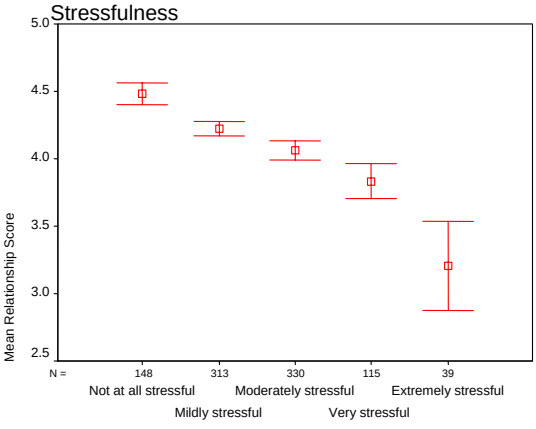
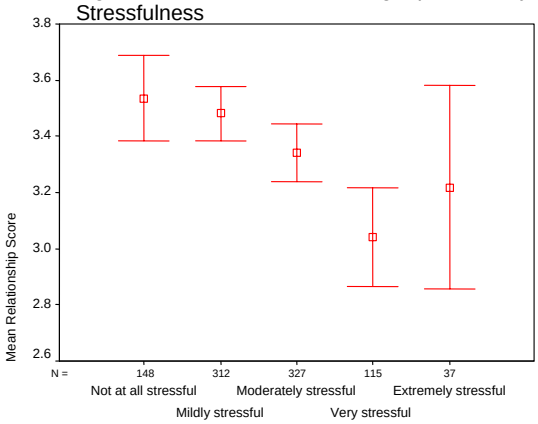


Figure 23. Mean scores of Change questions by Stressfulness



3.4.2 Differences in job stressfulness between selected groups

Mann-Whitney U tests were carried out to determine whether there were any significant differences between male and female respondents, younger and older respondents, and those classified as manual and non-manual workers in their responses to the “stressfulness” question (see appendix C table C4). Whilst these analyses showed no significant difference in job stressfulness between age groups, significant differences were found between sexes and between manual and non-manual workers. Specifically, as a group, females reported their jobs to be more stressful than males, and non-manual workers reported their jobs to be more stressful than manual workers.

3.5 Sensitivity and Specificity of First Pass Questions

An early pilot of the Stress Management Standards included a small set of first pass questions that was used as a screen for further investigations. That is, if performance was perceived to be good in any of the stressor areas (i.e. > 85% for Demand, Control and Support; or 65% for Role, Relationships and Change), then investigation finished there for those areas and the second pass items were only presented for those stressor areas that failed to “pass” the above levels. Questionnaire development and feedback from this pilot suggested such an approach might be untenable. However, a more evidence based set of first pass questions was suggested in the questionnaire development (Clarke, 2004) so their efficacy as effective filters for good performers could be assessed in these surveys. To this effect, the sensitivity and specificity of these suggested first pass questions was tested against the 80% threshold for the related scale score.

Appendix D shows the sensitivities and specificities of the scores across these questions in respect of predicting those above the 80% threshold for their related scale score. It can be seen that the “pass” score for these questions would have to be set extremely high, and in some cases even setting the population mean at the maximum of the scale does not generate sufficiently high sensitivity or specificity and are therefore ineffective as filter questions.

3.6 Initiatives to Reduce Stress

To gain information on whether employers are taking any measures to reduce stress in the workplace, respondents in both March and April surveys were asked whether they were aware of any initiatives undertaken by their company to reduce stress at work. Of those who responded to this question (N = 1840), 31% said yes they were aware that their company had undertaken some kind of initiative to reduce stress, 60% said no and 9% said that they didn’t know.

Significance tests were carried out on respondents to determine whether there were differences in respondents’ answers to this question depending on age, sex and manual and non-manual workers. Statistically significant differences were found between male and female respondents and manual and non-manual workers. Significantly more males than females reported that their employer had not undertaken any initiative over the last 12 months to reduce stress. Similarly, significantly more manual workers than non-manual workers said that their employer had not undertaken any initiative over the last 12 months to reduce stress (see appendix C Table C4).

3.7 Discussions with Line Managers about Stress

Respondents were asked whether they had discussed work-related stress with their line manager over the last 12 months. Sixty three percent said that they had not discussed work-related stress with their line manager within the last 12 months, with 34% saying that they had and 2% responding that they did not know.

Significance tests were carried out between males and females, younger and older respondents, and manual and non-manual workers. Statistically significant differences were found between male and female respondents and manual and non-manual workers (see appendix C Table C8).

Figure 24. Mean Stressfulness Score
Discussed stress with Line Manager

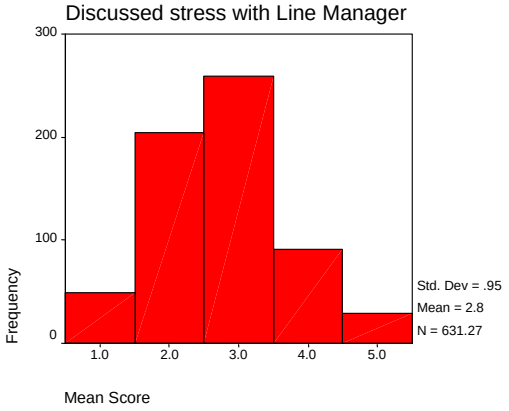
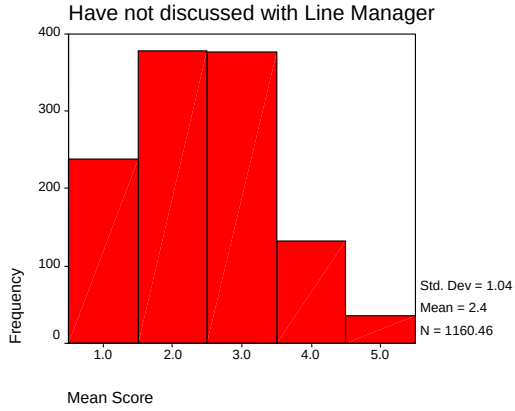


Figure 25. Mean Stressfulness Score
Have not discussed with Line Manager



4. DISCUSSION

This report presents results from two surveys of psychosocial working conditions in Britain in 2004 measured using HSE's Stress Management Standards Indicator Tool. The surveys used methodology of high quality utilising face to face interviewing by trained interviewers from a nationally representative random sample and achieving response rates of over 60% in both surveys. This level of response indicates less non-response bias than would be achieved by other designs such as self-completion postal questionnaires where response rates would be likely to be considerably lower than using the same sampling frame. Further, assessment of population demographics against census and other data indicated those responding appeared representative of the British working population.

The indicator tool was developed from a large survey of local authority employees using factor analysis and related techniques to develop seven scales representing the Stress Management Standards (Clarke, 2004). Within the surveys reported on here, the items within these scales were split across two surveys with one survey having items from the Demand, Control, Managerial Support and Peer Support scales, and the other items from the Role, Relationships and Change scales. Direct confirmatory factor analysis was not possible, as all data was not derived from the same respondents. However, factor analyses within each survey revealed strong congruence with the expected structure, especially given the different survey methodologies. The only small deviance was that both Peer and Managerial Support items factored together within one Support factor. However, these factors were found to be very closely related within the original indicator tool development (Clarke, 2004) and both represent the one Management Standard of Support. In the original development process, psychologists adjudged this distinction between Managerial and Peer Support to make conceptual sense and to be practically useful in issue identification within the Management Standards process (Cousins, et al. 2004). Given this and the fact that all scales showed good internal reliability, including the two support scales, analyses were undertaken against Peer and Managerial Support scales separately within this report. These analyses provide evidence that the indicator tool structure and scales appear robust, especially considering the differences in survey administration and populations between the development process and the surveys reported on here.

The distribution of scale scores was used to identify the score representative of the 80th percentile. Those at or above this score could be considered to have the 20%

most favourable working conditions in Britain for the particular working conditions represented by the scale used. *A priori,* this level was considered to be a good aspirational target for each Standard and that organisations should aim to continuously improve their level of achievement in each Standard area towards this target. Analyses presented indicated that population factors such as age, sex and manual/ non-manual status did have significantly different distribution of scores for some working conditions. However, crude assessment of the 80th percentile level by these population facets showed no large differences in the 80th percentile score between them. Bearing in mind occupational populations may seldom be homogenous with respect to sex, age and other factors, it is probable that the target levels would be broadly equitable between working populations. Further, the targets are aspirational within a continuous improvement model and whether they are achieved requires a judgement, part of which could be consideration of the working population composition.

It is recognised that the single item measure of job stressfulness used in this survey has its weaknesses. However, within the Stress and Health at Work study (SHAW), increased reporting of stressfulness was found to be associated with poor mental health as measured by the General Health Questionnaire and Hospital Anxiety and Depression scale (cf. Smith *et al.* 2000). The analysis here shows the population distribution in job stressfulness from this single item measure was consistent with that found in the SHAW study (Smith *et al.* 2000). Further analysis of responses to this question against scores for Demand, Managerial Support, Peer Support, Role, Relationships and Change showed a reasonable inverse linear relationship, with less favourable working conditions being related to higher reported job stressfulness. This supports the continuous improvement model proposed within the Management Standards approach as wherever an organisation stands, some improvement in these working conditions suggests there will be some improvement in job stressfulness that has been shown to be similarly associated with poorer mental ill-health. The only exception is the Control scale that shows no consistent relationship with the single item measuring job stressfulness. However, as stated, this single item is only crude and by no means a comprehensive measure of all elements of job stress. Nevertheless, this single item was shown to be poorly related to decision latitude, an important element of job control within the SHAW study (Smith *et al.* 2000), so this could suggest a conceptual difference in this stressor area (of type or magnitude).

The results also present frequencies by individual items. Results from these single items on their own may vary markedly by job context or content, with their real value coming in combination with others within the scales, to measure an underlying trait representative of a particular working condition. However, data are available to provide broad comparative data, if needed, for those who choose to use the indicator tool within the Management Standards process.

This report also considers the use of a small set of questions to screen out those who are excellent performers with respect to certain working conditions and, as such, would not need to apply the fuller scale. Although attractive from the perspective of minimising the number of questions to be asked, it was thought unlikely to work from earlier pilot feedback and analysis during questionnaire development (Clarke, 2004). Results presented here suggest the questions selected on basis of high factor loadings and face validity for a particular working condition were not able to identify with high enough sensitivity and specificity those who would fall at or above the 80th percentile score for that working condition.

Two questions to elicit the levels of current activities on work stress were asked in both surveys. These were primarily included to provide some indication by which to judge in future whether the Management Standards were being used or had stimulated more action on stress. Given that this was primarily a sample of workers and that the Management Standards are being aimed at the managers who would implement them, asking workers directly about the Management Standards may not have been useful. However, a measure of whether managers were discussing stress with staff and whether workers were aware of any initiatives within the organisation to reduce stress could provide useful surrogate indicators. Approximately a third of respondents said they had discussed the stresses of their job with their line manager within the last 12 months. Interestingly, there was a statistically significant association between those reporting their jobs to be more stressful and discussion of stress. This may be indicative that most current discussion is reactive rather than proactive in nature. It is hoped that wider implementation of the Management Standards will elicit more proactive discussions, and result in a higher proportion reporting that they had discussed such issues with their manager. Similarly, just under a third of respondents reported initiatives to reduce stress at work in the previous 12 months. Asking these questions again in future years may, along with other evaluation measures, provide some indication as to whether the Management Standards has caused more action on, and discussion of stress at work.

In conclusion, the key value of the data presented is as a baseline to assess trends in psychosocial working conditions among the British working population.

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Appendix A - Questionnaires

NATIONAL STATISTICS OMNIBUS SURVEY - March 2004

Module 346 Working for Health and Safety Executive

ASK IF: *QMainJb.Stat = SelfEmp*

M346_SEm

[*] Earlier, you indicated that you were self-employed. Some self-employed people may be working like employees, for example they may work for the same company for a long period of time, be managed by employees of that company and work with others in that company as work colleagues.
Even though you are self-employed, do you work as though you are an employee?

(1)	Yes	Yes
(2)	No	No
(3)	DKnow	Don't know

COMPUTE IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*
AND: *M346_SEm = Yes*

Txt2 := '/employer'

COMPUTE IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*
AND: *M346_SEm = Yes*

Txt3 := '/employers'

COMPUTE IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*
AND: *M346_SEm = Yes*

Txt4 := '/company'

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

Intro1

The following questions are asked on behalf of the Health and Safety Executive. I am going to read out some statements about working conditions in your current (main) job. Each statement relates to your current job and asks you to indicate on a scale of never to always how often certain circumstances or conditions apply at work.

(1)	Continue	PRESS <1> TO CONTINUE

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_1

SHOWCARD C346_1
[*] I am clear what is expected of me at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_2

SHOWCARD C346_1
[*] I am clear about the goals and objectives for my department^Txt4 at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_3

SHOWCARD C346_1
[*] I know how to go about getting my job done at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_4

SHOWCARD C346_1
[*] There is friction or anger between colleagues at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_5

SHOWCARD C346_1
[*] I am clear what my duties and responsibilities are at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_6

SHOWCARD C346_1
[*] I understand how my work fits into the overall aim of the organisation.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_7

SHOWCARD C346_1
[*] I am subject to personal harassment in the form of unkind words or behaviour at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_8

SHOWCARD C346_1
[*] I am subject to bullying at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_9

SHOWCARD C346_1
[*] I have unrealistic time pressures at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_10

SHOWCARD C346_1
[*] I have a choice in deciding how I do my work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

Intro2

Now, I am going to read some statements about your work or workplace in your current (main) job and would like you to indicate how strongly you agree with these statements on a scale of strongly disagree to strongly agree.

(1)	Continue	PRESS <1> TO CONTINUE

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_11

SHOWCARD C346_2
[*] Staff are consulted about change at work.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_12

SHOWCARD C346_2
[*] Relationships at work are strained.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_13

SHOWCARD C346_2
[*] I have sufficient opportunities to question managers^Txt3 about change at work.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_14

SHOWCARD C346_2
[*] When changes are made at work, I am clear how they will work out in practice.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_15

SHOWCARD C346_2
[*] My line manager^Txt2 encourages me at work.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_16

SHOWCARD C346_3
[*] In general, how do you find your job?

(1)	NotStre	Not at all stressful
(2)	MildStre	Mildly stressful
(3)	ModStres	Moderately stressful
(4)	VStres	Very stressful
(5)	ExStres	Extremely stressful

COMPUTE IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*
AND: *M346_SEm = Yes*

Txt1 := 'your employer/the company where you work'

COMPUTE IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*
AND: *NOT (M346_SEm = Yes)*

Txt1 := 'your employer'

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_17

(As far as you are aware...) has ^Txt1 in your main job undertaken any initiative in the last 12 months to reduce stress at work?

(1)	Yes	Yes
(2)	No	No
(3)	DKnow	Don't know

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMAINJB.Stat = Emp) OR (M346_SEm = Yes)*

M346_18

In the last 12 months, has your line manager^Txt3 discussed with you the stresses in your job?

(1)	Yes	Yes
(2)	No	No
(3)	DKnow	Don't know

NATIONAL STATISTICS OMNIBUS SURVEY - April 2004

Module 346 Working for Health and Safety Executive

ASK IF: *(QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = SelfEmp)*

M346_SEm

Earlier, you indicated that you were self-employed. Some self-employed people may be working like employees, for example they may work for the same company for a long period of time, be managed by employees of that company and work with others in that company as work colleagues.
[*] Even though you are self-employed, do you work as though you are an employee?

(1)	Yes	Yes
(2)	No	No
(3)	DKnow	Don't know

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

Intro1

The following questions are asked on behalf of the Health and Safety Executive. I am going to read out some statements about working conditions in your current (main) job. Each statement relates to your current job and asks you to indicate on a scale of never to always how often certain circumstances or conditions apply at work.

(1)	Continue	Press <1> to continue

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_1

SHOWCARD C346_1
[*] I can decide when to take a break at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_2

SHOWCARD C346_1
[*] I am pressured to work long hours.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_3

SHOWCARD C346_1
[*] I have unachievable deadlines at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_4

SHOWCARD C346_1
[*] I have to work very fast at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_5

SHOWCARD C346_1
[*] I am given supportive feedback on the work I do.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_6

SHOWCARD C346_1
[*] I have to work very intensively at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_7

SHOWCARD C346_1
[*] I have a say in my own work speed.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_8

SHOWCARD C346_1
[*] I have a choice in deciding what I do at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_9

SHOWCARD C346_1
[*] I have to neglect some tasks because I have too much to do at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_10

SHOWCARD C346_1
[*] Different groups at work demand things from me that are hard to combine.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_11

SHOWCARD C346_1
[*] I have a choice in deciding how I do my work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_12

SHOWCARD C346_1
[*] I am unable to take sufficient breaks at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_13

SHOWCARD C346_1
[*] If the work gets difficult, my colleagues will help me.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_14

SHOWCARD C346_1
[*] I have unrealistic time pressures at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_15

SHOWCARD C346_1
[*] I can rely on my line manager <Textfill: /employer> to help me out with a work problem.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_16

SHOWCARD C346_1
[*] I am clear what my duties and responsibilities are at work.

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_17

SHOWCARD C346_1
[*] I am subject to bullying at work

(1)	Never	Never
(2)	Seldom	Seldom
(3)	Sometime	Sometimes
(4)	Often	Often
(5)	Always	Always

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

Intro2

Now, I am going to read some statements about your work or workplace in your current (main) job and would like you to indicate how strongly you agree with these statements on a scale of strongly disagree to strongly agree.

(1) Continue Press <1> to continue

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_18

SHOWCARD C346_1
[*] I have some say over the way I work.

(1) Sdis Strongly disagree
(2) Dis Tend to disagree
(3) Neutral Neutral
(4) Agree Tend to agree
(5) Sagree Strongly agree

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_19

SHOWCARD C346_1
[*] I get the help and support I need from colleagues at work.

(1) Sdis Strongly disagree
(2) Dis Tend to disagree
(3) Neutral Neutral
(4) Agree Tend to agree
(5) Sagree Strongly agree

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_20

SHOWCARD C346_1
[*] I receive the respect I deserve from my colleagues at work.

(1) Sdis Strongly disagree
(2) Dis Tend to disagree
(3) Neutral Neutral
(4) Agree Tend to agree
(5) Sagree Strongly agree

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_21

SHOWCARD C346_1
[*] I can talk to my line manager<Textfill: /employer> about something that has upset or annoyed me about work.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_22

SHOWCARD C346_1
[*] I am supported through emotionally demanding work.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_23

SHOWCARD C346_1
[*] My working time can be flexible.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_24

SHOWCARD C346_1
[*] My colleagues at work are willing to listen to my work-related problems.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_25

SHOWCARD C346_1
[*] My line manager <Textfill: /employer> encourages me at work.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_26

SHOWCARD C346_1
[*] Staff are consulted about change at work.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_27

SHOWCARD C346_1
[*] Relationships at work are strained.

(1)	Sdis	Strongly disagree
(2)	Dis	Tend to disagree
(3)	Neutral	Neutral
(4)	Agree	Tend to agree
(5)	Sagree	Strongly agree

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_28

SHOWCARD C346_3
[*] In general, how do you find your job?

(1)	NotStre	Not at all stressful
(2)	MildStre	Mildly stressful
(3)	ModStres	Moderately stressful
(4)	VStres	Very stressful
(5)	ExStres	Extremely stressful

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_29

(As far as you are aware...) has <Textfill: your employer / your employer/the company where you work > in your main job undertaken any initiative in the last 12 months to reduce stress at work?

(1)	Yes	Yes	
(2)	No	No	
(3)	DKnow		Don't know

ASK IF: *((QILO.DVILO4a = InEmpXuf) AND (QMainJb.Stat = Emp)) OR (M346_SEm = Yes)*

M346_30

In the last 12 months, has your line manager <Textfill: /employer> discussed with you the stresses in your job?

(1)	Yes	Yes	
(2)	No	No	
(3)	DKnow		Don't know

Appendix B – Factor Analysis

Figure B1 Scree Plot - March

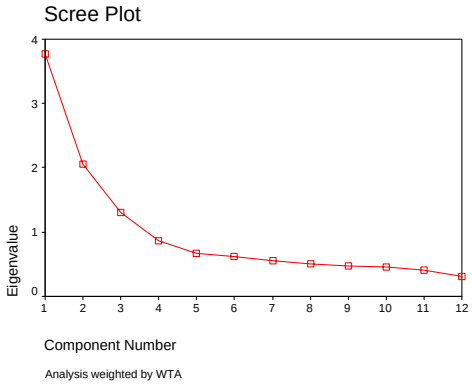
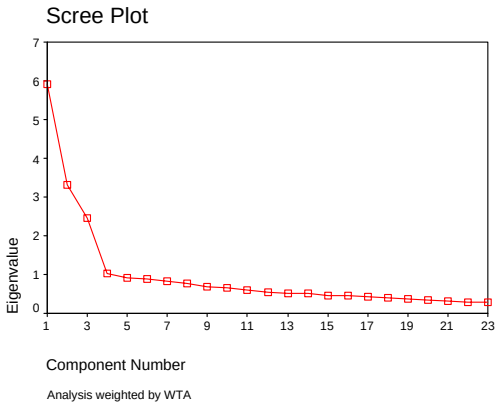


Figure B2 Scree Plot - April



Factor Analysis

Table B1. March KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.804
Bartlett's Test of Sphericity	Approx. Chi-Square	3334.385
	df	66
	Sig.	.000

Table B2. April KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.882
Bartlett's Test of Sphericity	Approx. Chi-Square	6820.940
	df	253
	Sig.	.000

Table B3.
March Total Variance Explained - Initial Eigenvalues

Component	Total	% of Variance	Cumulative %
1	3.77	31.46	31.46
2	2.05	17.10	48.56
3	1.31	10.93	59.49
4	0.87	7.21	66.70

Table B4. April Total Variance Explained - Initial Eigenvalues

Component	Total	% of Variance	Cumulative %
1	5.91	25.68	25.68
2	3.31	14.37	40.05
3	2.44	10.63	50.68
4	1.02	4.43	55.11

Extraction Method: Principal Component Analysis.

Table B5. Factor Loading Using 3 Factor Solution on March Dataset

	Component		
	1	2	3
Clear what is expected of me at work?	.837		
Clear about the goals and objectives?	.782		
Clear what my duties and responsibilities are?	.779		
Know how to go about getting my job done?	.750		
Understand how work fits into the overall aim of org?	.681		
Subject to personal harassment?		.875	
Subject to bullying at work?		.823	
Friction or anger between colleagues?		.616	
Relationships at work are strained?		.520	.369
Staff are consulted about change at work?			.814
Sufficient opportunities to question managers about change?			.766
Clear how changes will work out in practice?			.740

Extraction Method: Principal Component Analysis.
Rotation Method: Promax with Kaiser Normalization.
Factor Loadings of <0.3 have been suppressed.

Table B6. Factor Loading Using 3 Factor Solution on April Dataset

	Component		
	1	2	3
Am supported through emotionally demanding work?	.807		
Line manager encourages me at work?	.795		
Get the help and support I need from colleagues?	.764		
Can talk to line manager about something upset me?	.761		
Can rely on my line manager to help me out?	.694		
Colleagues willing to listen to work-related problems?	.693		
Receive the respect I deserve from my colleagues?	.685		
If work gets difficult, colleagues will help?	.628		
Given supportive feedback on the work I do?	.562		
Have unrealistic time pressures at work?		.767	
I have unachievable deadlines at work?		.721	
Have to work very intensively at work?		.694	
Have to work very fast at work?		.683	
Demand things from me that are hard to combine?		.670	
Pressured to work long hours?		.669	
Have to neglect some tasks because too much to do?		.661	
Unable to take sufficient breaks at work?		.501	
Have a choice in deciding how I do my work?			.793
Have a choice in deciding what I do at work?			.757
Can decide when to take a break at work?			.753
Have a say in my own work speed?			.734
My working time can be flexible?			.568
Have some say over the way I work?	.316		.566

Extraction Method: Principal Component Analysis.
Rotation Method: Promax with Kaiser Normalization.
Factor Loadings of <0.3 have been suppressed

Appendix C - Test Results

Table C1. Age Differences

	Demand	Control	Managers Support	Peer Support	Role	Relationships	Change
Mann-Whitney U	121762	123311	122819	119555	136572	134785	134664
Wilcoxon W	261418	263496	262475	259211	278883	277096	275379
Z	-0.682	-0.508	-0.451	-1.172	-0.332	-0.669	-0.428
Asymp. Sig. (2-tailed)	0.495	0.612	0.652	0.241	0.740	0.504	0.669

Table C2. Sex Differences

	Demand	Control	Managers Support	Peer Support	Role	Relationships	Change
Mann-Whitney U	107231	109775	104830	105705	121821	131762	135536
Wilcoxon W	216042	254766	213641	214516	240649	250590	294302
Z	-3.824	-3.405	-4.355	-4.181	-3.497	-1.145	-0.089
Asymp. Sig. (2-tailed)	0.000	0.001	0.000	0.000	0.000	0.252	0.929

Table C3. Manual/Non-Manual Workers Difference

	Demand	Control	Managers Support	Peer Support	Role	Relationships	Change
Mann-Whitney U	81678	69680	106816	109583	106688	118433	116585
Wilcoxon W	238198	149480	186616	189383	271713	283458	204995
Z	-7.077	-10.024	-1.117	-0.462	-3.635	-0.666	-0.799
Asymp. Sig. (2-tailed)	0.000	0.000	0.264	0.644	0.000	0.505	0.425

Table C4. Stressfulness

	Age	Sex	Manual/Non Manual
Mann-Whitney U	507556	487201	331089
Wilcoxon W	1050959	1089454	667699
Z	-1.215	-2.613	-11.232
Asymp. Sig. (2-tailed)	0.224	0.009	0.000

Initiatives to Reduce Stress

Table C5. Chi-Square Tests - Age

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	0.586	2.000	0.746
Likelihood Ratio	0.586	2.000	0.746
Linear-by-Linear Association	0.563	1.000	0.453
N of Valid Cases	1840		

0 cells (.0%) have expected count less than 5. The minimum expected count is 80.35.

Table C6. Chi-Square Tests - Sex

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.668	2.000	0.000
Likelihood Ratio	20.752	2.000	0.000
Linear-by-Linear Association	5.740	1.000	0.017
N of Valid Cases	1839		

0 cells (.0%) have expected count less than 5. The minimum expected count is 76.58.

Table C7. Chi-Square Tests - Manual/Non-Manual

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	66.143	2.000	0.000
Likelihood Ratio	67.126	2.000	0.000
Linear-by-Linear Association	66.105	1.000	0.000
N of Valid Cases	1750		

0 cells (.0%) have expected count less than 5. The minimum expected count is 65.19.

Table C8. Discussions with Line Managers about Stress

	Sex	Age	Manual
Mann-Whitney U	458412	516931	387560
Wilcoxon W	1071690	1030522	1032240
Z	-6.155	-1.224	-7.808
Asymp. Sig. (2-tailed)	0.000	0.221	0.000

Table C9. Discussed or Not Discussed Stress with Line Manager

	Discussed Stress with Line Manager/Stressfulness
Mann-Whitney U	379634
Wilcoxon W	1225284
Z	-6.69
Asymp. Sig. (2-tailed)	0.00

Appendix D – Sensitivity and Specificity

Table D1. Sensitivity and Specificity

	Positive if > or = to	% Sensitivity	% Specificity
Change			
	0	100.00	0.00
	1.5	100.00	16.82
	2.5	99.07	51.01
	3.5	93.46	73.67
	4.5	33.02	96.71
	6	0.00	100.00
Demand			
	0	100.00	0.00
	1.5	99.42	6.46
	2.5	99.42	19.69
	3.5	96.53	53.08
	4.5	83.82	83.38
	6	0.00	100.00
Control			
	0	100.00	0.00
	1.5	98.50	31.41
	2.5	96.50	45.83
	3.5	84.50	80.61
	4.5	50.50	95.99
	6	0.00	100.00
Managers Support			
	0	100.00	0.00
	1.5	100.00	7.08
	2.5	100.00	18.62
	3.5	100.00	43.23
	4.5	94.61	85.85
	6	0.00	100.00
Peer Support			
	0	100.00	0.00
	1.5	100.00	4.15
	2.5	100.00	11.08
	3.5	100.00	24.15
	4.5	95.91	84.62
	6	0.00	100.00
Role			
	0	100.00	0.00
	1.5	100.00	0.79
	2.5	100.00	1.06
	3.5	100.00	7.65
	4.5	100.00	46.17
	6	0.00	100.00

Relationship - Bullying		
0	100.00	0.00
1.5	100.00	0.44
2.5	100.00	1.32
3.5	100.00	5.73
4.5	100.00	14.24
6	0.00	100.00
Relationship		
0	100.00	0.00
1.5	100.00	4.86
2.5	100.00	25.63
3.5	100.00	45.66
4.5	78.65	92.19
6	0.00	100.00