Mental well-being through productive and healthy working conditions (Promoting well-being at work)

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Introduction

This work builds on previous findings from a systematic review of intervention studies that promote mental well-being in the workplace. The review indicated that the evidence currently available from this type of work was limited, with important gaps identified. It was therefore concluded that further review of a wider range of evidence types was required, in order to fully capture the potential health-promoting role of employment and working conditions. The review was set in the context of the conceptual framework for public health guidance (NICE, 2008) which emphasises the influence of organisation, environment, socio-cultural and population factors on individual health and well-being. The objective was to achieve a greater understanding of the work characteristics that could enhance or harm mental well-being, and how these factors may interact,

Background

The workplace as a source of enhancing public health and well-being has been a key area of discussion and policy at both a national and international level in recent years. Recently published policy documents such as the Black Report (Black, 2008), and the Foresight Report, (Foresight, 2008) are influential in highlighting the significance of work-place factors in the health of the population. Also, documents aimed at employers from the Work Foundation (Isles, 2005) and the Health and Safety Executive (such as The Management Standards Approach, HSE, 2005) have been driving forward the well-being in the work-place agenda.

Employment is generally considered to be good for health and well-being (Waddell and Burton, 2006, Adisesh, 2003, Seymour and Grove, 2005), with increasing references to concepts of "good work" (Black, 2008), "fair employment", and "decent work" (Commission on Social Determinants of Health, 2008). This concept has drawn attention to the role of employers in promoting not only physical health, but also mental well-being, with increasing recognition that the workplace is an effective site for interventions to improve health and reduce health inequalities (Head et al. 2002, Marmot et al. 1997). Whether interventions for the population via the workplace can be preventative is reportedly currently unclear (Seymour and Grove, 2005). However, the National Social Marketing Centre (2008) highlight that if interventions to promote well-being in the workplace have even small effects, the public health impact could be substantial.

Methods

The methods employed for this piece of work can be considered to be exploratory in nature, and differ considerably from a traditional systematic review. It has adopted an approach that has most in common with qualitative philosophies, aiming for exploration and description to identify key themes and to reflect the diversity within the range of literature identified (Kuzel, 1992). The work took as its starting point the NICE conceptual framework for public health, and also a "logic framework" which proposed a number of components of a healthy work-place. It aimed to use exploratory methods to further develop this framework. The review consists of three main parts: a glossary of terms, an epidemiology review, and a thematic review. The documents for the thematic review were identified via two sources. Firstly, studies from the previous systematic review of intervention, and secondly material identified as relevant or important by an expert reference group. This document set contained a

very diverse range of sources consisting of books, book chapters, policy documents, and reports, together with empirical work with diverse study designs. Documents were obtained and examined, with key information recorded on an extraction summary sheet. Following extraction, techniques used in primary qualitative data analysis were employed to examine the data. Additional sources for the epidemiology review were identified via reference lists in the above set, and on advice from an expert in the field.

Findings

The review explored the current use of terms within the literature to develop a glossary and to explore where there was a lack of clarity, with definitions synthesised from the range of authors work (see Section 6). The review highlights that the terms well-being, job satisfaction and stress are in common usage, but there is a considerable lack of clarity in meaning of these concepts. The central lack of clearly defined concepts and standard measures presents considerable obstacles in understanding and evaluating well-being and identifying relationships between elements. Particularly challenging aspects to developing work in this area relate to the fluid and changing, and self-defined nature of the concept.

The epidemiology review describes the use of surrogate measures of well-being such as job satisfaction, mental ill health, and self-reported stress. However, prevalence rates differ considerably according to the aspect that is being used to reflect the concept. The use of self-reported measures also provides concerns regarding interpretation of the findings. Reports of work-related stress for example may reflect an individual readiness to express lack of well-being, or may be influenced by

personal expectations of health and working conditions, or may reflect the impact of mental ill-health on an individual's view of their life and circumstances.

The epidemiology review indicates that just over a quarter (around 27%) of workers are very satisfied with their employment, just under a half (47.5%) of workers are satisfied, and around 3% are very dissatisfied with their work. Surveys also provide information that an estimated 530,000 people (1.2%) in Britain believe they are suffering from stress, depression or anxiety that was caused or made worse by their current work, and 12% - 16% of workers report that they find their job very or extremely stressful. Findings from analysis of prevalence trends indicate that levels of stress peaked in the UK in the late 1990s to early 2000, and have stabilised since. Different ways of measuring the concept over the last decade however contribute to the uncertainty in interpreting prevalence findings.

Different measurements indicate different findings in regard to age and prevalence of adverse well-being, with levels of mental ill-health seeming to be greatest in the 35-44 age band whilst self reported stress and stress/depression/anxiety are highest in the age band 45 to 54/59. The prevalence of mental ill-health varies according to social class, with class II (managerial and technical occupations) and class IIIm for women (skilled manual occupations) and IIIn for men (skilled non – manual occupations) having the highest rates. Work-related stress is more prevalent in the public sector, with health and education sectors identified as particular areas of reported high stress. This is consistent with the social class findings above, as those occupations reporting higher stress tend to be within the social class II classification.

Authors within the literature set use a wide variety of means to classify the many concepts associated with workplace well-being. The key purpose in this work has been to describe and classify the wide-ranging factors that are associated with work-place well-being in an accessible framework, and to highlight key points where interventions may impact. Although many frameworks are available, the classification of central elements employed here has drawn on the work of Murphy (2008) and Webster (2003) among others, who highlight the difference between features of work context and work content. This distinction seems to offer a helpful framework for considering potential areas of intervention. In addition to these two classifications, there is a large body of work describing the importance of elements relating to the way that individual workers respond to these aspects of work context and work content. Individual factors therefore form the third key aspect of well-being in the workplace described. However, it should be noted that whilst elements within these three different aspects have been identified and described, the complexity of the concepts and interrelationships between these elements is recognised. It is emphasised throughout this review that issues related to clarity in definition and individual and situational variance are significant.

In regard to the context of work (organisation-wide factors), the influence of the health and safety background, management priorities, supervisor behaviour and management style, feedback and appraisal, organisational climate, organisational justice, workplace support, employee participation, and communication systems are all highlighted as having an influence on employee well-being.

In relation to work content, elements identified were level of demand, control, effort, reward, aspects of role, working schedules, opportunities for learning and development, job monotony or underutilisation of skills, feelings of jobs being worthwhile or fulfilling, working conditions, adequacy of resources, the stability of employment, and elements of particular occupations such as level of emotion required.

Individual elements are reported to be a less well-developed aspect of the literature, although key areas considered relate to differing individual responses, personality traits, self efficacy, self esteem, psychological flexibility, person-environment fit, social resources, coping responses, and different thresholds of response to demands.

The review also examines potential links between employee well-being and business outcomes. It describes potential outcome measures relating to absenteeism, turnover and productivity, and highlights potential associations between well-being elements and benefits for business. It outlines the tendency for interventions to be directed at the individual rather than organisation-wide factors, and reports that it is here that most evidence of effectiveness is currently to be found. Organisational interventions however may present greater challenges for research and in implementation, thus less evidence is currently available. The emphasis on individual interventions also tends to imply a responsibility on individual employees, rather than on change within the work-place.

Key discussion points

1. How might terms used by authors in the field be defined, and where is there a need for further clarity in definition?

A key focus of discussion throughout this review concerns the lack of clear definition of concepts relating to well-being. There seems to be emerging consensus that the use of "stress" as being representative of well-being is unhelpful, as this response to the work-place may potentially be positive or negative. The glossary outlines the subjective, dynamic and self-defined nature of the concept of well-being, encompassing a number of different emotions within it. The measurement or evaluation of any emotion, but particularly one that is described as not being tied to any particular situation, and being a general rather than specific measure of functioning, seems to be a significant challenge. In view of this, perhaps the term may be considered too over-arching to be a useful concept in establishing policy and studying intervention outcomes. Unpacking the concept into smaller units or constituent parts may be required if specific aspects of the work-place are to be linked to specific elements of well-being.

2. What is the overall burden of common mental health problems among the working population of England?

The epidemiology review provides data outlining the prevalence of mental ill-health, the prevalence of stress, and the prevalence of adverse emotions relating to work. A key challenge in interpreting this data relates to the use of different concepts as representative of mental health problems and/or adverse well-being. Areas for debate

concern the relationship between well-being and common mental health problems, also how measures such as job satisfaction and work-related stress (strain) relate to these. The evidence suggests that the 35-59 age band, the public sector, and social class II and III m/n may be most at risk of adverse well-being, however there are considerable concerns regarding the measurement tools.

3. What factors related to population-wide structures and systems, environmental agents, socio-cultural mechanisms, organisational factors, and individual attitudes and experience influence the well-being of employees.

The work has developed a framework of elements from the data, identifying work context, work content, individual factors and wider influences on employee well-being. Review of the literature has suggested a number of potential associations between elements, with studies reporting potential organisation-wide links between management style, organisational justice, work-place support, participation, and communication systems to employee well-being. Also, potential links between the work content elements of demands, control, effort and reward, role, working schedules, fulfilment and job stability to well-being. The potential association between individual factors of psychological flexibility and social resources to well-being has been highlighted, although it is recognised that the potential impact of individual elements is under-researched.

Whilst exploring the potential significance of these factors, the work has highlighted the considerable interplay between elements, and challenges in establishing cause-effect links. A key area of discussion in identifying potential intervention areas

concerns the relative strength of these factors, and whether it is possible to highlight areas of priority, where most impact may be achieved. However, this would require the untangling of complex interrelationships, as the literature describes many of the factors as having a possible moderating effect on the outcome of other elements. If cause-effect relationships are to be better understood, unravelling the influence of individual elements or if this is not possible, grouping elements with close relationships seems a priority.

Currently, research within this area is adversely affected by complex concepts and lack of agreed definitions, a lack of valid and reliable measurement instruments, a tendency for cross-sectional study designs, and limited evidence on interventions. There has been a tendency to approach well-being from a perspective of employees having an absence of adverse responses such as strain, and training employees in how to modify their responses. This seems to have been at the expense of emphasising the positive psychological aspects in promoting well-being.

4. How does well-being in the workplace relate to employer outcomes such as productivity, staff retention and sickness absence.

The documents accessed generally provide support for links between employee well-being and employer or business outcomes, via changed employee behaviour or attitudes. Potential areas of association may be between workplace support, control, management style, employee participation, effort and reward, working schedules and improved business outcomes. There has been a tendency for interventions to be targeted at individual employees rather than the wider organisation, with a consensus

in the literature that there are benefits from these individual interventions. However, targeting individuals seems to place the responsibility with the employee, and may not realise the potential for primary prevention at an organisational level. The challenge for future research is to provide more conclusive evidence regarding the potential for interventions having impact at this organisational level.

1. INTRODUCTION

1.1 Aims and objectives

This review was initiated in order to support the development of guidance for employers on promoting well-being through productive and healthy working conditions. The work builds on previous findings from a systematic review of intervention studies that promote mental well-being in the workplace. This systematic review encompassed all empirical work using designs that had a control group (Graveling et al., 2008). The review indicated that the evidence currently available from this type of work was limited, with important gaps identified. It was therefore concluded that further review of a wider range of evidence types was required, in order to fully capture the potential health-promoting role of employment and working conditions.

This review therefore aimed to build on the previous work, by extending the scope of the evidence search to include the full range of published work available to inform guidance on promoting well-being in the workplace. The work was set in the context of the conceptual framework for public health guidance (NICE, 2008), which emphasises the influence of organisation, environment, socio-cultural and population-wide factors on individual agency, experience and health and well-being. It also took as its starting point a "logic framework" which proposed a number of key components of a healthy workplace and relationships between them. The work aimed to use exploratory methods to search, summarise and synthesise diverse literature sources in order to further develop this framework. The objective was to achieve a greater understanding of the work characteristics that could enhance or harm mental well-

being, and how these factors may interact, in order to answer the research questions outlined below.

1.2 Research questions

Research question 1:

How might terms used by authors in the field be defined, and where is there a need for further clarity in definition?

Research question 2:

What is the overall burden of common mental health problems among the working population of England?

Research question 3:

What factors related to population-wide structures and systems, environmental agents, socio-cultural mechanisms, organisational factors, and individual attitudes and experiences influence the well-being of employees.

Research question 4:

How does well-being in the workplace relate to employer outcomes such as productivity, staff retention and sickness absence?

2. BACKGROUND

The role of the workplace in promoting physical and mental well-being and health is increasingly recognised (Benach et al. 2007, Adisesh, 2003). Whilst employment is considered to be generally good for health and well-being (Waddell and Burton, 2006, Adisesh, 2003, Seymour and Grove, 2005), links have been made between work and

adverse health outcomes such as injuries (Giga et al. 2008) worse physical health (Head et al., 2002), and poorer mental functioning (Head et al. 2002, Stansfield and Candy, 2006). Whilst concerns exist regarding the potential for work to adversely effect well-being, the interactions between work and mental health are described as complex (Waddell et al. 2008). It is frequently reported that the best approach to promote employees well-being is to help them to remain in work (Tehrani, 2004), with evidence that the benefits of work usually outweigh the risk (Waddell et al. 2008).

The workplace as a source of enhancing public health and well-being has been a key area of discussion and policy at both a national and international level in recent years. Influential reports have been published by the European Foundation for the Improvement of Living and Working Conditions (for example Anxo et al. 2007a, 2007b, Benach and Benavides, 1999), and in the UK (Black, 2008, Foresight Report, 2008). Also, documents by the Work Foundation (Isles, 2005) and the Health and Safety Executive (such as The Management Standards Approach, HSE, 2005) and ongoing surveys of the epidemiology of work-related illness (HSE, 2008) are available to inform policy and practice.

The concepts of "good work" (Black, 2008), "fair employment" and "decent work" (Commission on Social Determinants of Health, 2008) have drawn attention to the role of employers in promoting not only physical health, but also mental well-being, with increasing recognition that the workplace is an effective site for interventions to improve health and reduce health inequalities (Head et al. 2002, Marmot et al. 1997). It is also argued (Waddell et al. 2008) that work-place interventions can be more

effective than health care interventions. Workplace interventions for physical activity have suggested that there are public health benefits to be gained from these in terms of improved quality of life (Boyd et al. 2008). This work on physical health suggests that similar benefits may be found in interventions to promote mental well-being.

The National Institute for Mental Health in England (2005) report that many people have symptoms of mental distress that do not reach clinical levels, but impact on their health and well-being. Whether interventions for this population in the workplace can be preventative is reportedly currently unclear (Seymour and Grove, 2005). However, the National Social Marketing Centre (2008) highlight that if interventions to promote well-being in the workplace have even small effects, the public health impact could be substantial.

3. METHODS

3.1 Rationale underpinning the methodology

The methods employed for this piece of work can be considered to be exploratory in nature, and differ considerably from a traditional systematic review. The work described here makes no claim to have adopted established systematic review procedures of developing a search strategy, searching for evidence and evaluating quality. It does not purport to have used objective means to identify and select the documents, nor to have accessed a comprehensive collection of peer-reviewed high quality studies. Instead, it has adopted an approach that has most in common with qualitative philosophies, aiming for exploration and description to identify key themes and to reflect the diversity within the range of literature identified (Kuzel, 1992).

It is increasingly recognised that methods such as qualitative synthesis have value in contributing meaningful answers to complex research questions (Petticrew and Egan, 2006, Witherspoon, 2006). In addition, qualitative synthesis methods enable the incorporation of a wider range of research designs into a review. The approach also may have a particular role in contributing to evidence bases by generating models, exploring relationships, and charting the development of concepts (Booth, 2001).

3.2 Identification of the documents for review.

The review consists of three main parts: a glossary of terms, an epidemiology review, and a thematic review. The documents used to develop the glossary, and underpinned the thematic review were identified via two sources. Firstly, studies from the previous systematic review of interventions (Graveling et al. 2008), and secondly material identified as relevant or important by an expert reference group. This document set contained a very diverse range of sources consisting of books, book chapters, policy documents, and reports, together with empirical work with diverse study designs. Table 1 summarises the range of material in the document set. The total of separate cohort studies is less than the figure indicates, as the Bristol Study and to a lesser extent the Whitehall Study data have formed the basis of several papers.

Table 1. Summary of document types

Review papers	45
Discussion papers	35
Surveys reporting associations	31
Surveys reporting prevalence	30
Policy documents/reports	29
Cohort studies	19
Books	10
Meta analysis papers	8
Cluster randomised controlled trials	5
Case studies	4

Book chapters	3
Qualitative studies	2
Randomised controlled trials	1
Controlled before and after studies	1
Case control studies	1

In addition to these documents, which formed the set for the thematic review and underpinned development of the glossary, there was some additional sourcing of survey data in order to complete the epidemiology review. Table 2 lists the documents that were sourced in order to access additional epidemiology data. These documents were identified from within the set, from work referenced by these authors, and in consultation with an expert in the field who had been recruited to the review team.

Table 2. Documents accessed for epidemiology data

Chartered Institute of Personal Development (2008) Ninth National Survey of Absence Management. London: CIPD. *
Council of Civil Service Unions/Cabinet Office (2004) Work Stress and Health: the Whitehall II study. London: Council of Civil Service Unions/Cabinet Office.*
Department of Experimental Psychology and the Department of Social Medicine (2000) The scale of occupational stress. The Bristol Stress and Health at Work Study. Contract research Report 265/2000.*
European Foundation for the Improvement of Living and Working Conditions (2007) Fourth European Working Conditions Survey. Luxembourg: Office for Official Publications of the European Communities.
Felstead, A., Gallie, D., Green, F., & Zhou, Y. (2007) Skills at Work 1986-2006. Cardiff: ESRC Centre of Skills, Knowledge and Organisational Performance. *
Grainger H, Fitzner G. (2007) The first Fair Treatment at work Survey: Employment Relations Research Series No 63, London: DTI.*
Health and Safety Executive. (2002) Results from the Health and Safety Module of the British Attitudes Survey 2001. London: HSE *

Health and Safety Executive (2008) Self-reported work-related illness and workplace injuries in 2006/07: Results from the Labour Force Survey. London: Health and Safety Executive.
Health and Safety Executive (2005) Workplace Health and Safety Survey. London: HSE.*
Health and Safety Executive (2007) THOR (SOSMI & OPRA) surveillance scheme data. London: Health and Safety Executive.*
Institute for Social and Economic Research (2002) The British Household Panel Survey Colchester: University of Essex. *
Isles, J. (2005) The Joy of Work. London: The Work Foundation.*
Kaur H. (2004) Employment attitudes: Main findings from the British Social Attitudes Survey 2003. Employment Relations Research Series No 36. London: DTI. *
Singelton S., & Lewis G. (2003) Better Or Worse: a longitudinal study of the mental health of adults living in private households in Great Britain. London: The Office of National Statistics.
Kersley B, Alpin C. (2004) Inside the Workplace: First Findings from the 2004 Workplace Employment Relations Survey. London: HSE. *
Work Foundation (2006) The Good Worker: a survey on attitudes to work in the UK. London: The Work Foundation. *
Webster S, Buckley P. (2008) Psychosocial Working conditions in Britain in 2008. London: Health and Safety Executive.

* indicates documents included that were not in the original set

3.3 Inclusion and exclusion criteria

As the document set had been defined prior to the review, the standard systematic review procedures of identifying inclusion and exclusion criteria, searching, sifting for relevance, and assessing for quality were not appropriate. Documents available were sourced and included, with the only exclusion criteria applied being non peer-reviewed literature that was more than 10 years old, and peer-reviewed literature that was more than 20 years old, unless identified as of high importance by the expert

reference group. This small number of documents (12) were excluded on the basis that the field had changed rapidly in the previous years, and that any significant findings that remained relevant would be described by later work.

Table 3. Summary of documents included and excluded in thematic review

Total documents for review	245
Unable to source	9 (In press = 2, reports not available = 3, inter-library loan requests not completed in time = 4)
Excluded on publication date grounds	12

Inclusion criteria for the additional epidemiology data were:

1. Studies were published within the last ten years.
2. The data were based on studies carried out in England, or Great Britain, the United Kingdom, or where UK data was identifiable separately within European studies.
3. The data related to the working age population.
4. The data related to the common mental disorders.

3.4 Extraction of the documents

The reference lists provided were transformed into a working database, and an extraction summary sheet was then devised to support evaluation and synthesis of the information as each document was examined (see Appendix 1). Documents were obtained and examined, and extracted summary information was recorded on the sheet. Information extracted from each document related to a number of areas:

1. Terminology used and author's definitions of these terms
2. Areas of the logic framework that the work related to, with any new elements described added to the framework

3. The type of document, and for empirical studies information relating to the population, intervention, any comparator, and description of the study design
4. The key findings or arguments/discussion contained within the document
5. Description of elements or findings relating to associations between elements of the logic framework.

A separate extraction summary sheet for data relating to the epidemiology review was used (see Appendix 2) enabling detailed epidemiology data to be extracted.

3.5 Exploration and synthesis of the data

Following extraction, the summary sheets were uploaded into the qualitative data analysis software NVivo (Richards, 2002) in the form of individual documents. Techniques used in primary qualitative data analysis (see for example Mason, 2002, Gibbs, 2002, Miles and Huberman, 1984) were then employed to examine the data. The text was read on a line-by-line basis and codes representing to the main theme or idea were ascribed, with coding also of any descriptions of associations between these themes. As the coding progressed, documents and data were reviewed, with additional elements added and codes merged or expanded in an iterative process. On completion of the coding, a second reviewer examined all the data within each code, with discussion and consensus reached on the coding of all extracts. This process enabled the building of a framework of elements, and description and evidence regarding associations between elements. See Appendix 4 for code list and frequency table.

Data relating to terminology and definitions of terminology were similarly identified across different documents. These descriptions were compared and synthesised to develop the glossary of terms.

Epidemiology data were synthesised by firstly comparing findings relating to demographic variables. Secondly, extracted data from the surveys was re-sorted by the content of individual questions. Questions were classified into similar themes to that found in the main review, enabling further exploration and comparison of prevalence findings between studies.

4. FINDINGS

4.1 Terminology used in the literature

Section 6 provides a glossary of terms that appeared within the literature set, with definitions that have been developed and synthesised from the range of work, rather than directly quoting individual authors. Definitions have been synthesised with the aim of endeavoring to reflect the diverse sources and views available. Analysis of the literature set highlights that currently the central concepts of well-being, health outcomes, also job satisfaction are complex, with considerable lack of clarity and homogeneity in usage amongst the literature.

Well-being is used by authors to encompass a wide range of employee responses to working conditions, including cognitive, emotional and social aspects. Well-being is most commonly described in terms of positive responses, emotions or attitudes (for example Foresight report, 2008, National Institute for Mental Health in England, 2005). It is highlighted that well-being is dynamic (Foresight Report, 2008), and fluid, rather than fixed and stable (Robertson and Taylor, 2008) and may not be tied to any particular situation (Wright and Cropanzo, 2000). The literature also emphasises the individual or personal perceptions that are key in influencing responses to the work environment. Approaches to well-being suggest that individuals may define their own well-being in two different ways (Robertson and Taylor, 2008). Firstly, as a

perception of moods, feelings and life satisfaction (hedonic approach) or alternatively as reflecting development of a sense of purpose in life and linking to the achievement of goals (eudaimonic approach). Well-being is therefore related to human needs and the capability individuals have for fulfilling these needs, with many different strands. The central obstacles in researching well-being relate to these aspects, that well-being is fluid and changing, self-defined, and comprises many strands of basic human needs.

Common criticisms of interventions to promote well-being that will be outlined in a later section, are firstly, that many factors other than those specific within the treatment programme can influence the results (Berridge et al. 1997), secondly, that there can be changes over time, and thirdly, that little research has examined individual differences and how these might moderate outcomes (Bunce, 1997). Cooper, Dew and O'Driscoll (2001) and also Cropanzo and Wright (2001) argue that constructs of emotion need to be more fully considered, with confusion in the literature between attitudes and emotions and a need for a map of emotional terms. The importance of centring on the person's own judgements, not upon criteria judged important by the researcher has also been highlighted (Diener et al. 1985). However, the use of self-reported measures in research is challenging, with concerns regarding the psychometric properties of measures in terms of reliability and validity (Rick et al. 2001).

In much of the literature, and also frequently in popular usage, employee well-being is associated with the absence of **stress**. Throughout this literature set, stress was the most predominant focus. However, there appears to be developing agreement that "stress" can be a loose and unhelpful term, as stress may refer to both positive and negative reactions to working conditions (Bejean and Sultan-taib, 2005). More

helpful terms may be “job strain” (Beehr et al. 2001, Kouvonen et al. 2007), or alternatively “psychological distress” (Bilsker et al. 2005) which convey the negative nature of the response, and prolonged exposure to the stress-producing factors (commonly referred to as stressors). The relationship between stressors and strain is most frequently conceptualised as a balancing relationship between a number of work-place factors, with individual responses to these stressors proving critical in whether exposure to stressors produces strain.

As with well-being, the literature emphasises that the definition and measurement of strain offers considerable challenges to researchers (Blaug et al. 2007, Mimura and Griffiths, 2003). Cooper, Dew and O’Driscoll (2001) raise concerns that strain measures may not actually measure what they purport to, or fail to capture the changing nature of stressors and strain. Many indicators or measures of strain are to be found within the literature, with Cooper, Dew and O’Driscoll (2001) reporting that a single review found 43 different measures. They highlight that different measures may not be equivalent, and issues of internal validity, construct validity and external validity abound (Rick et al. 2002). Authors argue for research to have a more focused approach, examining specific outcomes relating to specific factors (Terry and Jimieson, 2001). Parker and Wall (1998) conclude that the use of similar measurement formats such as self-report questionnaires to evaluate both factors and outcomes has a high potential to find correlations, leading to problems of common method variance.

Kompier and Cooper (1999) similarly argue for the use of a broad range of measures of stressors and strain including both objective and subjective means. The use of physiological measures of strain, rather than self-report measures has been advocated

(Ganster et al. 2001, Cooper, Dew and O'Driscoll, 2001), with potential for cardiovascular symptoms, biochemical symptoms and gastrointestinal symptoms to be used as strain markers. However, the ideographic nature of the experience and the emotional nature of the response need to be fully considered in addition to objective indexes (Cooper, Dew and O'Driscoll, 2001). Stansfield and Candy (2006) highlight that objective and subjective measures of strain may yield different results due to the impact of lack of self-esteem in individuals suffering job related strain, which will affect their self-reporting.

Job satisfaction is another concept that tends to be used variously by authors and provides issues in defining and measuring. It has been described as tapping the emotional reaction that people have to their work (Robertson and Taylor, 2008), thereby emphasising both the personal and emotional nature of the concept.

Job satisfaction has been described as having a close relationship with other factors such as life satisfaction (National Institute for Mental Health in England, 2005), with personal engagement (Robertson and Taylor, 2008), with positive performance evaluations and promotional opportunities (Martin and Schinke, 1998, Health Audit and Inspections Agency, 2008) and with organisational practices and climate (Murphy and Cooper, 2000). It has also been described as having a relationship with strain in that highly stressed individuals are more likely to have lower job satisfaction (Smith et al. 2000, Kompier and Kristensen, 2001). Cooper, Dew and O'Driscoll, (2001) report that there may be a link between burnout and job satisfaction, although which leads to which is not clear. Dewe and Kompier (2008) describe an employees experience of work and satisfaction as being a key indicator of well-being. However,

they are also critical of the use of job satisfaction as a measure (Dewe and Kompier, 2008).

4.2 Epidemiology review

The epidemiology review was undertaken in order to answer the second research question regarding the overall burden of common mental health problems among the working population of England. It serves to provide the background context for the other sections of the review, by indicating the current levels of worker well-being, and suggests where inequalities or variation in prevalence may be found. Whilst the research question sought information on prevalence in England, only two studies (reported in a number of papers) were available which provided data for an English population only (The Whitehall Study and The Bristol Study) and these were based in particular parts of the country rather than providing country-wide data. Other findings are based on data from either the British population or the UK population. Findings will be described in terms of firstly, demographic patterns within the findings, and secondly, prevalence data in relation to particular elements of the workplace.

i) Demographic patterns of common mental health problems

A number of studies are available which provide insights into the levels of worker mental health and mental well-being, with large-scale national surveys providing regularly updated figures. The immediate challenge in interpreting the findings of this work however, relates to the use of different terms to refer to well-being issues discussed above. This review identified and accessed 17 sources of information that could be described as reporting well-being-related data however, it should be noted that none of the studies actually used this term.

As described above, terms in use in the area tend to be ill-defined. The research question refers to common mental health problems however, the relationship between this diagnostic classification and the well-being concept is unclear. Stansfield et al. (2004) for example differentiate stress from the common mental disorders (such as anxiety and depression), although recognise that responses to stress can be similar to milder symptoms of common mental disorders. There is currently a lack of a standard measure of well-being, thus the literature has used a number of indicators such as mental illness, job satisfaction or stress as representing well-being.

This review has endeavoured to adopt a broad approach to diagnostic categories of mental ill health, although, since the focus has been primary prevention at a public health level, rather than intervention with individuals exhibiting mental health disorders, the available data for severe mental illness has not been a focus. In order to achieve brevity only key data from studies will be provided in this section, Appendix 3 provides full information in the format of questions asked in the studies and response data. Box 1 indicates the five aspects relating to well-being that are reported in the studies.

Box 1. Aspects of well-being reported in the epidemiology data

Worker evaluation of their levels of job satisfaction
Levels of mental ill health
Perceived effect of work on health
Reported emotions relating to work
Perceived level of stress

Job satisfaction levels were measured via surveys reported by Isles (2005), The Good Worker (2006), the Fourth European Working Conditions Survey (2007), The British Household Panel Survey (2002) and the Workplace Employment Relations Survey (2007).

Table 4. Reported job satisfaction

Overall satisfaction with work or job at the moment	Very satisfied – 22%, Satisfied 45%, Neutral 17.7, Dissatisfied 10%, Very dissatisfied 5%	Isles The Joy of work
How satisfied are you with your current position	Very satisfied – 35%, quite satisfied – 43% neither satisfied nor dissatisfied – 10% quite dissatisfied 6% very dissatisfied 5%	The Good worker
On the whole are you very satisfied, satisfied, not very satisfied or not at all satisfied with working conditions in your main paid job	Very satisfied 45%, Satisfied 47%, Not very satisfied 7%, not at all satisfied 1%	Fourth European Working Conditions Survey 2007
How satisfied or dissatisfied are you with the following aspects of your job Work itself	Very satisfied – 17%, Satisfied 55%, Neither 19%, Dissatisfied 7%, Very dissatisfied 3%	Workplace employment relations survey (Kersley et al, 2005)
	1 Completely dissatisfied to 7 completely satisfied Mean of 5.3	British Household Panel Survey 2002

The percentages of workers reporting being "very satisfied" in these four surveys has some diversity, with figures of 22%, 35%, 45%, and 17% respectively. The percentage of workers reporting that they were "very dissatisfied/not at all satisfied" was more homogenous between surveys, with figures of 5%, 5%, 1% and 3%. The highest percentage response rate for all three surveys was for the "satisfied" category, with similar figures of 45%, 43%, 47% and 55% respectively. Using mean figures from these surveys as a crude overall estimate, they suggest that just over a quarter (around 27%) of workers are very satisfied, just under a half (47.5%) of workers are satisfied, and around 3% are very dissatisfied with their work. The British Household Panel Survey also has a question on job satisfaction, but is harder to interpret and

compare, as it uses a scale score of one to seven, reporting that the mean worker rating of level of job satisfaction was 5.3.

The considerable heterogeneity across the survey findings for workers being "very satisfied" (ranging from 17 to 45%) may relate to the specific question, or to the study population. The largest study (WERS) reports the lowest satisfaction level. The question on satisfaction in this survey may be slightly different as a number of "satisfaction" questions are asked, with satisfaction with "work itself" being the nearest equivalent to job satisfaction.

Levels of mental ill health are measured via questions in a longitudinal study of mental health (ONS Survey, Singleton and Lewis, 2003), in the HSE THOR data, and in the Labour Force Survey (HSE, 2008), see Table 5. A reported 8% of the British population (includes working and not working individuals) have a common mental disorder (Singleton and Lewis, 2003). The Labour Force Survey (HSE, 2008) focuses specifically on the working population and is the data source most frequently quoted in the literature. This survey suggests that an estimated 530,000 people (1.2%) in Britain believe they are suffering from stress, depression or anxiety that was caused or made worse by their current work. The THOR data suggests an estimated referral rate to psychiatrists or occupational physicians of 34 per 100,000 of workers. Reported rates in the THOR data however, may be of only limited value in understanding well-being in the general working population as this data reflects the limited access in some organisations to occupational physicians or psychiatrists, and requires willingness of the individual to seek help.

Table 5. Reported impact of work on health and well-being

Apart from the accident you just told me about within the last 12 months have you suffered from any illness, disability, or other physical or mental problem that was caused or made worse by your job or by work you have done in the past	Estimated 530,000 people in GB believed they were suffering from stress, depression or anxiety that was caused or made worse by their current work (1.2%). Estimated 0.83% new cases. Estimated 237,000 males and 294,000 females ever employed suffering from stress, depression or anxiety caused or made worse by work. Estimated prevalence rate – 1.1% males and 1.3% females	Labour Force Survey Self-reported work-related injuries section
Your job makes you feel Tense	All of the time 4% Most of the time 15% some of the time 42% Occasionally 27% Never 12%	Workplace employment relations survey (Kersley et al, 2005)
Calm	All of the time 3% Most of the time 30% Some of the time 29% Occasionally 27% Never 11%	
Worried	All of the time 2% Most of the time 10% Some of the time 35% Occasionally 32% Never 29%	
Uneasy	All of the time 2% Most of the time 8% Some of the time 28% Occasionally 33% Never 29%	
I worry a lot about work outside of work hours	Strongly agree 7% agree 20% neither agree nor disagree 23% Disagree 34% strongly disagree 16%	Singleton, N. & Lewis, G. (2003) Better or Worse: a longitudinal study of the mental health of adults living in private households in GB. ONS/HMSO Longitudinal study
	79% did not have a common mental disorder at either time point. 6% had onset of common mental disorder between T1 and T2, 15% had disorder at baseline. Generalised to GB population – 8% with common mental disorder	
Number of cases reported to psychiatrists and occupational physicians per year	Estimated rate of 3485 referrals per 100,000 workers.	HSE THOR (SOSMI and OPRA) surveillance scheme data
In general how do you find your job	T1 Not at all stressful 9%, mildly stressful 29% moderately stressful 43% very stressful 16% extremely stressful 3% T2 Not at all stressful 8%, mildly stressful 31% moderately stressful 44% very stressful 15% extremely stressful 3%	The Scale of Occupational Stress. The Bristol stress and health at work study. 2000 Cohort study
	12% found job very or extremely stressful, 1/3 moderately stressful	Workplace employment relations survey (Kersley et al, 2005)
Does your work affect your health	Yes – 21%	Fourth European Working Conditions Survey 2007

The perceived general effects of work on health are reported in the Fourth European Working Conditions Survey, with 21% of workers in the UK agreeing that work affected their health (4th EWCS), In contrast to the data reporting epidemiology of common mental disorders, this figure includes physical and mental illness, but may

illustrate the level of more general well-being concerns amongst workers, or possibly the "at risk" population.

Further detail on specific emotional responses to work is provided by the Workplace Employer Relations Survey (Kersley et al. 2005). This study indicates that 19% of workers perceive that their job makes them feel tense most or all of the time. 12% reported that their job made them feel worried for most or all of the time, and 10% reported being uneasy most or all of the time. 27% agreed or strongly agreed that they worried "a lot" about work. This data may also illustrate the level of general mental well-being issues in the working population, that may have the potential to lead to mental ill-health.

Level of perceived stress is reported in the Workplace Health and Safety Survey Programme (HSE, 2002) and the Bristol Stress and Health at Work Study (Department of Experimental Psychology and the Department of Social Medicine, 2000). In these studies 12% and 16% respectively reported that they found their job very or extremely stressful.

Review of these studies suggests that prevalence rates of well-being and adverse well-being differ considerably according to the aspect that is being used to reflect the concept. Five different areas have been suggested, with considerable heterogeneity between prevalence rates. Studies such as the Labour Force Survey and the Workplace Employment Relations Survey provide evidence from very large samples (50,000 and 20,000 respectively). However, the data are based on self-reported measures of well-being, providing further concerns regarding interpretation of the findings. It has been argued that rather than offering objective evidence of adverse

well-being levels, they only provide insight into how employees perceive their work (Rick et al. 2002).

Prevalence differences associated with age

Evidence for variation in reported levels of mental ill-health or well-being according to age group is provided by the ONS survey (Singleton and Lewis, 2003), the Labour Force Survey (HSE, 2007) and the Bristol Study (Department of Experimental Psychology and the Department of Social Medicine, 2000). Levels of mental ill-health seem to be greatest in the 35-44 age band whilst self reported stress and stress/depression/anxiety are highest in the age band 45 to 54/59.

Prevalence differences associated with gender

Evidence of some difference in epidemiology according to gender is reported in the Labour Force Survey (HSE, 2007), with women reporting slightly higher rates (1.3% versus 1.1%). In contrast, the Bristol study (Department of Experimental Psychology and the Department of Social Medicine, 2000) and the ONS survey (Singleton and Lewis, 2003) indicate no gender differences. The influence of differing working schedules between sexes may complicate the picture, with surveys such as the ONS indicating that women who worked part time have the lowest level of onset of mental ill-health. A further complicating factor highlighted by The Whitehall II Study and the ONS survey is that social class differences may play an important part in any gender variation.

Prevalence differences associated with social class

The Whitehall II Study has been influential in linking poor mental health with social class. This ongoing study of civil servants links social class and work factors to a

range of ill-health outcomes. The ONS survey also indicates that the prevalence of mental ill-health varies according to social class, with class II (managerial and technical occupations) and class IIIm for women (skilled manual occupations) and IIIn for men (skilled non – manual occupations) having the highest prevalence. The Bristol study, and data from the Labour Force Survey, although confirming the greatest prevalence of "high stress" or a "physical or mental problem caused by work" in social class II, indicate that the second highest prevalence is in social class I.

The ONS study (Singleton and Lewis, 2003) emphasises the significance of collecting data on not only prevalence, but also onset and recovery of common mental disorders. They suggest that socio-economic differences may exist in recovery rates, with those in manual occupations less likely to recover than non-manual occupations. It has been argued that differences in reported findings may relate to problems of response bias in these studies, with lower social classes being under-represented, or a greater inclination to report stress in higher social classes (Stansfield et al. 2004).

Prevalence differences associated with industries and occupational group

Surveys have reported differences in prevalence rates between different industries and different occupational groups. Health and social work, public administration, defence and construction have been identified as areas of higher than average incidence of work-related illness (Labour Force Survey, 2007). Work by the Chartered Institute of Personal Development (2008) suggests that work-related stress is more prevalent in the public sector, with Webster et al. (2008) in particular identifying the area of education as having the highest prevalence. These findings are echoed in the Bristol study, which similarly highlighted that teachers and nurses, (together with managers), had the highest proportion of workers reporting that they were highly stressed. This

data also reflects the social class findings above, as these occupations reporting higher stress tend to be within the social class II classification.

As has already been emphasised in regard to this work, the use of self-report measures of stress has considerable potential limitations in interpretation of these findings. Secondary analysis of the ONS survey (Stansfield et al. 2004) indicates a slightly different picture, with sales occupations, craft and related occupations, and clerical and secretarial occupations having the highest rates of psychiatric disorders. This data is based on interview methods rather than self-reported surveys, suggesting that the collection of self-report data on well-being issues may need to be treated with caution.

Prevalence trends

Blaug et al. (2007) in an examination of a number of sources of prevalence data report that levels of stress peaked in the UK in the late 1990s to early 2000, and have stabilised since. This is confirmed by Dewe and Kompier (2008) and Webster et al. (2007) who report a slight decline in levels of reported stress since 2005. However, reported stress remains a significant cause of absence amongst non-manual employees (Jordan et al. 2003), with stress, depression and anxiety following musculoskeletal disorders as the second most common source of work-related illness (HSE, 2005). Stress and mental health problems are also increasingly cited as reasons for workers to seek early retirement (McDaid, 2008).

In discussing trends in the data, the issue of using self-reported measures again becomes paramount. Stansfield et al. (2004) discuss the possibility that increases in reports of work-related stress may reflect a readiness to express lack of well-being that was previously kept concealed, or may be influenced by higher expectations of health and better working conditions and different individual perceptions of wellness.

The high reported prevalence of work related stress in the Bristol study in higher socioeconomic groups for example may be an indicator of their greater willingness to report stress.

ii) Epidemiology of positive and adverse elements impacting on mental well-being within the workplace

It has been suggested that differences in prevalence rates are related to differences in job characteristics (Head et al. 2002), therefore describing prevalence by occupational group or industry may be too simplistic. In addition to extracting demographic factors that may influence prevalence rates, this review also analysed the studies in terms of elements of the work-place that may influence rates of well-being and adverse well-being. See Appendix 3 for detailed data regarding the questions asked in surveys and responses by workplace element.

Environmental hazards

The Fourth European Working Conditions Survey (2007) provides information relating to potential environmental risk factors that can impact on worker well-being. It reports that workers may be exposed to a variety of hazards in the environment that may impact on well-being with reports of: high temperatures (16%), vibration (15%), and fumes (12%). The Bristol Study provides support for a link between these environmental factors and adverse well-being, reporting that workers in noisy backgrounds report higher levels of stress than workers in non-noisy backgrounds (13% versus 5%).

Unfair treatment

The Fair Treatment at Work Survey (DTI, 2007) found that 7% of British workers report being personally unfairly treated at work, with around 4% having being bullied or harassed in the last two years. The Fourth EWCS (2007) echoes the 4% figure for bullying and harassment.

Job security

Perceptions of insecurity in employment are reported by 16% of workers (WERS, Kersly et al., 2005), with the same figure for workers reporting they were dissatisfied or very dissatisfied with job security. The British Social Attitudes Survey (DTI, 2004) reported a higher figure of 27% disagreeing or strongly disagreeing that "there would be a job for me where I work now for as long as I want it".

Working patterns

The studies provide data regarding the number of hours worked, and how flexible patterns of working may be. According to the 4th EWCS (2007) the average number of hours worked in the UK was 35. The WERS survey (Kersley et al. 2005) indicates however, that although this may be the average, 11% of employees report that they usually worked more than 48 hours per week. The Bristol Study suggested an association between employees working at night and higher stress, and also employees working unsocial hours and higher stress. The British Social Attitudes Survey (DTI, 2004) suggests that 46% of workers are prepared to do their best at work even if it sometimes interferes with the rest of their life, with the 4th EWCS indicating that 15% of workers report that their working hours fit in with family or social commitments outside work "not very well" or "not at all well" This survey also

reported that 60% of employees had working hours "set by the company with no possibility for change".

Management

Data reporting relationships between employees and managers is reported in several studies. The British Social Attitudes Survey (DTI, 2004) suggests relations are quite good or very good for 81% of employees. The WERS (Kersley et al. 2005) suggests a lower figure of 60%. Webster et al. (2008) report that the average response in regard to relations between managers and employees (on a 1 to 5 scale of most unfavourable to most favourable), was near the top at 4.1.

Communication

One particular aspect of management, namely communication is reported in terms of employees feeling informed, getting sufficient information, getting consistent information, and different types of communication. 51% of workers agree or strongly agree that they usually feel well informed (British Social Attitudes Survey, DTI, 2004). Perceptions of information were associated with stress levels in the Bristol Study, with a smaller proportion of highly stressed workers reporting they received sufficient information.

Employee participation

It is reported that mechanisms for consultation exist in around 39% of work places (WERS, Kersley et al. 2005), with the same survey reporting 38% of workers reporting that they were satisfied or very satisfied with their involvement in decision-making.

Demand/ effort

Levels of worker effort or workload demand are reported in several studies, in slightly different ways. The THOR data (HSE) identify that workload/over-demand/pressure is the most frequently reported aspect of a job leading to referral to psychiatrists or occupational physicians. The Bristol Study provides a number of indicators of demand, such as often or sometimes working intensively (reported by 85%), and often or sometimes working very fast (reported by 86%). The WERS (Kersley et al., 2005) reports a similar figure of 76% agreeing or strongly agreeing that their job requires that they work hard, but the lower figure of 40% agreeing or strongly agreeing that they never seem to have enough time to get work done.

Control / decision latitude

The WERS (Kersley et al. 2005) provides several different indicators of control. For example, 11% of workers report being dissatisfied or very dissatisfied with the scope for using their initiative. 67% report being dissatisfied or very dissatisfied with their influence over their job. The British Social Attitudes Survey (DTI, 2004) reports figures of 58% responding that they would have a say in a decision about their job, and 43% reporting they would have quite a lot of influence in the decision.

Reward

The WERS data provides evidence of around a 2% growth in wages per annum (Brown et al., 2004). 35% of workers report being satisfied or very satisfied with their pay (WERS, Kersley et al., 2005). Brown et al. (2004) contribute the important finding from the WERS data, that job satisfaction tends to have a U-shaped association with earnings level, thus satisfaction tends to be higher at lowest and

highest levels of earning. They also suggest that there is evidence in the data that high earners have more influence in the way in which they do their jobs.

Prevalence trends

Brown et al. (2004) report that between 1998 and 2004, the WERS data indicates that there has been no statistically significant change in the perceptions of workers with regard to pay, or their influence at work. Also, little change in regard to perceptions of work intensity. The authors found a small increase (1.1%) in the percentage of employees who worry about work, and an increase in employee influence over the pace at which work is done (demand) and the way in which it is done (control). There has been a positive change in employee-management relations over the last 6 years, and an increase in levels of sense of achievement from work.

4.3 Thematic review

The thematic review was undertaken in order to answer the third and fourth research questions concerning factors influencing well-being, and the relation between well-being and business outcomes. Appendix 4 outlines the frequency of occurrence of each element within the document set which may illustrate the level of discussion within the field.

i) Factors influencing well-being in the workplace

Authors within the literature set used a wide variety of means to classify the many concepts associated with workplace well-being. There is a large body of literature available to inform the area, with a range of influential theories that pay attention to particular aspects. The classification of elements in this work has endeavoured to draw on and synthesise the wide range of work, rather than approaching the area from

any particular discipline or theoretical perspective. The key purpose has been to describe and classify the wide-ranging factors that are associated with work-place well-being in an accessible framework, and to highlight key points where interventions may impact. Although many frameworks are available, the classification of central elements adopted has drawn on the work of Murphy (2008) and Webster (2003) among others, who highlight the difference between features of work context and work content. This distinction seems to offer a helpful framework for considering potential areas of intervention. In addition to these two classifications, there is a large body of work describing the importance of aspects relating to the way that individual workers respond to these aspects of work context and work content. Individual factors therefore form the third key aspect of work-place factors.

a) Work context (organisation-wide) factors

A number of elements of the workplace context that may impact on well-being are described by authors. Authors highlight that the link between workplace context and employee well-being has been only considered a management responsibility in recent years, as the employer duty of care concept has been extended to include both physical and mental well being (Cousins et al., 2004, Cox et al., 2000, Doherty 2002). It is reported that as the **health and safety** equation of hazard-risk-harm has been widely adopted, it has been recognised that the potential harm to workers well-being from factors such as stress related to work, must be risk assessed and managed like any other hazard.

The importance of the employer and senior staff in the workplace context is highlighted by authors such as Gilbreath and Benson (2004), who describe managers

and supervisors as being in a key position to impact on worker well-being. The need for **management priorities** that value worker well-being, with a balance between productivity and a healthy work climate, is reported by many authors (Bilsker et al. 2005, Black, 2008, De Greef and Van den Broek, 2004, Gilbreath and Benson, 2004, Foresight Report, 2008). Studies (Tsutsumi et al., 2005, Van Dierendcock et al., 2004, Heaney et al., 1995) describe how **supervisor behaviour and management style** can impact significantly on the work context. There is some reference in the literature set to the concept of transformational leadership (Barling et al., 1996, Sosik and Godshalk 2000) as a successful form of leadership ability. The importance of clear and rewarding **feedback and appraisal** from senior colleagues is highlighted by Murphy and Cooper (2000) and Robertson and Taylor (2008).

Another significant aspect of work context is that of **organisational climate.** This factor is frequently mentioned by authors, however it tends to be a rather non-specific concept. It includes workplace culture and values (Lewis and Cooper, 2005, Cooper, Dew and O'Driscoll, 2001) and the sum of processes and activities within the organisation (Murphy and Cooper, 2000). It is described by some authors in terms of a "supportive climate" (Berridge et al. 1997), and positive feelings of staff, and whilst being recognised as an important feature, is described as being rather subjective in nature (Murphy and Cooper, 2000).

The growing literature on **organisational justice** may be associated with organisational climate. The concept of organisational justice encompasses social contexts and processes in the workplace relating to three different aspects of justice within an organisation; procedural justice, interactional justice, and distributive justice

(Elovainio et al., 2001, Elovainio et al., 2002, Kouvonen et al., 2007, Skarlicki and Folger, 1997). Authors report that perceived justice may be a feature of organisational contexts that satisfy social and personal needs of employees, and may relate to levels of support in the workplace.

Social support and the social setting in the workplace includes the technical and emotional support that comes from work colleagues. The literature distinguishes peer support from support provided by line management described above. It has been suggested by many authors that support has an important influence on worker well-being (see for example Leather and Zarola, 2008, Terry and Jimieson, 2001, Van Dierendcock et al, 2004, Houtman, 2007, Gilbreaath, 2004, Bejean and Sutan-Tareb, 2005). Support is also a key feature of the highly influential demand-control model developed by Karasek (1979), which describes support as moderating the relationship between job stressors and strain.

The involvement of employees via **employee participation** approaches is outlined by authors within the document set. Different types of participation are described, such as financial participation in the form of profit sharing or share ownership (McCartney, 2004), or participation in decision-making through discussion forums such as health circles (Aust and Ducki, 2004). Authors describe organisations with hierarchical structures as permitting little participation by employees in decisions affecting their work (Cooper, Dew and O'Driscoll, 2001). Also, the need in particular to involve employees in the management of change (Murphy and Cooper, 2000). Participation of employees, and the management of change also require well-developed **communication systems.** This aspect of work context was outlined by many authors

such as Gilbreath (2004), Pricewaterhousecoopers (2008), Kompier and Kristensen (2001), and Parkes and Sparkes (1998), who refer to the need for employers to use good communication practices to avoid ambiguity and uncertainty, and to promote effective transfer of information between senior staff and other employees.

In discussing the impact of work context on employee well-being, the findings of the epidemiology review above provided evidence that the type of industry influenced the prevalence of poorer worker well-being. The importance of considering the **industry type** in discussing work context occurred throughout the document set. The impact of differing levels of flexibility between companies (Chung et al., 2007), and the size of the company (Benach and Benavides, 1999, Dex and Scheible, 1999, Lowe et al., 2003, Murphy and Cooper, 2000) was outlined. Also, whether the company was public sector or private sector (Dex and Scheible, 1999, Blaug et al, 2007, Barham and Begum, 2005), and different ways of configuring work between companies (Parker and Wall, 1998) was described as being influential in influencing the work context.

Associations

Within the document set, a range of potential associations between work context and employee outcomes were described.

- **Management style and worker well-being**

The style of management was associated with employee cognitive and affective states and behaviour across a range of literature types. Firstly, in case studies by Ashforth (1997) and Sosik and Godshalk (2000). Also, a book chapter by Cooper, Dew and

O'Driscoll (2001) describes abrasive or authoritarian management styles being associated with employee strain or distress, which is echoed in another book chapter by Gilbreath (2004). Dewe and Kompier (2008) in a meta-analysis, and Tepper (2000), Tsutsumi et al (2005), and Tsutsumi et al. (2001) in review papers similarly support a link between leadership/management and aspects of employee well-being.

Michie and Williams (2003) identified unclear management as a significant factor impacting on well-being in their review of studies. Murphy and Cooper (2000) report case studies describing the impact of supportive leadership and appreciation of ones work on employee feelings about their work, and argue that job satisfaction is related to organisational practices and climate. A survey of NHS staff (Commission for Health Audit and Inspection, 2008) reported that staff who received an appraisal in the previous 12 months were more satisfied with their jobs and less likely to leave. This echoes a survey of family and psychiatric workers (Martin and Schinke, 1999) which found evidence of a correlation between job feedback and job satisfaction. Van Dierendock et al. (2004) in a discussion paper however, whilst supporting the linking between poor supervisor behaviour and reduced employee well-being, report that studies employing designs other than cross sectional are limited, with inconclusive results. They caution that interactions between senior staff and other employees should be considered a reciprocal process, as behaviour or feelings on one side may influence how the other party behaves or feels.

- **Organisational justice and employee well-being**

Elovainio et al. (2001 and 2002) and Kouvonen et al (2007) describe an association between types of justice and employee well-being in their cross-sectional studies

carried out in Finland. These studies linked procedural justice and relational justice with health and sickness absence, and levels of smoking as a marker of strain respectively. They concluded that there was an interrelationship between justice in an organisation and whether work content factors impact on well-being. A cross-sectional study by Moorman (1991) links justice with employee attitudinal outcomes. This work describes an association between interactional justice and organisational citizenship in company employees in the USA. Greenberg (1990) and Greenberg et al. (2006) also suggest that justice is a factor in the effects of work content and context on an individual. The 2006 work provided some empirical evidence via an interrupted time series study of nurses in the USA, which indicated that training supervisors in organisational justice could mediate the impact of pay cuts on employee-reported insomnia.

- **Work-place support and employee well-being**

Several authors describe an association between workplace support and positive employee outcomes. Cooper Dew and O'Driscoll (2001) for example describe work relationships and lack of social support as being sources of job strain, and support as having a direct relationship with worker well-being. Discussions by Leather and Zarola (2008) and Terry and Jimieson (2001) also describe the influence of social support mechanisms on well-being and in reducing the impact of adverse work content. Reviews by Michie and Williams (2003), and Stansfield and Dandy (2006) and a cross sectional study (Lowe et al. 2003) support the view that social support is an influential element of workplace context. Michie and Williams linked support with ill health in particular, and Stansfield and Dandy, hypothesised that poor support could impact by reducing self esteem. A meta-analysis by Viswesvaran et al. (1999)

suggests that poor workplace social support is not only an important factor in work context, but also plays an important role in moderating the relationship between work content and employee well-being. Analysis of cohort study data (Ferrie et al. 2004) suggested that lack of support was associated with a two-fold increase in the risk of poor general mental health.

Two cluster randomised controlled trials (Freedy and Hobfoll, 1994 and Heaney 1995) carried out in a hospital and care homes in the USA investigated the impact of providing training in social support, one study for supervisors and one for employees. It was found that staff reports of workplace support could be enhanced to a limited degree by training in supportive interactions. The study training employees reported this could reduce distress amongst employees, whereas the study training supervisors reported no impact on employee well-being.

- **Employee participation and well-being**

A review of employee participation programmes in the form of health circles in Germany (Aust and Ducki, 2004) reported that greater employee participation was associated with positive outcomes in the form of improved self-rated health, reduced sickness absence, although there was reported variation between different forms of employee participation and different companies. Estrin et al. (1987) in an economic review found a marked difference in impact between different schemes. Their findings generally support a positive outcome from participatory schemes, with profit sharing having the strongest effect, and to a lesser extent share ownership and participation in decision-making.

Sisson (2000) describes the perception of managers who have introduced direct participation as being that it reduces sickness and absenteeism. Authors within the Murphy and Cooper (2005) text provide further descriptions of the impact of employee participation, with work outlining beneficial effects of involving workers in the management of change impacting on a range of employee outcomes including perceptions of the work climate, co-worker relations, and employee turnover and reported improvements in support, working conditions and communication.

- **Communication and employee well-being**

Communication could be considered to be an element subsumed within management style, and as above was mentioned by some authors in regard to employee participation. However, communication was also highlighted by authors as a distinct element which may have particular associations. Cartwright et al. in Murphy and Cooper (2005) report a UK cluster RCT study examining the introduction of initiatives to improve communication. Improvements in job satisfaction, coping strategies, and more positive perceptions of the environment were reported in the intervention group. Bond et al. (2006) concluded from a meta-analysis of six studies that communication about organisational change could reduce turnover intentions with an effect size of 0.11-0.28. Lowe et al. (2003) identify good communication as one element of a healthy workplace. Terry and Jimieson (2001) discuss a potential indirect positive effect of communication on well-being, describing a possible compensatory effect of provision of information, in adverse work content situations.

b) Work (job) content factors

One of the most influential theories in the field of workplace well-being is the work on demand and control (Karasek, 1979) which proposes an interactive relationship

between these two factors, with high demand and low control leading to job strain. Van Vegchel et al. (2002) outline a further development of the Karasek model, the demand-induced strain compensation model which proposes that particular types of demand will lead to particular adverse outcomes. **Work demand** describes aspects of a job such as intense pressure of work, the performing of tasks as high speed, and being subjected to tight deadlines (Bejean and Sultan-tareb, 2005). Also, irregular flow of work (Cooper Dew and O'Driscoll (2001), high cognitive demands, or emotional demands (Houtman, 2007) or internal or external social pressure (Dhondt et al. 2002). It is highlighted that demand can be a result of either work overload or underload (Cooper Dew and O'Driscoll, 2001, Mind Out for Mental Health, 2004). Authors also make the significant observation that individual perceptions of and response to demands varies, with demanding work not necessarily being negative (Van Vegchel et al. 2002), and can be experienced as challenging which people respond well to (Beehr et al., 2001). A Review by Giga et al. (2008) reported that increased pressure at work was one of the most fundamental changes in contemporary society.

The other frequently linked aspect of work content is that of **job control.** This is the second aspect of the Karasek model, and has also been described in other approaches to the area such as the job characteristics model, sociotechnical systems approach, and the job design theory of stress (Bond and Bunce, 2001). Control relates to individual decision latitude within their work, and is low when workers do not have autonomy in organising work, in choosing work methods, or in the order in which they carry out tasks (Bejean and Sultan-tareb, 2005). Control has been identified as a central element of a "good job" (Black, 2008), however it is noted by some authors that high

levels of control may not always be desired by all workers (Terry and Jimieson, 2001). It is also cautioned that the notion of control or decision latitude has several elements subsumed within it, relating to task control, decision control, environmental control and resource control (Terry and Jimieson, 2001).

A second, highly influential body of work in the field highlights the importance of the degree of **effort** required in a job, and perceptions of the **reward** (in the form of financial or status/ esteem, or job security) for this effort (Siegrist, 2004, 2006, 2008). It has been suggested that the two models have similarities, however the demand-control (DC) model is focussed on more structural aspects of work, whereas the effort-reward (ER) model includes both structural and personal characteristic. Also, the demand-control model is concerned with power differentials whereas the effort-reward model addresses justice and fairness (Siegrist et al. 2004). However, the models share some similarity as effort may include demanding aspects of work content. The models tend to be considered complimentary and are frequently used together in the literature, both having an underpinning philosophy of healthy work needing to be a balance between elements.

Another element of work content relates to an individual **role** in the workplace**.** Authors describe important elements of work role as being role uncertainty, role conflict, or role overload (Cooper, Dew & O'Driscoll, 2001, Gilbreath, 2004, Parker & Wall, 1998, Webster, 2003). Black (2008) includes an understanding of ones role to be a significant feature of a "good job", and the Health and Safety Executive identify role as a potential stressor (Health and Safety Executive, 2005). The IPSOS survey (IPSOS, 2008) reported that NHS staff identified an understanding of own role as a

feature of a worthwhile job, and Kompier and Kristensen (2001) described staff concerns regarding ambiguity and duplication of roles in organisational restructuring.

Working schedules have been reported to be a significant aspect of work content. Included within here is literature discussing the impact of the working schedule, for example shift patterns (Bambra et al. 2006), employment patterns such as full time versus part time working (Dex and Scheibl, 1999, Benavides and Benach, 1999), temporary contracts (precarious employment) versus full time contracts and flexible working patterns. It has been reported (Foresight report, 2008) that flexible working can be used as a means of enabling employees to manage their own well-being, however it has been cautioned that flexible working and a flexible ethos need to be differentiated, as one refers to practices agreed and implemented, whereas the other refers to flexibility when circumstances demand (Dewe & Kompier, 2008).

Another feature of work content that appears in the literature relates to the perception of the ability to progress, or **learning and development** within the job. The IPSOS survey (IPSOS, 2008) refers to staff concerns regarding the ability to "develop my potential". Parker and Wall (1998) describe more recent versions of the demand-control model which emphasise active learning as an important feature. It is proposed that learning leads to mastery or confidence and increases individual coping capacity. The concept of job enrichment is also relevant here, referring to the building of greater scope for personal achievement and recognition into a person's job. Job enrichment may involve increasing responsibility for decisions, or including extra skilled tasks.

Other terms mentioned in regard to learning and development of a job are knowledge enlargement and task enlargement. It is reported (Campion and McClelland, 1993) that knowledge enlargement may be more enriching than task enlargement as it may be more psychologically meaningful; it is related to mental abilities, and can lead to enhanced identity. There is also some limited reference in the literature to the concept of organisational learning (Pil and MacDuffie, 1996) as a positive means of enhancing well-being.

Other elements of work content that are to be found in a small number of documents describe how the level of **monotony,** and **underutilisation of skills** (Coats and Lekhi, 2008) may be significant, and whether a job is perceived as being **worthwhile or fulfilling** (IPSOS, 2008, Coats & Lekhi, 2008). Also, a small number of references to the physical content of the work and **working conditions** such as noise, temperature, or vibration (Cooper, Dew & O'Driscoll, 2001, Commission on Social Determinants of Health, 2008), and the need for adequate **resources** to be able to carry out work satisfactorily (IPSOS, 2008).

The **stability or job future** of employment is an important aspect of work for employees (Wilson et al., 2004, Coats & Max, 2005). Cooper Dew and O'Driscoll (2001) discuss the impact of redundancy not only on current and future income, but also as a challenge to a persons general self-esteem, and has been linked to various health problems. They also highlight that due to uncertainties in the job market individuals may stay in jobs which may be unsatisfactory, but which offer future employment, rather than seeking alternative work.

The final area of work content relates to factors which are inherent in different **occupational groups**. As described in the previous section, the epidemiology review highlighted increased levels of adverse well-being in particular industries. It also suggested that particular occupational groups tended to have greater prevalence of adverse well-being. Dhondt et al. (2002) draw attention to the occurrence of repetitive and monotonous work most commonly among plant and machine operators, whilst external social pressure is more common in white collar and service jobs. Kompier and Kristensen (2001) contribute the important point that some work content contains inherent adverse factors such as stress, and it may not be realistic to reduce or eliminate it. Other employment such as in hotels or health and social care inevitably has unusual working schedules. Webster (2003), and Dew and Kompier (2008) among others describes particular work content of professional jobs such as pressure from clients, and higher "emotional labour" in the human service professions leading to burnout. Stansfield et al. (2004) suggest that the greater prevalence of psychological distress in the public sector may be linked to high levels of emotional demand in health and education occupations.

Associations

As with work context, the literature describes a number of potential associations between work content factors and employee well-being.

- **Demand and well-being**

A variety of sources explored the relationship between demand and employee outcomes. Discussion documents by Bejean and Sultan-tareb (2005), Blaug et al., (2007), and Lowe et al. (2003) link high job demands to job strain or work-related

stress, and reasonable demands to a healthy work environment. Kompier and Kristensen (2001) comment that demands however are not as clear a risk factor for coronary heart disease as decision latitude, and Marmot et al. (1997) also found no association between high demands and coronary heart disease. Case study evidence from Van Vegchel et al. (2002) associates high demands with a range of poorer employee outcomes such as exhaustion, but indicated that there was no relationship with sickness absence. Reviews by Stansfield and Candy (2006) and Michie and Williams (2003) and a meta-analysis by Smith et al. (2005) concluded that high demands or conflicting demands were associated with job stress, strain or common mental disorders. Giga et al. (2008) in a discussion argues that increased pressure at work is one of the fundamental changes in contemporary society and is a major source of dissatisfaction.

Cross sectional studies (Beehr et al. 2001, de Jonge et al. 2000, Van Vegchel et al. 2002, and Marmot et al. 1997) also provide evidence of an association between high demand and adverse impacts on employees such as strain, exhaustion, and coronary heart disease. A survey of manufacturing employees in the USA (Beehr, 2001) however, indicated an association between high demands and positive factors rather than negative factors of decreased turnover intent and increased job satisfaction. Cohort studies (Ganster et al. 2001, Head et al. 2002) and a cluster RCT study by Bond et al. (2008), provide support for the important role of job demand on employee outcomes such as health and psychological distress.

- **Control and well-being**

A significant number of authors in the literature set described a relationship between control or decision latitude and employee mental or physical well-being. Begean and Sultan-taib (2005) describe low job control as leading to job strain. Reviews (Stansfield and Candy, 2006, Bambra et al,, 2007, Egan, 2007a) and a meta-analysis (Smith et al. 2005) also support a link between work control and either strain, or mental and physical health or reduced sickness absence. Case studies reported by Parker and Wall (1998), and Terry and Jimieson (2001) similarly suggest demand can be associated with strain, and psychological and physical ill health. Cross sectional studies report an association between control and sickness absence (Ala Mursual et al, Van Vegchel et al., 2005). Further empirical evidence in the form of an RCT, a case control study, and two cohort studies is provided by Bond and Bunce (2001), Bosma et al. (1997), Ferrie et al (2004), Ganster et al. (2001), Johnson et al. (1996), and Marmot et al. (1997), supporting the link between low control and a range of adverse effects on mental health, physical health, and sickness absence. Kompier and Krisensen (2001) used a range of physiological measures of stress, and concluded that lack of job control could have a cumulative effect over several years before leading to adverse health such as myocardial infarction.

- **Effort, reward and employee well-being**

Authors have described the impact of an imbalance between perceived effort required and reward (ERI), for example Semmer et al. in Cooper et al. (2004) who describe a range of health-related outcomes. Siegrist et al. (2004) in a meta-analysis of studies reported that employees who had an imbalance were at increased risk of poor health in 12 of the 14 analyses. Smith et al. (2005) similarly in meta-analysis of two data sets associated higher ERI with work stress. Stansfield and Dandy (2006) in their meta-

analysis of eleven studies similarly concluded that ERI was strongly associated with increased risk of the common mental disorders.

A cross-sectional study by Vegchel (2005) also found that an imbalance between the level of effort and perceived reward (ERI) was associated with elevated risks of physical symptoms and psychosomatic health complaints (Odds ratio 8.88). De Jonge et al. report an odds ratio of 2.89-3.31 for negative affects generally, 5.57 for increased risk of job dissatisfaction and 15.43 odds ratio risk of emotional exhaustion in high effort-low reward employment. Dragano et al. (2003) report cross sectional data indicating a strong association between ERI and musculoskeletal pain. Pickhart et al. (2004) in an Eastern European survey reported a strong association between depressive symptoms and effort-reward imbalance. Ala Mursula et al. (2005) describe an indirect association of ERI with well-being highlighting that ERI was linked to lower work-time control, with the potential associations described above. Cohort studies reported by Ferrie et al. (2004), Head et al. (2002) and Niedhammer et al. (2004) associate an imbalance between efforts and rewards as leading to increased risk of heart disease, decline in physical and social functioning, and poorer self-reported health status.

In addition to describing an imbalance between effort and reward, several cross sectional studies have reported the impact of these two factors individually. Lowe et al. (2003) identify high extrinsic and intrinsic rewards as a factor in perceptions of a healthy work environment. Martin and Schinke (1998) in a survey of psychiatric workers concluded that lack of financial reward was associated with burnout. Discussions by Kompier and Kristsensen (2001) and Greenberg (1990) also describe

level of rewards such as salary and promotion as being linked to adverse emotional responses and levels of job satisfaction.

Van Vegchel (2002) in a Dutch survey found that both high effort and low reward were associated with adverse health effects. Exhaustion for example was associated with an odds ratio effect of 9.39 for effort and 6.23 for reward. However, whilst supporting the linking of effort and reward with employee well-being outcomes, they identified that different rewards could be associated with different health outcomes. Also, that for all conditions the highest odds ratio was for high effort at work. De Jonge et al. (2000) provide some support to this differentiation, reporting that effort was the strongest predictor of emotional exhaustion, psychosomatic complaints, and physical symptoms, whilst reward was the strongest predictor of job dissatisfaction, and other outcomes.

- **Role and employee well-being**

An association between role issues and well-being is discussed in the literature, although in this document set there was no empirical work examining this. Michie and Williams (2003) in a review of interventions in the work-place to reduce psychological ill-health report that lack of role clarity is associated with ill health. Cooper, Dewe and O'Driscoll (2001) describe role ambiguity as being associated with strain, and role conflict also being associated with strain (although not as strongly). Also, role overload has the potential to be a major correlate of strain, as it is psychologically uncomfortable and can result in emotional disturbance. Gilbreath (2004) also highlights the potentially important impact of role issues, describing an

association between role stress and heavy smoking, raised cholesterol, hypertension, and job dissatisfaction.

- **Working schedules and well-being**

Dewe and Kompier (2008) describe an association between workers wanting, but not having flexible working arrangements and lower levels of job satisfaction. They also highlight that training is necessary to prepare both managers and employees to prepare them for flexible working. Bambra et al. (2008) discuss the impact of different types of shift working systems on well-being, with benefits in terms of health, work-life balance, reduced fatigue and improved sleep following the introduction of three particular types of shift systems. Cooper, Dew and O'Driscoll (2001) conclude that fixed shifts are less harmful to employees than rotating shifts. Changing or unusual hours have been described as being associated with higher sickness absenteeism, and motivational problems (Kummerling and Lehndorff, 2007), and with increased stress (Webster, 2003).

A European survey of employment patterns and health and well-being outcomes (Benach and Benavides, 1999) indicated that full-time workers tended to have poorer health outcomes than part-time workers, and also employees on precarious employment (fixed term contracts) versus permanent employment were more likely to report health related absenteeism and dissatisfaction (although were less likely to report stress or muscular pains). A TUC survey reported by Blaug et al. (2007) suggested that 22% of workers reported that shift work was a source of stress.

- **Fulfillment and well-being**

Dewe and Kompier (2008) outline the need for many people to feel that their job enables them to help others and be useful to society. They report that data has shown that it is the sense of achievement from a job that has shown the greatest improvement in job satisfaction over the last decade. They argue that employee satisfaction with work is a key indicator of well-being. In a discussion of skills development within the workforce Sloman (2007) highlights that successful acquisition of skills can add to a sense of well-being at work, although confirms that currently there is no strong body of research linking training and well-being.

- **Employment stability and well-being**

Gilbreath (2004) discusses a link between uncertainty or lack of job security and a reduction in job satisfaction and greater stress. Coats and Max (2005) in addition conclude that employees will experience worse health if employment is insecure, a view supported by Egan et al. (2007) in a review of eleven studies of company downsizing. It has been argued that organisational change and job insecurity act as chronic stressors increasing ill health, particularly mental illness (Ferrie et al. 2004). Vegchel et al (2005) in particular describe psychosomatic complaints, physical symptoms and exhaustion as being associated with job insecurity.

c) Individual factors

The third key area of work and well-being relates to the influence of individual factors. Definitions of stress or strain as adverse outcomes related to work, emphasise the importance of individual responses in the process. The importance of considering **Individual responses** to the working environment are described by authors such as

Bilsker et al. (2005) Cooper, Dewe and O'Driscoll (2001), Dewe and Kompier (2008), Smith et al. (2000), Murphy (2008), O'Driscoll and O'Driscoll (2008), Lewis and Cooper (2005). One aspect of individual differences described is the potential for **personality traits** to impact. It was earlier mentioned that demanding work can be experienced positively as challenging rather than negatively (Beehr et al. 2001). Blaug et al. (2007) highlight the importance of perceived job stress in mental health conditions, and Cooper Dew and O'Driscoll (2001) describe the subjective meaning of types of strain to different individuals, although report that the evidence for the moderating effects of specific dispositions or personalities is "less than conclusive". Stansfield and Candy (2006) propose that in some individuals or personality types there may be pre-existing vulnerabilities making a person more at risk for common mental disorders when faced with work stressors.

Cropanzo and Wright (2001) in a discussion of happiness, describe psychological well-being as being partially influenced by stable personality dispositions, and Dewe and Kompier (2008) highlight that levels of satisfaction can vary between individuals in the same workplace. Van Vegchel et al. (2002) concluded from a cross sectional study that employee well-being may be influenced by personality characteristics most notably negative affectivity. Simmering et al. (2003) in another cross sectional study, and Parker and Wall (1998) in case studies, describe the differing responses of individual personality types to working content and context.

Another aspect of individual personality referred to are elements of **self-efficacy** and **self-esteem.** Cooper, Dew and O'Driscoll describe them as the likeliest candidates for exerting an individual moderating influence on responses to work context and content.

Gilbreath (2004) emphasises the importance of self-efficacy in enabling employees to cope with stressors. Cooper (2005) views stress as an offence to self with the need for high esteem and self-esteem as being among the most basic human needs. Coats and Lekhi (2008) also describe the basic human need associated with people seeking work that has meaning, offers a degree of fulfilment, and creates a sense of rootedness and stability in the world.

A further element which may be associated with personality traits is **psychological flexibility.** Bond et al. (2006) reported in a cluster RCT trial that interventions to improve psychological distress were most effective in employees who had higher psychological flexibility. There was some discussion of the need for individual **values** to be congruent with employing organisation values and goals (Bilsker et al. 2005, Cooper Dew and O'Driscoll, 2001), with occasional reference to the need for **person-environment fit** (Smith et al., 2005, Gilbreath, 2004).

The role of an employee's personal or home life on responses to the workplace is outlined by a number of authors. Berridge et al. (1997) for example report that individuals may suffer stress from both personal and work-life that will impact on psychological well-being. Heaney (1995) concluded that **social resources** available to employees determined the effect that stressors had on them in a cluster RCT using care home employees. Marchand et al. (2004) associated distress with personality, daily life and social structures in a Canadian cross-sectional study, echoing findings by Munz and Kohler (1997). The Mind Out report (2004) also described the role of social support systems in moderating the effects of work pressure.

Authors describe **individual responses to management style** (Van Direendock et al., 2004, Cooper, Dew and O'Driscoll, 2001), or differing responses to particular work practices such as teamworking (Cooper, Dew and O'Driscoll, 2001). Van Dierendock et al. (2004) report data from a cohort study indicating that employees' perceptions of managers differ according to their own feelings of well-being. Gilbreath (2004) emphasises that employees have **different thresholds** of demand, which management and supervisors need to learn and manage accordingly. Cooper (2005) describes in detail the significance of individual **coping responses** in responding to adverse work conditions, reporting that coping can be either emotional or problem-focused. Cooper describes problem-focused coping responses as being associated with better well-being.

Associations

Authors describe the lack of research examining individual differences, and how these may moderate well-being outcomes, with only three main documents identified in this data set outlining potential associations

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- **Psychological flexibility and well-being**

Bond et al. (2006) report that a review of literature suggests that psychological flexibility is associated with outcomes such as improved mental health, job satisfaction and job performance in the 27 studies they accessed.

- **Social resources and well-being**

Klitzman et al. (1990) in a survey in the USA reported that stressors outside of work had little impact on feeling of stress at work, concluding that sources of stress both at

work and at home independently affected feelings and health. Smith et al. (2000) echo this in their assertion that general life stress is independent from work stress.

d) Wider influences

The epidemiology review outlined the influence of demographic variables such as age, gender, social circumstances and race on the prevalence of mental ill-health. Other wider influences that are described in the literature as having an impact on the work context, the work content and the individual relate to national policies and practices and economic and social trends.

The concept of health inequalities and the social gradient in health is discussed within the literature accessed in regard to its influence on the enhancement of well-being in the workplace. Authors such as Coats and Max (2005) describe work as a key cause of the social gradient, with Ferrie et al. (2004) agreeing that the way that work is organised, and the work climate are important contributors to the gradient. A report by the Commission on Social Determinants of Health (2008) asserts the need for fair employment and decent work if health equity for all workers is to be achieved. Head et al. (2002) similarly argue that the workplace is an effective site for interventions to improve health and reduce health inequalities.

Previous sections have outlined the differing prevalence rates related to social class, industry and occupational groups. It was highlighted that different industries provide differing context-related factors, and may have increased exposure to particular stressors, for example the hospitality industry and non standard working schedules.

Also, that the particular occupations have different work content factors such as the health professions and increased emotional content to work. This suggests that developing guidance on reducing inequalities may require specific attention to be paid to the work context and work content characteristics of each employment.

The literature set contains a body of work that describes the changing characteristics of work, due to background national and international factors and social trends that will impact on work context and content, and influence individual values, beliefs and expections regarding working life. In particular authors report the impact of changes in employment patterns (Cooper, Dew and O'Driscoll, 2001, Naegele et al. 2003, Vermeylen and Hurley, 2007, Webster, 2003), internationalisation and global competition (Dewe and Kompier, 2008, Foresight Report, 2008), new technology such as information and computing technology (Cooper, Dew and O'Driscoll, 2001, Dewe and Kompier, 2008) and changing job characteristics (Parker and Wall, 1998). It has been suggested that national and international policies such as gender and racial anti- discrimination, family-friendly policies and maximum working hours legislation also have the potential to change the future composition of the workforce (Dewe and Kompier, 2008) and working patterns, exercising a large influence on the future workplace.

ii) The relation between well-being and business outcomes

The third research question sought an understanding of the ways that employee well-being may impact on business outcomes. Employee responses to adverse work place situations will include both behavioural outcomes, such as sickness absence, turnover, presenteeism, citizenship and burnout, but also will include attitudinal outcomes such

as level of motivation, commitment, engagement and fairness. These outcomes may therefore underpin any benefits for employers in terms of business outcomes.

The literature describes that in general terms healthier workers contribute to better performance (Adisesh, 2003), with a reported strong association between mental health problems and sickness absence (Seymour et al. 2005). Work has shown that the well-being of employees is associated with absence costs (Boyd et al. 2008, D Greef et al., 2004, Dex and Scheibl, 1999, Foresight report, 2008, Goetzel et al. 2002, Pricewaterhousecoopers, 2008, Tasho et al. 2005). Cross-sectional data (Martin and Schinke, 1999) indicated a correlation between job satisfaction and both absenteeism and turnover rates, in a survey of workers in the USA.

The significant point is made by many authors that absence is only one, limited measure relating to business performance as many individuals with ill health may remain at work (Bilkser et al. 2005), termed presenteeism**.** Impairment of work ability or performance is therefore also an important area of business outcomes to consider. Doherty (2002) highlights that the costs to business of ill health are not only in terms of employee absence, but also in lost productivity, hiring replacement labour, and management time in adjusting schedules and completing paperwork. Wright and Cropanzo (2000) suggest a relationship between job satisfaction and performance. A cohort study (Cropanzo and Wright, 1999) suggested that well-being predicted job performance.

Productivity may be another important outcome measure (Rost et al., 2004, Jordan et al. 2003, Donald et al. 2005, Murphy and Cooper, 2006). A meta-analysis (Harter et

al. 2002) linked employee engagement and satisfaction to business outcomes such as customer satisfaction, productivity, profit, employee relations and employee safety. Robertson and Taylor (2008) report that interventions to increase employee well-being are associated with a range of improved organisational outcomes (effect size 0.3-0.4).

- **Health and business outcomes**

This review was primarily concerned with mental well-being rather than physical health, however references to associations between adverse mental well-being and physical health and health behaviours, in particular cardiovascular disease, is prominent throughout the literature set. Donald et al. (2005) argue that physical health may not be a direct predictor of performance however, they propose that physical health indirectly impacts on business outcomes via mental well-being. The National Institute for Mental Health in England (2005) also confirms the important role of mental well-being in any impact on organisational outcomes, concluding that poor mental health significantly increases the risk of poor physical health.

- **Support and business outcomes**

An association between workplace support and business outcomes has been reported in a meta-analysis of 7 studies by Bond et al. (2006). They concluded that higher levels of support could lead to better business outcomes (effect size 0.1-0.48). Also, in 28 studies problems with relationships at work could have an impact on team performance and individual productivity (effect size 0.22-0.23). Murphy and Cooper (2000) discuss a relationship between good supervisory support and profitability. Cooper, Dew and O'Driscoll (2001) however describe support as most often affecting

well-being and job attitudes rather than business outcomes. In the literature, rather than impacting on business outcomes, support is often explored in relation to its potential moderating effect, preventing the demands of a job leading to strain (Viswesvaran et al. 1999, Terry and Jimieson, 2001, Lowe et al. 2003, Stansfield and Candy, 2006, Heaney et al. 1995, Freedy and Hobfoll, 1994).

- **Control and business outcomes**

There is some evidence linking levels of job control or task discretion to organisational outcomes. Bond and Bunce (2001) report that changing job control produces "medium effects" on mental health, absence and performance. In a further review of 19 studies in the area, Bond et al. (2006) concluded that levels of control could be linked to improved absenteeism, reduced turnover and increased performance (effect size 0.11-0.32). They further reported that job demands predicted business outcomes only when accompanied by lower control (effect size 0.002-0.34). Kivamaki et al. (1997) concluded from a cohort study in Finland, that lack of perceived job control played a significant role in absence behaviour. Terry and Jimieson (2001) in a discussion of the area also argue for a consistent effect of work control on outcomes, although they caution that job control may have different aspects and high levels of control may not always be desired.

- **Management style and business outcomes**

Links between type of leadership behaviour and organisational functioning are made by Barling et al. (1996). It has been argued that facets of organisational functioning termed high performance work practices are associated with lower employee turnover and greater productivity (Huselid, 1995). Murphy and Cooper (2000) describe

leadership demonstration of core values, and a good work climate as linking to improved company effectiveness.

- **Employee participation and business outcomes**

Aust and Ducki (2004) report that of the 7 studies they examined evaluating levels of sickness absence following improved employee participation interventions, five of them found a decrease in absence levels. Kim (1998) found a high correlation between profit sharing schemes and profitability when combined with other employee involvement programmes, although warned that it did raise labour expenses. Sisson et al. (2001) and Chouraqui et al. (2003) report that the views of managers in a survey were that direct participation schemes could make a positive contribution to output quality, through-put time, and also reduced sickness and absenteeism.

- **Effort, rewards and business outcomes**

Whilst the majority of work discussing outcomes associated with levels of effort and reward examined physical or mental well-being outcomes, there was a suggestion that high rewards may encourage earlier return to work from absence (Van Vegchel et al. 2002). The association between effort and reward in relation to employee commitment (Niedhammer et al. 2004, De Jonge et al., 2000, Siegrist et al. 2004, 2008, Stansfield and Candy, 2006) may also be relevant to employer outcomes.

- **Working schedules and business outcomes**

Anxo et al. (2007) and Riedman (2006) describe a number of potential employer benefits underpinning the introduction of non-standard working hours. They describe how part-time employment can improve organisational flexibility, provide optimal

staffing rotas, and fulfil statutory regulation needs. Bambra et al. (2007) outline how worker self-scheduling of shifts improved organisational effectiveness. Benach and Benavides (1999) discuss the lower levels of absenteeism associated with part-time rather than full-time working reported in European survey, confirmed in an analysis of more recent surveys (Riedman, 2006). Bevan et al. (1999) describe the benefits to business of family-friendly working schedules in terms of reduced absence, improved retention and improved productivity, and the introduction of work-life balance working schedules has been found to have a positive impact on labour turnover, motivation and commitment (Woodland et al., 2003). Dex and Scheibl (1999) also propose that organisations may need to adopt new working time practices in order to maintain competitiveness with rival firms.

- **Other business outcomes**

A cost-benefit analysis (De Greef et al. 2004) indicated that in addition to absence, employee well-being could be associated with the enhancement of corporate image, improvements in staff turnover and organisational structure, more motivation and job satisfaction. Whilst, currently there are few examples of personal injury claims against employers for damage to mental health in the UK, potentially this could become more common in the future (Doherty, 2002). The Pricewaterhousecoopers (2008) report also suggests that there may be benefits to employers from enhancing employee well-being in terms of managing the rising cost of ill health and health insurance, and in attracting and retaining quality staff. A study using physiological measures of stress (Ganster et al. 2001) indicated that increased stress levels were associated with increased employer healthcare costs.

4.4 Interventions

This review was not intended to provide a systematic evaluation of interventions addressing well-being in the workplace, rather the aim was to explore and identify elements within the workplace that may impact on well-being. The research questions also were not focused on an evaluation of interventions. However, there was a considerable body of work within the literature set which discussed interventions and outcomes, which may provide insights into how adverse work context or work content may be addressed, which will be described briefly.

This review approached the area from a public health perspective, and was concerned with further understanding of primary prevention of adverse well-being in the workplace, rather than examining evidence relating to employees who had already been identified as having mental health needs. Whilst a proportion of the work in the literature set described and discussed secondary and tertiary interventions, this was not extracted as part of this review.

Authors such as Giga et al. (2003), and Graveling et al. (2008) make a distinction between programmes to address work-place well-being that are predominantly focused on the individual, on the organization or at both individual and organisational levels. They report that most programmes they reviewed (80%) were targeted at individual workers, with 19% aiming for organisational changes, and 43% involving both. Jordan et al. (2003) report similar figures, classifying 70% of programmes as being individual level. Pricewaterhousecoopers (2008) use a different classification system encompassing health and safety interventions, management of ill health interventions and prevention and promotion interventions. Semmer (2008) uses a third

type of classification, categorizing stress management training, environmental approaches, or cognitive-behaviour skills training.

There is mixed evidence of the effectiveness of these interventions. Bilsker et al. (2005), and Van der Klink et al. (2000) support the value of interventions, Bunce (1997) concluded from a review of studies that across a range of measures there was benefit to be found. Other literature which reports benefits from interventions includes the Foresight report (2008), which describes moderate evidence that programmes can have an impact, and Giga et al (2003) who reviewed 16 studies, and found some positive outcomes from all.

Several authors comment on the diversity of approaches to be found within the literature. Graveling et al. (2008), and Semmer (2008) comment that there may well be tangible benefits from interventions although it is difficult to make unequivocal statements. Hill et al. (2007) similarly describe different levels of effectiveness in different areas.

There seems to be some consensus within the literature that where clear evidence exists, individual level interventions seem to be more effective (Hill et al., 2007, Foresight Report, 2008, Giga et al., 2003, Houtman, 2006, Kreis and Bodeker, 2004, Lelliott, 2006, Mimura and Griffiths, 2003, Murphy, 1996, Symour et al. 2005). However, this may be related to the comparative lack of organisational studies (Giga et al., 2003, and Houtman, 2007), and may be associated with individual programmes leading to a more short term, measurable benefit, whilst organisational level interventions may lead to longer term improvements in health and business performance (Giga et al, 2003). Berridge et al. (1997) whilst agreeing that individual interventions seem to have the most effect, argue that to focus interventions at the

individual level is to make the individual responsible for the problems even if they are work related. They suggest that this may encourage an abdication of the responsibility of the employer.

Cooper, Dew and O'Driscoll (2001) highlight that whilst behavioural responses to adverse well-being are the least studied, they are the ones that tend to impact on the organization most. Other factors which make the evaluation of organisational interventions challenging relate to the difficulty in isolating individual elements of change (Berridge et al. 1997, Boyd et al. 2008) and the complexity of collecting relevant information and evaluation methods in a changing environment (Dex and Schibl, 1999, Kompier and Kristensen, 2001).

The benefits reported from interventions are also diverse, with individual programmes tending to report individual employee psychological benefits which may have an indirect effect on business outcomes such as anxiety (Rose et al. 1998) or job satisfaction. Only a limited number of studies (for example Kompier et al., 2000, Giga et al., 2003) report the direct benefit of interventions for employer outcomes such as reduction in sickness absence or productivity. Boyd et al. (2007a) conducted an economic analysis of 3 studies and concluded that interventions could reduce absence costs (by between £145 and £1295 per employee) and presenteeism costs (by between £350 and £3865 per employee) per year, with large net benefits for employers. However, the authors report that the evidence that these calculations were based on data that was diverse and requires caution in interpretation. In a second paper (Boyd et al. 2007b) 2 studies were examined which also supported net economic benefits, however the authors report that it was not possible to isolate exactly what features of the interventions led to the benefits.

Murphy (1996) reports that one type of individual approach, cognitive-behavioural therapy produced a change in "organisational outcomes" in 75% of the studies examined. However, none of the studies produced consistent change in job satisfaction or absenteeism. There is some suggestion from authors that lack of evidence of impact in these organisational studies may be due to remedial activities for employees identified as suffering from mental health concern being more effective than preventive approaches (Taylor et al. 2007). Kompier and Kristensen (2001) highlight that many studies include participants who are already ill, have problems of floor and ceiling effects, lack differentiation between participants, and fail to sufficiently identify and describe risk factors and risk groups. There is some suggestion in findings from Munz and Kohler (1997) that employees who participate in workplace interventions may have some differing characteristics to non-attendants.

Varying findings in regard to intervention outcomes may be related to differences in the process of implementation of programmes. Key factors in successful implementation have been highlighted as firstly, the need for programmes to reflect the nature and needs of the host organization (Berridge et al. 1997, Cooper, Dew and O'Driscoll, 2001, Giga et al. 2002, Dex and Scheibl, 1999, Jordan et al. 2003).

Secondly, the vital role of comprehensive pre-intervention evaluations and audits is described by authors (Cooper, Dew and O'Driscoll, 2001, Cox et al. 2000, Dex and Scheibl, 1999, Foresight Report, 2008, Jordan et al. 2003, Kompier and Kristensen, 2001, McDaid, 2008), together with ensuring that there is prioritisation in order to avoid making too many changes simultaneously (Parkes and Sparkes, 1998, PriceWaterhouseCoopers, 2008).

Thirdly, interventions need to be supported by senior managerial staff and be embedded within the systems, values and goals of an organisation (Berridge et al,. 1997, Cooper, Dew and O'Driscoll, 2001, De Greef et al. 2004, Dewe and Kompier, 2008, Lewis and Cooper, 2005, Westman, 2008).

Fourthly, the importance of involving employees in preparing, implementing and auditing is highlighted (Giga et al. 2003, Hill et al. 2007, Lewis and Cooper, 2005, Murphy, 1996, National Social Marketing Centre, 2008,), and finally the need for ongoing assessment and review (Murphy and Cooper, 2000) is described in order to continue the process of change.

5. KEY DISCUSSION POINTS

Research question 1.

How might terms used by authors in the field be defined, and where is there a need for further clarity in definition?

See Section 6 for a comprehensive glossary of terms used in the literature set.

It has been discussed throughout this review that the terms well-being and job satisfaction currently lack clear definition, with inherent issues of self-definition, and time and place variability. Limitations in the use of the term "stress" have also been highlighted, as this term may lack clarity and be open to various interpretations. The literature suggests that "psychological strain" or "job strain" may be the preferred term to describe the impact of adverse work-place elements on individual mental well-being, however these terms emphasise negative responses, rather than a health promotion, primary prevention approach to well-being. Also, a further obstacle in

using these terms seems to be that the relationship between strain and well-being remains unclear.

Issues in regard to the ill-definition of terms, and self-defined nature of well-being have been pervasive throughout the review. It was discussed that the measurement of prevalence in the epidemiology review was complicated by the use of self-report measures, and also by different work potentially examining different aspects of well-being. The self-reported nature of the concept also impacts on the evaluation of potential links between social class and adverse-well-being. In addition, the potential for individual factors to be influential in responses to work context and work content factors has been highlighted, further suggesting that self-reporting of well-being levels presents considerable issues for research.

Research question 2.

What is the overall burden of common mental health problems among the working population of England?

The epidemiology review examined the data relating to the prevalence of adverse well-being within the working population in terms of demographic factors, and work-related factors. Examination of the literature highlighted the differing aspects of well-being that were used as measures of the concept, with survey data reporting levels of job satisfaction, levels of mental ill health, the perceived effect of work on health, levels of stress and emotions relating to work. Concerns in regard to the use of self-reported measures were raised, together with issues regarding the meaning of stress. In terms of demographic factors, Box 2 and Box 3 provide a summary of the findings relating to the overall burden of adverse well-being and patterns of prevalence.

Box 2. Prevalence of common mental health problems/adverse well-being

1. Around 1.2% of workers in Britain believe they are suffering from stress, depression or anxiety that was caused or made worse by their current work.
2. Between 12-16% of workers find their job very or extremely stressful.
3. 27% of workers agree or strongly agree that they worry "a lot" about work.
4. Around 3% of workers are very dissatisfied with their work.
5. Between 16-21% of workers believe that they have suffered ill-health as a result of work.

Box 3. At risk groups for common mental health problems/adverse well-being

1. The 35-59 age band may be at greatest risk.
2. Employees in class II (managerial and technical occupations), class IIIm for women (skilled manual occupations) and IIIn for men (skilled non – manual occupations) may be most at risk.
3. Employees in the public sector may be at greater risk than the private sector.
4. Occupations in education, health and social work, public administration, defence, construction, sales, craft and related occupations, and clerical and secretarial occupations may be at greater risk.

In addition to demographic data, the review examined data regarding the prevalence of particular risk factors for mental ill-health/adverse well-being, which are summarised in Box 4.

Box 4. Risk factors in the working environment

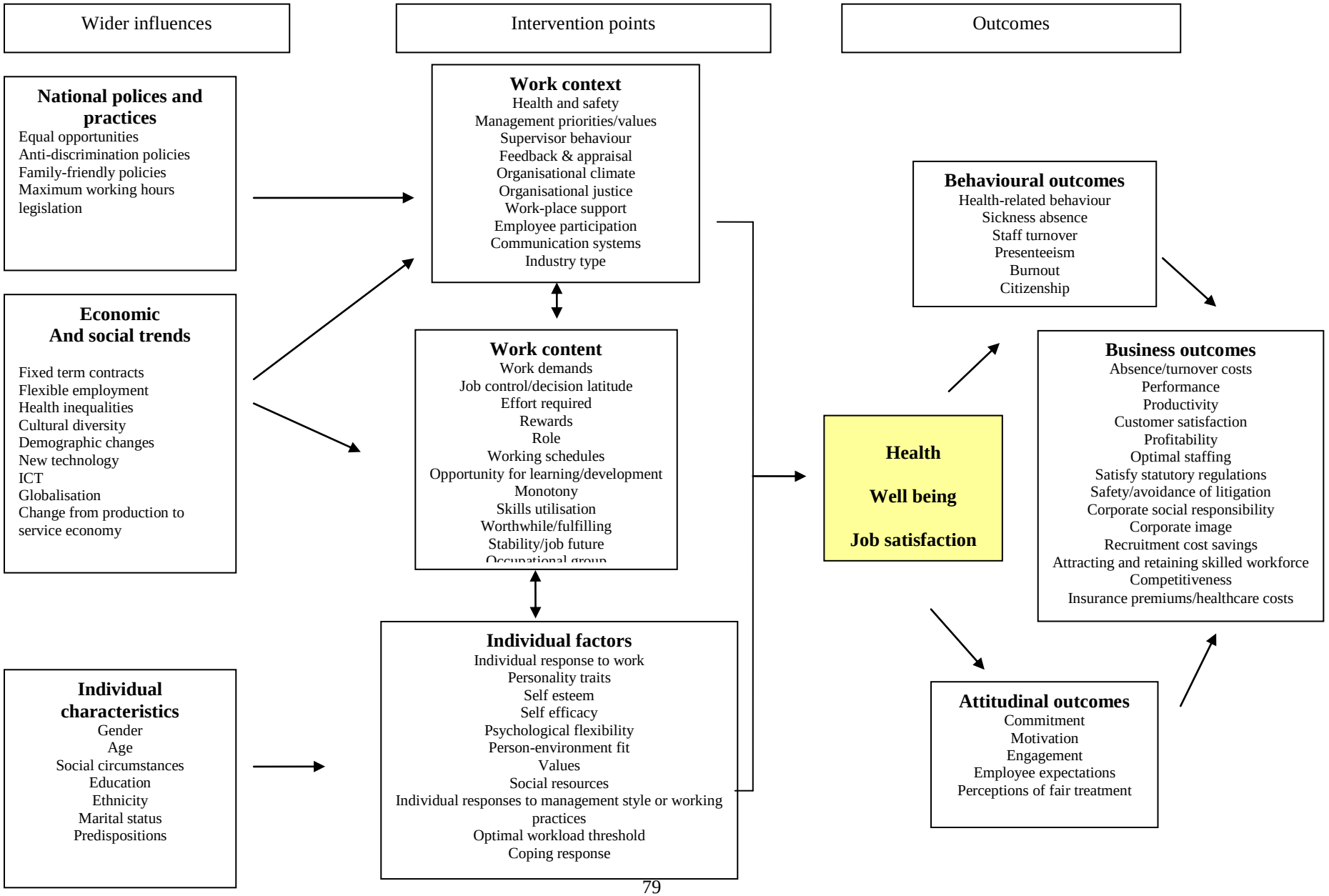
1. The most commonly reported adverse environmental factors are tiring/painful positions and excess noise.
2. 7% of workers report being unfairly treated at work.
3. 16-27% of workers are concerned about job security.
4. 11% of employees report that they usually work more than 48 hours per week.
5. 46% of workers are prepared to do their best at work even if it sometimes interferes with the rest of their life.
6. 60% of employees have working hours "set by the company with no possibility for change".
7. 31% of employees perceive that workers at their workplace are not well informed about what is happening.
8. Mechanisms for consultation exist in only around 39% of work places.
9. 40% of workers agree or strongly agree that they never seem to have enough time to get work done.
10. 11% of workers report being dissatisfied or very dissatisfied with the scope for using their initiative
11. 67% report being dissatisfied or very dissatisfied with their influence over their job.
12. 35% of workers report being satisfied or very satisfied with their pay.

Research question 3.

What factors related to population-wide structures and systems, environmental agents, socio-cultural mechanisms, organisational factors, and individual attitudes and experiences influence the well-being of employees?

Figure 1. provides a summary illustration of the elements identified in the literature set that may influence the well-being of employees.

Figure 1. Factors influencing the well-being of employees



As this illustration indicates, employee well-being can be considered to be a complex concept, with a large number of variables interacting in varying degrees of relationships or balances. This review has discussed where potential associations have been reported however, it is important to recognise that in doing so these associations are less straightforward than might appear, with the likelihood of other factors bringing to bear influence on this relationship. Whilst the review has suggested that three key areas of work context, work content and the individual are significant in linking the work-place to employee and employer outcomes, there will be considerable interplay within these. With these riders, Box 5, Box 6 and Box 7 indicate where this set of literature suggests that relationships may exist.

Box 5. Associations between work context aspects and well-being

1. Management style and employee well-being
2. Organisational justice and employee well-being
3. Work-place support and employee well-being
4. Participation and employee well-being
5. Communication systems and well-being.

Box 6. Associations between work content and well-being

1. Work demands and employee well-being
2. Level of control and employee well-being
3. Effort and reward and employee well-being
4. Role and employee well-being
5. Working schedules and employee well-being
6. Sense of fulfillment and employee well-being
7. Job stability and employee well-being.

Box 7. Associations between individual employee aspects and well-being

1. Psychological flexibility and well-being
2. Social resources and well-being.

These associations offer potential avenues for further work, and interventions, however, it should be emphasised that this only indicates where work has already been done, or where authors believe links are to be found. Other elements described in the text that are not highlighted as potential associations in this list, may indicate where there has been a lack of work to date.

Research question 4:

How does well-being in the workplace relate to employer outcomes such as productivity, staff retention and sickness absence?

The documents accessed support the link between well-being and employer outcomes, with improved health, well-being and job satisfaction potentially leading to changed behaviour or attitudes in employees acting as mediating or influencing factors on business outcomes. Box 8 indicates potential benefits for employers of addressing well-being issues.

Box 8. Potential benefits to employers

1. Reduced sickness absence
2. Increased performance
3. Increased productivity
4. Higher quality staff
5. Reduced turnover
6. Lower healthcare costs
7. Potential improvements to image
8. Avoidance of litigation
9. Increased competitiveness.

Specific links were made between the following aspects of work context and work content, and employer benefits (see Box 9.)

Box 9. Associations between work context and content elements and business outcomes

1. Workplace support and business outcomes
2. Control and business outcomes
3. Management style and business outcomes
4. Participation and business outcomes
5. Effort, reward and business outcomes
6. Working schedules and business outcomes.

As with the discussion above regarding employee benefits, this review is reporting where authors discussed or reported associations. A lack of linking between factors could indicate a lack of work in the area.

The review has discussed the predominance of evidence relating to interventions at an individual level, with evaluations of organisational level interventions currently being limited. The literature highlighted that successful interventions may have a number of characteristics which are summarised in Box 10.

Box 10. Elements of successful interventions

- Interventions reflect the needs and nature of the organisation
- A pre-intervention audit examines needs and establishes priorities
- The intervention is supported by senior managers and is embedded within organisational values/priorities
- Employees are involved at all stages
- There is ongoing evaluation and review of interventions effectiveness
- Individual interventions may have more measurable immediate benefit than organisational interventions.

Recommendations for research

Throughout the literature there is reference to the need for improved study designs (for example Bambra et al. 2007) with a predominance of cross sectional study designs (Cooper, Dew and O'Driscoll, 2001). Particular problems with establishing clear links between factors and effect on well-being may relate to the following areas (see Box 11).

Box 11. Research challenges

1. The measurement of ill-defined concepts
2. Complex interrelationships between variables
3. The changing and complex organisational environment
4. The nature of well-being as individual-defined.

Whilst this review has identified a large number of potential associations that are discussed in the literature, the establishment of causal pathways seems far from well-developed. It has been suggested (Cooper, Dew and O'Driscoll, 2001) that the use of physiological measures such as heart rate or blood pressure offers the potential for establishing causal pathways between the workplace and individual well-being, however, individual variations in these measures still exist. An alternative source that may be worthy of further investigation could be the use of behavioural measures rather than self-reported perceptions, or possibly the use of objective indicators of the work environment such as independent ratings (Terry and Jimieson, 2001). The potential criticism of measures such as physiological or behavioural however, relates to one of the key threads throughout this review, that well-being is an individual response to many factors in an environment. Perhaps therefore, it is subjective measures only, which are able to fully represent an individual's state of well-being.

The review has accessed only a limited number of intervention studies, suggesting that there is a need for further experimental work. In particular there seems to be a need for work with longer follow-up periods, studies using alternatives to recruiting volunteer participants, and studies investigating organisational interventions. Efforts to date seem to have been directed towards cross-sectional work or cohort studies. This work has been successful in providing important findings regarding potential associations, and has been able to gather data from very large numbers of participants. The cohort studies have also been successful in reporting associations over time. Yet, the lack of clarity regarding the key concepts under investigation suggests that these studies to date have been able to offer only limited insights concerning where primary prevention interventions may be effective.

6. GLOSSARY OF TERMS

Abusive supervision	Employee perceptions of the extent to which supervisors engage in the sustained display of hostile, verbal and nonverbal behaviours excluding physical contact.
Active work versus passive work	When job demands and decision latitude are high, jobs may be defined as "active", encouraging new behaviour patterns. When jobs have low demands and low decision latitude (passive jobs) there will be a reduction in overall activity and problem-solving. See Job demand-control theory.
Autonomous work groups	Refers to a means of redesigning work at the group rather than the individual level. Usually involves giving employees discretion over day to day operational decisions and input into the running of the work group.
Biopsychosocial model of health and well-being	Holistic systems view of health as interplay between biological, psychological, social and macro. An equal weight is given to individual attitude to condition, social relationships and specific symptoms.
Buffer hypothesis	Job resources such as high levels of control and social support can moderate the negative effects of high demand.
Burnout	A form of job related strain which is a product of the interaction between job demands and individual perceptions or behaviours such as coping abilities. It is characterised by physical and emotional exhaustion and the development of negative job attitudes and perceptions, a reduction in self-concept, features of depression and a loss of concern for job outcomes. Some authors have associated it in particular with occupations that require substantial interpersonal contact.
Cognitive behaviour skills training / Cognitive Behavioural Therapy (CBT)	Focuses on the specifics of a situation and tries to alter its interpretation and offers support in dealing with it. Teaches an employee to identify target triggers, analyse stress responses, and modify these responses
Collective efficacy	The belief that the organisation can take effective steps to tackle problems.
Commitment	2 types Normative commitment – feeling of an obligation to remain with an organisation Affective commitment – emotional attachment or sense of identification with an organisation.
Common mental disorders	Less severe but more numerous neurotic conditions including anxiety, depression or combination of both.
Compressed working week (CWW)	An alternative work schedule in which the hours worked per day are increased, whilst the days worked are decreased in order to work the standard number of hours in less than 5 days. Most popular forms are the 12 hour CWW, the 10 hour CWW and the Ottowa system
Constraints-resources model	Psychological distress may be brought about as an unintended consequence of actions influenced by the constraints and resources jointly brought to bear by agents and social structures.
Contingent employment	This refers to non-permanent employment conditions such as limited duration contracts and temporary agency work.
Contract flexibility	The use of part time or temporary contracts in place of full time or permanent employment
Corporate Social Responsibility (CSR)	A concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis. A company is acting in a socially responsible manner if its initiatives are: voluntary, going beyond

	regulation/conventional requirements; developed through interaction with stakeholders; and concern social and environmental issues.
Decision latitude	The working individual's potential degree of control over work and opportunity for use of skills and amount of variety present in a job during the working day. Measured by decision authority and intellectual discretion (repetitiveness and skill level).
Demand-control theory	Psychological strain will be predicted by an interaction between demand and control in which control moderates the effect of demand on strain. See Job demand-control theory
Demand-induced strain compensation model	This model has been developed to try to integrate the demand-control model and the effort-reward imbalance models. It is argued that when demands and availability of resources match, there may be a strengthening effect on health. However, when they do not match there may be unfavourable outcomes. The theory proposes that demand elements interact with related resource elements for example emotional demands are most likely to interact with emotional resources, and physical demands are most likely to interact with physical resources. Interaction of these associated elements will lead to an associated outcome (triple match principle) such as emotional exhaustion or physical exhaustion, therefore not all interactions are likely to cause all kinds of outcomes. (Jonge et al. 2004).
Depression	A mood state that may occur in major or less severe forms. Characterised by a spectrum of symptoms including lowered mood and loss of interest or enjoyment, reduced self esteem and self-confidence, sleep and appetite disturbance, pessimism and reduced energy.
Direct effect models	Also known as the independent model, independent distress deterrent, or the additive burden hypothesis. Assumes that social support and stressors act independently of one another on strains – social support reduces the level of strain regardless of stressors.
Direct participation	See Participation
Distress	Prolonged or intense exposure to stress beyond an individual's ability to cope.
Distributive injustice	Employee's beliefs that they are not benefited in proportion to their contributions. The perceived fairness of outcomes received such as pay
Employee assistance programme (EAP)	A systematic, organized and continuing provision of counselling advice and assistance, provided or funded by the employer, designed to help employees and in most cases their families with problems arising from work-related and external sources.
Effort Reward Imbalance Model (ERI)	An influential model of work stress developed by Siegrist (1996). This model assumes that effort at work is spent as part of a contract based on social reciprocity where these efforts are rewarded by for example money, esteem, or job security. The ERI model differs from the Demand Control model in 2 important respects. It emphasises reward rather than control, thus it includes features of the labour market (salary, promotion prospects, job security) in addition to work place related features. A second difference between the models concerns the inclusion of a personal (intrinsic) component. As part of the ERI model a distinct personal style of coping with job demands termed overcommitment

	has been specified. The ERI model incorporates 2 sources of information, situational (extrinsic) and personal (intrinsic) to assess stressful experiences at work. It is suggested that the model predicts several health outcomes such as cardiovascular, musculoskeletal and mental health.
Employee engagement	The individual's involvement and satisfaction with as well as enthusiasm for work.
Employment relations	The relationship between employer and employee, including concepts such as power relationships social protection and fair employment.
Engagement	General employee mental health and well-being as reflected in levels of happiness, stress, sleep, and presenteeism.
Enrichment	Adding higher level responsibilities or accountability to a job which builds greater scope for personal achievement and recognition.
Environmental approaches	Identifying working conditions that influence well-being and changing them where necessary.
Eustress	A positive form of stress which is associated with healthy arousal in which stress may be perceived as challenging to the individual and stimulate increased performance.
Fit3	Fit for work, fit for life, fit for tomorrow. A strategic programme developed by the HSE concerning the analysis of injury and ill health generation across known hazard and sector hotspots in business. Rolling out the management standards for stress is included in Fit3.
Flexible work arrangements (FWA)	Employer-provided benefits that permit employees some level of control over when and where they work outside of the standard working day e.g. flexitime, job sharing, telecommuting, compressed working week, grandparent leave, career sabbaticals.
Flexicurity	A combining of the elements of flexibility and security in labour markets. A policy strategy that attempts, synchronically and in a deliberate way to enhance the flexibility of labour markets, the work organisation and labour relations on the one hand, and to enhance security – both employment security and social security, notably for weaker groups in and outside the labour market.
Functional flexibility	Individual and group delegation of tasks within a company. Also see numerical flexibility and contract flexibility
Happiness	A concept used in a variety of ways, and described by authors as "loaded with meaning". Refers to unhappy or experience of life as a whole. It can be defined as job satisfaction, or positive affect, as the absence of negative effect, as the lack of emotional exhaustion, and is used by some authors as being an indicator of psychological well-being.
Hazard-risk-harm	This concept relates to the linkage between exposure to the hazards of work and the harm that exposure may cause, an important aspect of risk management. Stress is described as providing an important link between employees exposure to the hazards of work and any subsequent and related ill effects on their health (harm). Hazards can be dealt with at an organisational level or individual level.
Health Circles	Discussion groups formed at the workplace to develop change options for the improvement of potentially harmful working conditions. Based on the assumption that employees are experts on their own job conditions and demands and this experience should be used to develop suggestions to improve the situation. Berlin model – employees discuss stress situations and learn about stress

	coping methods. Dusseldorf model – representation across all levels, discuss problematic working conditions and to develop proposals for change.
Health gain	Refers to the association between favourable work circumstances and good health. Health gain may also lead to work gain, whereby healthier workers contribute to better performance.
Health inequalities	Accepted as the inevitable result of individual differences or seen an avoidable outcome that needs to be remedied. See Social Gradient in Health.
Health life expectancy	Combines life expectancy with self-reported health as reported by the General Household Survey (GHS). Estimates how many years an individual can expect to live in good or fairly good health.
Health promotion in the workplace	Organising and changing working conditions in such ways that harmful aspects are decreased while health-supportive aspects of the job are increased. Participation and empowerment are two crucial aspects in health promotion approach. It refers to the combined efforts of employers, employees and society to improve the health and well-being of people at work.
Healthy workplaces/healthy work organisations	A healthy work organisation is concerned with both worker well-being and organisational effectiveness. It has policies designed to protect and promote health and well-being at work that take account of organisational attributes, organisational climate, job design, job future, and psychological work adjustment identifying job and organisational factors which predict both health and performance outcomes.
High performance work practices	Includes comprehensive employee recruitment and selection procedures, incentive compensation and performance management systems, extensive employee involvement and training to improve the knowledge skills and abilities of a firms current and potential employees by increasing their motivation, reduce shirking and enhance retention of quality employees while encouraging non performers to leave the firm.
Integrated Disability Management (IDM)	A strategy employed to bridge healthcare and workplace efforts in musculoskeletal injuries.
Interactional justice	A form of organizational justice based on workers perceptions of the fairness of their interpersonal treatment at the hands of authority figures. Interpersonal treatment refers to treating others with politeness, dignity and respect.
Informational justice	A form of organizational justice based on workers perceptions of the fairness of their treatment at the hands of authority figures. Informational justice refers to providing workers with accurate and complete explanations, communicating in a timely manner, and being accessible.
Iso strain	The impact of social support combined with job strain. When demands are high and control is low, the resulting strain is compounded by low social support.
Job control	Refers to decision latitude on an individual level, a workers perceived ability to exert some influence over their work environment, in order to make it more rewarding and less threatening. Job control is low when workers do not have autonomy in organising work, in choosing working methods, and the order in which to carry out tasks. There is research evidence suggesting a link between low levels of perceived job control and unfavourable employee and organisational outcomes. See job demand-control model.

Job decision latitude model	See Job demand-control model.
Job demand	Refers to intense pressure of work provoked by performing tasks at high speed and/or being subjected to tight deadlines. It is highlighted that demands are not necessarily negative, they can also be positive in the right circumstances. See Job demand-control model.
Job demand-control model/ job strain model	An influential theory developed by Karasek (1979) to explain links between stressful situations at work and negative psychological strain. The theory highlights that not all stress is negative. It is a situation-centred model which postulates that the primary sources of job stress lie within basic characteristics of the job itself -psychological job demands and job decision latitude or job control. Job demands or workload are psychological stressors present in the work environment such as high pressure of time, or high working pace, difficult or mentally exacting work. Job decision latitude is the workers ability to control his own activities and skills usage. Psychological strains are a consequence of the combination of job demands and range of job control. These joint effects are called interaction effects. Adverse strain reactions will occur when demands are high and control low (high strain jobs). Social isolation and lack of cooperation increase the risk of prolonged stress at work. The theory predicts that worse health outcomes would be predicted by a combination of high demands and low decision latitude.
Job satisfaction	The degree of positive emotions resulting from an appraisal of ones employment.
Justice theory	Refers to an individuals evaluative assessments of fairness draw on perceptions of distributive justice (fairness of outcome allocation), procedural justice (fairness of the procedures used), interactional justice (fairness of interpersonal treatment). See Organisational justice.
Knowledge enlargement	The adding of requirements to the job such as the need for new understanding of procedures or rules. It is suggested that knowledge enlargement may be more enriching than task enlargement because it may be more psychologically meaningful and is related to mental abilities, which are related to positive employment outcomes such as job satisfaction. Enhanced identity is a motivating feature increased by knowledge enlargement.
Labour market flexibility	Flexibility inside or outside a company. 4 main types. External numerical – no. of workers who are temporary or on fixed term contracts Internal numerical – adjusting working hours or schedules of workers Functional flexibility or organisational flexibility – transferring employees within the company Financial or wage flexibility – wage level differentiation between workers.
Life expectancy	Most commonly used comparative measure of health calculated from birth. Currently in the UK life expectancy for females is 81 yrs and for males 77 years. The UK is currently ranked 22nd out of 195 countries for life expectancy.
Mediator effects model	A concept associated with the Job Strain model, describing the potential for social support to mediate the stressor-strain association, or for stressors to mediate the support-strain relationship. It is argued that the relationship between

	stressors and strain is stronger for those individuals with low levels of support.
Mental capital	The overall resources at an individual's disposal to counter stress.
Mental health problems	Mental health problems may be defined in 3 main categories – symptoms associated with mental ill health e.g. sleep problems – common mental disorders such as anxiety and depression, – severe mental illness such as bipolar disorder.
Moderator	Variables which can affect the extent to which exposure to job stressors results in adverse health consequences.
Numerical flexibility	A company downsizing or refocusing on core business
Occupational health	A state of physical mental and social well-being at work that is influenced by factors within and outside the work place.
Occupational health paradigm	Describes the interaction between health and work, and rather than describing the adverse effects of work, this model includes wellness, and emphasises that work can contribute to good health, (Adisesh, 2003).
Occupational stressors	Aspects of the work environment that cause strains, or poor psychological health or impact on well-being of the individual. Examples of stressors are: the characteristics of the task; relationships between staff, organisational policies or practices, or job demands. Stressors may lead to psychological strains such as anxiety, depression and tension, but can also be associated with physical symptoms.
Organisational climate	The climate of an organisation is the sum of the processes and activities within the organisation as they are perceived by the staff. It is largely subjective in nature with both individual and organisational components. A positive organisational climate has been linked to organisational health.
Organisational justice	Refers to the perceived fairness of an organisation. Includes three elements, firstly, distributive justice (the perceived equity of rewards), and secondly procedural justice (whether decisions are perceived as having input from affected parties, and are applied fairly), and thirdly interactional justice (treating workers with fairness and politeness). It is argued that the organisational justice model emphasises work-related social contexts and processes in contrast to the job demands-control model which focuses on task-level characteristics. Organisational justice may therefore capture basic elements of the social structure in which job demands, job control and social support are operating.
Organisational retaliatory behaviours	Those actions used by employees to punish the organisation in response to perceived unfairness.
Organizational citizenship behaviour (OCB)	Work related behaviours that are discretionary, not related to the formal organisational reward system, and in the aggregate promote the effective functioning of the organization. Includes altruism, courtesy, sportsmanship, conscientiousness, and civic virtue and any behaviour considered above and beyond the call of duty
Organizational healthiness model.	It is argued that the healthiness of an organisation can affect service quality both directly, through the design and management of procedures and structures, and indirectly through the organisation's impact on staff well-being and commitment. The health of an organisation will be related to the quality of service it provides, with organisations that enhance the well-being and commitment of staff providing

	better services than those that do not.
Overcommitment	A personality characteristic comprising cognitive emotional and motivational elements that reflect extreme ambition in combination with the need to be approved and esteemed. People characterised by overcommitment may exaggerate their efforts and underestimate their rewards, with this stressful imbalance potentially leading to more health complaints.
Overcompensation	Refers to the perception of having to work at least twice as hard as others to gain co-worker respect. Overcompensation is believed to be an important concern of women working in non-traditional occupations.
Participation	Direct participation describes individual or group employee involvement in management. This may be in a number of different forms: Consultative participation – management encourages employees to make their views known on work-related matters, but retains the right to take action or not. This includes individual face to face consultation and project or task force groups, and quality circles. Delegative participation – management gives employees increased discretion and responsibility to organise and do their jobs without reference back. Individual delegation is sometimes referred to as job enrichment. Financial participation –includes profit sharing and share ownership. Another form of participation is indirect or representative participation – referring to joint consultation, co-determination, collective bargaining or board representation.
Person-environment fit	The compatibility between individuals and the environments in which they work.
Positive mental well-being	Refers to emotional cognitive skills and attributes including feeling satisfied, optimistic, hopeful, confident, understood, relaxed, enthusiastic, being interested in other people and in control.
Presenteeism	Reduced performance and productivity due to ill health while at work. Presenteeism is believed to be more costly than absenteeism.
Procedural injustice	Perceptions that the procedures used to determine outcomes are unfair.
Production function	A model of business performance where the inputs are human resource policies and practices alongside structural and workforce characteristics and performance measures are the outcome.
Psychological contract	An employee's perception of what they owe to their employer and what their employer owes to them.
Psychological flexibility	Refers to an ability to focus on the present moment and depending on what the situation affords persist with or change ones behaviour in the pursuit of goals and values. It is a reduced tendency to control or be guided by internal experiences (thoughts, feelings, fears, doubts), allowing people to redirect attention to the present moment in a non-judgemental, flexible way. Developing psychological flexibility forms part of Acceptance and commitment therapy ACT (Hayes et al 1999).
Psychological ill health	Refers to anxiety, depression, emotional exhaustion, or psychological distress. Stress is excluded from psychological ill health by some authors who view it as a mediating hypothetical construct rather than an outcome measure of ill health.

Psychological well-being	See well-being
Psychosocial factors	The interface between social and psychological factors
Psychosocial hazards / stressors.	Aspects of the work environment that are thought to have the potential to negatively affect the well-being of employees. Often referred to as strain.
Psychosocial interventions	Approaches intended to change employee perceptions of the work environment through strategies such as increasing participation, communication, support, reducing role ambiguity, conflict and enhancing control over tasks.
Rewards	It is suggested that it is important to distinguish between the three potential types of employment rewards. There may be reward in terms of salary, or esteem, or job security/career opportunities.
Role stress	Work related stress associated with job role factors relating to role overload, role ambiguity or role conflict.
Social capital	Refers to the strength of relationships between an individual, their employer, colleagues and family.
Safety climate	Workers and management's attitudes towards safety.
Safety culture	The convictions underlying the workers and managements attitudes.
Social gradient in health	The association between workers low job status and worse health and lower life expectancy. It is argued that workers in lower status jobs are exposed to more stressors than their more highly paid and highly qualified colleagues, which in turn increases the risk of mental illness, gastro intestinal conditions and coronary heart disease. The causes of the social gradient are believed to lie in differences in general living conditions, but also in employment conditions. Smoking, obesity and lack of physical exercise are believed to be responsible for around one quarter of the gradient. Differences in social status impact on an individual's health, well-being and life expectancy, with inequality in these factors determining the steepness of their social gradient in health. It is argued that relative income and perceived equality (social comparison) are important factors.
Social pressure	Internal social pressure – from colleagues and superiors External social pressure – from customers/pupils
Social reciprocity	Mutual co-operative investment based on the expectation of return/reward.
Social support	Emotional, instrumental, and informational aid exchanged through social interactions. Social support may indirectly enhance mental health by affecting employee coping behaviour or individual resources, and is thus considered to be an important factor in mitigating the relationship between job stressors and strain and an important addition to demand control theory.
Socio-technical interventions	Changes to objective/structural aspects of the work situation such as staffing levels, work schedules, meetings, company mergers.
Strains	Individual response to job stressors. See Job demand-control theory.
Strain hypothesis	Employees in high strain jobs experience the lowest well-being. See job demand-control theory.
Stress hypothesis	Excessive demands, low control over work, and low support raises arousal and leads to neuro-endocrine and metabolic changes, distortion of homeostatic mechanisms and disturbance of coagulation. However for common mental disorders these biological changes may be mediated through

	psychological pathways.
Stress	Organisations and authors vary in their definitions of stress, however most definitions describe the personal nature of stress, that it is a complex internal/emotional state of an individual. Stress refers to the reaction that people may have to pressures or other types of demand placed on them and is thus a continually changing relationship between a person and their environment. The literature emphasises that stress is associated with a perceived imbalance or discrepancy between the demands being made and the individual's abilities, resources or needs to respond. Some authors emphasise that stress is not necessarily negative and should not be considered to be a mental health problem, only excessive or prolonged stress may lead to the generation of a response that affects the well-being of the individual. Research regarding stress continues to debate the subjective nature of the measurement of stress, and the lack of clarity in explaining relationships between stress, stressors, and stress responses. See also Work related stress.
Stress Management Intervention (SMI)	Stress prevention interventions that include interventions at three levels. Firstly, the individual level such as relaxation, biofeedback, cognitive behavioural therapy and employee assistance programmes. Secondly, may target both individual and organisational factors, such as co-worker support groups, participation and autonomy (PAR) programmes, or role issue examination. Thirdly, may address organisational elements via training and education programmes, communication programmes, job redesign and restructuring, or physical environment changes.
Stressors	Individual variables measuring stress sources such as job demands, job control (decision latitude), and environmental conditions that adversely effect health. The Health and Safety Executive identify 6 categories of stressors – job demands, level of control, work relationships, change, job role, and support at work. These factors are also influenced by home and culture.
Task enlargement	Adding requirements for doing other tasks at the same level to the job. Adding tasks may lead to the formation of a natural unit of work – called identity.
Telecommuting	Periodic work out of the principal office one or more days per week either at home, a clients site or in a telework centre
Theory of inequity/equity theory	People whose work-related outcomes are disproportionate to their contributions experience emotional distress (Adams 1965).
Transformational leadership	A particular type of organisational leadership behaviour that includes charisma, intellectual stimulation, and consideration. There is believed to be a link between transformational leadership and improved organisational functioning.
Vocational rehabilitation	Refers to help needed by an employee with a health problem to stay in or return to work.
Well-being	A concept which is ill defined in the literature, and often linked with general quality of life or described in terms of the overall effectiveness of an individual's functioning. Authors highlight the subjective, dynamic and self-defined nature of the concept relating to overall feelings and job satisfaction (positive affect). It is described as relating to the emotional reactions that people have to their work. It has

	been argued that well-being may moderate the relationship between job satisfaction and performance, although unlike job satisfaction well--being is not tied to any particular situation. The literature describes 2 separate philosophies of well-being. One revolving around hedonism (pleasure and happiness) and the other concerned with actualisation of human potential. Hedonic well-being has tended to dominate as the operational definition of well-being (concerned with maximising of positive affect, and minimising of negative affect). Eudainomic approaches (the sense of purpose in well-being, the point of the experiences or achieving a goal). are reflected by humanists such as Maslow and Rogers, and ideas relating to wellness and self actualisation and psychological well=being. An alternative classification which is also used, describes well=being in terms of the three domains of cognitive, emotional and social (positive affect, negative affect, and life satisfaction).
Wellness in the workplace	Interventions to improve employee well-being focussing across the broad range of health and safety, management of ill health, and prevention and promotion. Included in this may be: levels of absenteeism; smoking; alcohol; drug abuse/misuse; musculoskeletal disorders; nutrition; weight; and physical activity.
Work-life balance	This concept extends beyond the boundaries of work organisation and includes concerns of education policy, family policy, employment policy, pension policy and social policy in general. It is described by many authors as a problematic term with "balance" seeming to imply a trade off, yet work and personal life can be mutually reinforcing. Also, it suggests that work is not a part of life. For these reasons terms such as work-personal life integration or harmonisation may be preferred.
Work organization	The scheduling of work, job structure and design, interpersonal aspects of work, and management style.
Work related/occupational stress	A pattern of reactions that may occur when workers are presented with tasks that are not matched to their knowledge, skills or abilities, and which challenge their ability to cope. Demands may be related to time pressure, or the amount of work (quantitative demands), or may refer to the difficulty of the work (cognitive demands), or the empathy required (emotional demands) or the inability to show ones emotion at work. Demands may also be physical such as dynamic or static loads. It is argued that a perceived imbalance between demands and environmental or personal resources can cause a number of reactions – physiological responses, emotional responses, cognitive responses, or behavioural reactions. Such responses include nervousness, irritability, anxiety, depression, hostility, burnout, low morale, job dissatisfaction and fatigue, as well as behavioural symptoms such as trouble with sleeping, absenteeism and personnel turnover. Occupational stress is identified by some authors as the most common mental health problem in the working population, however challenges in defining, clarifying and measuring the concept remain.
Work re-organisation	Interventions that change work organisation variables in an effort to alleviate stress-related outcomes such as mental ill health, job dissatisfaction, sickness absence, and poor work performance.

Working age population	Defined in the UK as females aged 16-59, and males aged 16-64.
Workplace violence	Incidents where persons are abused, threatened or assaulted in circumstances related to their work, involving an explicit or implicit challenge to their safety, well-being and health Includes not just physical violence but also psychological violence Some authors highlight that there may be differences in perceptions of what is threatening or intimidating from person to person. A distinction therefore should be made between workplace violence (extreme physical acts) and workplace aggression (broader range of behaviours and actions).

7. REFERENCES

Åberg-Yngwe M., Diderichsen F., Whitehead M., Holland P., & Burström B. (2001) The role of income differences in explaining socio-economic inequalities in self-rated health in Sweden and Britain. Journal of Epidemiology and Community Health, 55, pp 556-561.

Adisesh, A. (2003) Occupational Health Practice. In Snashall, D. & Patel, D. ABC of Occupational and Environmental Medicine. London : BMJ publishing.

Ala-Mursula, L., Vahtera, J., Linna, A., Pentti, J. & Kivamaki, M. (2005) Employee work time control moderates the effects of job strain and effort-reward imbalance on sickness absence: the 10- Town Study. Journal of Epidemiology and Community Health, 59, pp 851–7

Anxo, D., Fagan, C., Smith, M., Letablier, M. & Perraudin, C. (2007a) Parental leave in European companies. Establishment Survey on Working Time 2004–2005. Report by the European Foundation for the Improvement of Living and Working Conditions, Luxembourg: Office for Official Publications of the European Communities.

Anxo, D., Fagan, C., Smith, M., Letablier, M. & Perraudin, C. (2007b) Part-time work in European companies. Establishment Survey on Working Time 2004–2005. Report by the European Foundation for the Improvement of Living and Working Conditions, Luxembourg: Office for Official Publications of the European Communities.

Ashforth, B. (1997) Petty tyranny in organizations: A preliminary examination of antecedents and consequences. Canadian Journal of Administrative Sciences, 14, pp 1173-1182.

Aust, B. & Ducki, A. (2004) Comprehensive health promotion interventions at the workplace: experiences with health circles in Germany. Journal of Occupational Health Psychology, 9, 3, pp 258-270.

Bambra, C., Whitehead, M., Sowden, A., Akers, J. & Petticrew, M. (2008) Shifting Schedules; the health effects of reorganizing shift work. American Journal of Preventive Medicine, 34, 5, pp 427-434.

Bambra, C., Whitehead, M., Sowden, A., Akers, J. & Petticrew, M. (2008) A hard day's night - the effects of compressed work week interventions on the health and work-life balance of shift workers: a systematic review. Journal of Epidemiology and Community Health, 62, pp 764-777.

Bambra, C., Egan, M., Thomas, S., Petticrew, M. & Whitehead, M. (2007) The psychosocial and health effects of workplace reorganisation 2: A systematic review of task restructuring interventions. Journal of Epidemiology and Community Health, 61, pp 1028-1037.

Barham, C. & Begum, N. (2005) Sickness absence from work in the UK. Labour Market Trends, April, pp149-158.

Barling, J. & Carson, J. (2007) State-of-Science Review: The Impact of Management Style on Mental Wellbeing at Work. State-of-Science Review: SR-C3, Report by the Foresight Project, London: Government Office for Science.

Barling. J., Weber, T. & Kelloway, E. (1996) Effects of Transformational Leadership Training on Attitudinal and Financial Outcomes: A Field Experiment. Journal of Applied Psychology, 81, pp 827-832.

Beehr, T., Glaser, K., Canali, K. & Wallwey, D. (2001), Back To Basics: Re-Examination of Demand-Control Theory of Occupational Stress, Work & Stress, Vol. 15, 2, pp 115-130.

Bejean. S. & Sultan-Taib, H. (2005) Modeling the economic burden of diseases imputable to stress at work. European Journal of Health Economics, 50, pp 16-23.

Benach, J. & Benavides, F. (1999) Precarious employment and health-related outcomes in the European Union, European Foundation for the Improvement of Living and Working Conditions, Luxembourg: Office for Official Publications of the European Communities.
Benach, J., Muntaner, C. & Santana, V. (2007), Employment Conditions and Health Inequalities: Final Report to the WHO Commission on Social Determinants of Health (CSDH), Geneva: World Health Organisation.
Bennett, D. (1970) The value of work in psychiatric rehabilitation. Social Psychiatry, 5, pp 224-230.
Berridge, J., Cooper, C. & Highley, C. (1997) Employee Assistance Programmes and Workplace Counselling. Chichester & New York: John Wiley & Sons.
Bevan, S., Dench, S., Tamkin, P. & Cummings, J. (1999) Family Friendly Employment: The Business Case. Research Report No. 16. London: DfEE.
Bilsker, D., Gilbert M., Myette, T. & Stewart-Patterson, C. (2005) Depression & Work Function: Bridging the gap between mental health care & the workplace. Vancouver: Mental Health Evaluation & Community Consultation Unit.
Black, C. (2008) Working for a healthier tomorrow: Dame Carol Black's Review of the health of Britain's working age population. London: TSO.
Blank, L., Peters, J., Pickvance, S., Wilford, J. & MacDonald, E. (2008) A systematic review of the factors which predict return to work for people suffering episodes of poor mental health. Journal of Occupational Rehabilitation, 18, pp 27-34.
Blaug, R., Kenyon, A. & Lekhi, R. (2007) Stress at Work. London: The Work Foundation.
Bond, F., Flaxman, P. & Bunce, D. (2008) The influence of psychological flexibility on work redesign: mediated moderation of a work organization intervention. Journal of Applied Psychology, 93, pp 645-654.
Bond, F. & Bunce, D. (2001) Job control mediates change in a work reorganization intervention for stress reduction. Journal of Occupational Health Psychology, 6, pp 290-302.
Bond, F., Flaxman, P. & Loivette, S. (2006) A business case for the Management Standards for stress. Research report. Sudbury: HSE Books.
Boniwell, I. & Henry, J. (2007) Developing conceptions of well-being: advancing subjective, hedonic and hedonic theories. Social Psychological Review, 9, pp 3-18.
Booth, A. (2001) Cochrane or cock-eyed? How should we conduct systematic reviews of qualitative research? Presented at the Qualitative Evidence-based practice Conference, Coventry University UK May.
Bosma, H., Marmot, M., Hemingway, H., Nicholson, A., Brunner. E. & Stansfeld, S. (1997) Low job control and risk of coronary heart disease in the Whitehall II (prospective cohort) study. British Medical Journal, 314, pp 558–564.
Bourbonnais, R., Brisson, C., Vinet, A., Vezina, M. & Lower, A. (2006) Development and implementation of a participative intervention to improve the psychosocial work environment and mental health in an acute care hospital. Occupational and Environmental Medicine, 63, pp 326-34.
Boyd, H. & Ortiz, R. (2008) An economic analysis of workplace interventions that promote mental wellbeing in the workplace. Edinburgh Institute of Occupational Medicine.
Boyd, H., Hunt, A., & Ortiz, R. (2008) A review of cost-effectiveness literature on: public health interventions that promote mental wellbeing in the workplace. Edinburgh: Institute of Occupational Medicine.

Bronchain, P. (2003) Towards a sustainable corporate social responsibility. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Bunce, D. (1997) What factors are associated with the outcome of individual-focused worksite stress management interventions? Journal of Occupational and Organizational Psychology, 70, pp 1-17.
Burström, B., Holland, P., Diderichsen, F. & Whitehead, M. (2003) Winners and losers in flexible labour markets: the fate of women with chronic illness in contrasting policy environments. International Journal of Health Services,33, 2, pp199-207.
Business in the Community (2007) Wealth from Health: Health + People = Results. London: Business in the Community.
Campion, M. & McClelland, C. (1993) Follow-Up and Extension of the Interdisciplinary Costs and Benefits of Enlarged Jobs, Journal of Applied Psychology, 78, 3, pp 339-351.
Charted Institute of Personal Development (2008). Ninth National Survey of Absence Management. London: CIPD
Chouraqui, A.. Frohlich, D., Hege, A., Huijgen, F., Krieger, H., O'Kelly, K., Pekruhl, U., Regalia, I., Sisson, K., Spyropoulos, G. (2003) New forms of work organisation: can europe realise its potential? Results of a survey of direct participation in Europe, Report by the European Foundation for the Improvement of Living and Working Conditions, Luxembourg: Office for Official Publications of the European Communities.
Chung, H., Kerkhofs, M. & Ester, P. (2007) Working time flexibility in European companies. Establishment Survey on Working Time 2004–2005. Report by the European Foundation for the Improvement of Living and Working Conditions, Luxembourg: Office for Official Publications of the European Communities.
Clarke, S., Webster, S., Jones, J., Blackburn, A., & Hodgson, J. (2005) workplace Health and Safety survey programme: 2005 Employer Survey. Caerphilly: Health and Safety Executive, HSE Information Services.
Coats, D. & Max, C. (2005) Healthy Work: Productive Workplaces - Why the UK Needs More Good jobs. London: The Work Foundation.
Coats, D. & Lekhi, R. (2008) Good work: job quality in a changing economy. London: The Work Foundation.
Commission for Healthcare Audit and Inspection (2008) National NHS Staff Survey 2007. London: Commission for Healthcare Audit and Inspection.
Commission on Social Determinants of Health (2008) Closing the gap in a generation. Geneva: World Health Organisation.
Cooper, C. (2005) Handbook of Stress Medicine & Health. Boca Raton, Florida: CRC Press
Cooper, C., Dewe, P. & O'Driscoll, M. (2001) Organizational Stress: A review and critique of theory, research and application. London: Sage.
Cousins, R., Mackay, C., Clarke, S., Kelly, C., Kelly, P. & McCaig, R. (2004) Management Standards' and work-related stress in the UK: Practical development, Work and Stress, 18, 2, pp 113-136.
Cox, T., Griffiths, A., Barlowe, E., Randall, R., Thomson, L. & Rial-Gonzalez, E. (2000). Organisational interventions for work stress: A risk management approach. HSE Contract Research Report 28612000. Norwich: HMSO.
Cox, T., Randall, R., & Griffiths, R. (2002) Interventions to control stress at work in hospital staff. London: HSE.

Cropanzano, R. & Wright, T. (1999) A 5-year study of change in the relationship between well-being and performance. Consulting Psychology Journal: Practice and Research, 51, pp 252-265.
Cropanzano, R. & Wright, T. (2001) When a "happy" worker is really a "productive" worker: A review and refinement of the happy-productive worker thesis. Consulting Psychology Journal: Practice and Research, 53, pp 182-199.
Council of Civil Service Unions/Cabinet Office (2004) Work Stress and Health: the Whitehall II study. London: Cabinet Office.
De Greef, M. & Van den Broek, K. (2004) Healthy Employees in Healthy Organisations. Making the Case for Workplace Health Promotion. Belgium: European Network for Workplace Health Promotion.
De Jonge, J., Bosma, H., Peter, R. & Siegrist, J. (2000) Job strain, effort–reward imbalance and employee well-being: A large-scale cross-sectional study. Social Science & Medicine, 50, pp 1317–1327.
Dex, S. & Scheibl, F. (1999) Business Performance and Family Friendly Policies. Journal of General Management, 24, 4, pp
Dewe, P. & Kompier, M. (2008) Foresight Mental Capital and Wellbeing Project. Wellbeing and Work: future challenges. London: The Government Office for Science.
Dewa, C., Lin, E., Kooehoorn, M. & Goldner, E. (2007) Association of chronic work stress, psychiatric disorders, and chronic physical conditions with disability among workers. Psychiatric Services, 58, pp 652-8.
Dex, S., Smith, C. & Winter, S. (2001) Effects of family-friendly policies on business performance, Research paper in management studies WP22/2001, Cambridge: University of Cambridge Judge Institute of Management.
Dhondt, S., Kraan, K. & Van Sloten, G. (2002) Work organisation, technology and working conditions. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Diener, E., Emmons, R., Larsen, R. & Griffin, S. (1985) The satisfaction with life scale. Journal of Personality Assessment, 49, pp 71-75.
Doherty, N. (2002) Mental well-being in the workplace: building the business case. In Miller D., Lipsedge, M. & Litchfield, P. (eds),Work and Mental Health: an employer's guide. London: Gaskell Publications.
Donald, I., Taylor, P., Johnson, S., Cooper, C., Cartwright, S. & Robertson, S. (2005). Work environments, stress and productivity: An examination using ASSET. International Journal of Stress Management, 12, pp 409-423.
Dragano, N., Knesebeck, Ovd., Rödel, A. & Siegrist, J. (2003) Psychosocial work stress and musculosceletal disorders: significance for prevention. Zeitschrift für Gesundheitswissenschaften, 11, 3, pp 196-207.
Department of Trade and Industry (2000) Work and Parents: Competitiveness and Choice: Green Paper. London: DTI.
Egan, M., Bambra, C., Thomas, S., Petticrew, M., Whitehead, M. & Thomson, H. (2007a), The psychosocial and health effects of workplace reorganisation 1: a systematic review of organisational-level interventions that aim to increase employee control. Journal of Epidemiology and Community Health, 61, pp 945-954.
Egan, M., Petticrew, M., Ogilvie, D., Hamilton, V. & Drever, F. (2007b) Profits before people? A systematic review of the health and safety impacts of privatising public utilities and industries in developed countries. Journal of Epidemiology and Community Health, 61, pp 862-870.

Elovainio M., Kivimäki, M. & Helkama, K. (2001) Organizational justice evaluations, job control and occupational strain. Journal of Applied Psychology, 86, pp 418–424.
Elovainio, M., Kivimäki, M. & Vahtera, J. (2002) Organizational Justice: Evidence of a New Psychosocial Predictor of Health. American Journal of Public Health, 92, 1, pp 105-8.
Estrin, S., Jones, D. & Svejnar, J. (1987) The productivity effects of worker participation: producer cooperatives in Western economies. Journal of Comparative Economics, 11, pp 40-61.
European Foundation for the Improvement of Living and Working Conditions (2002) Quality of work and employment in Europe Issues and challenges Foundation paper NO. 1, Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
European Foundation for the Improvement of Living and Working Conditions (2007). Fourth European Working Conditions Survey. Luxembourg: Office for Official Publications of the European Communities.
Fagan, C., Hegewisch, A. & Pillinger, J. (2006) Out of time – why Britain needs a new approach to working time flexibility. London: Trades Union Congress.
Felstead, A., Gallie, D., Green, F. & Zhou, Y. (2007) Skills at Work 1986-2006. Cardiff: ESRC Centre on Skills, Knowledge and Organisational Performance.
Ferrie, J., Bell, R., Britton, A., Brunner, E., Chandola, T., Harris, M., Head, J., Marmot, M., Mein, G. & Stafford, M. (2004) Work stress and Health: The Whitehall II study. London: Public and Commercial Services Union/Council of Civil Service Unions/Cabinet Office.
Foresight Mental Capital and Wellbeing Project Final Project Report. (2008) London: The Government Office for Science.
Freedy, J. & Hobfoll, S. (1994) Stress inoculation for reduction of burnout: A conservation of resources approach. Anxiety, Stress and Coping, 6, pp 6311-325.
Fryers, T., Melzer, D. & Jenkins, R. (2004) Social inequalities and the common mental disorders. A systematic review of the evidence. Social Psychiatry and Psychiatric Epidemiology, 38, pp 229-237.
Fryers, T., Melzer, D., Jenkins, R. & Brugha, T. (2005) The distribution of the common mental disorders: social inequalities in Europe. Clinical Practice & Epidemiology in Mental Health, 1, 14.
Ganster, D., Fox, M. & Dwyer, D. (2001) Explaining employees' health care costs: a prospective examination of stressful job demands, personal control, and physiological reactivity. Journal of Applied Psychology, 86, 5, pp 954-964.
Gibbs, G. (2002) Qualitative Data Analysis: explorations with NVivo. Buckingham: Open University Press.
Giga, S., Faragher, B. & Cooper, C. (2002) Identification of Good Practice in Stress Management Prevention. A state of the Art Review. Phase One Contract Research Report. London: HSE.
Giga, S., Jain, A. & Cooper, C. (2008) Working Longer: Hours of Work and Health, State-of-Science Review: SR-C7. Report by the Foresight Project. London: Government Office for Science.
Giga, S., Noblet, A., Faragher, B. & Cooper, C. (2003) The UK perspective: a review of research on organisational stress management interventions. Australian Psychologist, 38, pp 158-164.

Gilbreath, B. (2004) Creating healthy workplaces: The supervisor's role. In Cooper, C. & Robertson, I. (Eds) International Review of Industrial and Organizational Psychology, Volume 19. Chichester: John Wiley & Sons Ltd.
Gilbreath, B. & Benson, P. (2004). The contribution of supervisor behaviour to employee psychological well-being. Work & Stress, 18, pp 255-266.
Goetzel, R., Ozminkowski, R., Sederer L. & Mark, T. (2002). The business case for quality mental health services: why employers should care about the mental health and well-being of their employees. Journal of Occupational and Environmental Medicine 44, pp 320-330.
Goldenhar, L.,Wiliiams, L. & Swanson, N. (2003).Modelling relationships between job stressors and injury and near-miss outcomes for construction labourers. Work & Stress, 17, pp 218-240.
Grainінger H, Fitzner G. (2007) The first Fair Treatment at work Survey: Employment Relations Research Series No 63, London: DTI.
Graveling, R., Crawford, J., Cowie, H., Amati, C., & Vohra, S. (2008) A Review of Workplace Interventions that Promote Mental Wellbeing in the Workplace. Edinburgh: Institute of Occupational Medicine.
Greenberg, J. (2006). Losing sleep over organizational injustice: Attenuating insomniac reactions to underpayment inequity with supervisory training in interactional justice. Journal of Applied Psychology, 91, pp 58-69.
Greenberg J. (1990) Organizational justice: yesterday, today, and tomorrow. Journal of Management, 16, pp 399–432.
Hanratty, B., Burstrom, B., Walander, A. & Whitehead, M. (2007) Changes in income in the years before death: A record linkage study in Stockholm county. Journal of Epidemiology and Community Health,61, 5, pp 447-8.
Harter, J., Schmidt, F. & Hayes, T. (2002) Business unit level outcomes between employee satisfaction, employee engagement and business outcomes: A meta-analysis. Journal of Applied Psychology, 87, pp 268-279.
Harter, J., Schmidt, F. & Keyes, C. (2003) Well-being in the workplace and its relationship to business outcomes: A review of the Gallup studies. In C. Keyes and J Haidt (eds) Flourishing, Positive Psychology and the Life Well-lived. Washington: American Psychological Society.
Haworth, J. & Roberts, K. (2007) State of Science Review: Leisure: the Next 25 Years, Report SR-C8. Report by the Foresight Project. London: Government Office for Science.
Hayward, B., Fong, B. & Thornton, A. (2007). The third work-life balance employer survey. London: Dept for Business Enterprise and Regulatory Reform.
Head, J., Martlkainen, P., Kumari, M., Kuper, H. & Marmot, M. (2002) Work Environment, Alcohol Consumption and III-Health. The Whitehall II Study (HSE CRR 422/2002). Norwich: HMSO.
Health and Safety Executive (2002). Results from the Health and Safety Module of the British Social Attitudes survey 2001
Health and Safety Executive (2005) Tackling stress: The Management Standards approach. London: HSE.
Health and Safety Executive (2008) Self reported work-related illness and workplace injuries in 2006/07. Results from the Labour Force Survey. London: HSE.
HSE THOR (SOSMI and OPRA) surveillance scheme data available from: http://www.hse.gov.uk/statistics/tables/thorpo6.htm
http://www.hse.gov.uk/statistics/tables/thorpo7.htm

Heaney, C., Price, F. & Rafferty, J. (1995) Increasing coping resources at work: A field experiment to increase social support, improve work team functioning, and enhance employee mental health. Journal of Organizational Behavior, 16, pp 335-352.
Highet, N. (Undated)The Beyond Blue National Depression in the Workplace Program. Sydney: Beyond Blue.
Hill, D., Lucy, D., Tyers, C. & James, L. (2007) What works at work? London: Department for Work and Pensions.
Hills, P. & Argyle, M. (2002) The Oxford Happiness Questionnaire: a compact scale for the measurement of psychological well-being. Personality and Individual Differences, 33, pp 1073-1082.
Houtman, I. (2007) Work-related stress. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Hughes, S. (2002) A toolkit for mental health promotion in the workplace. Trent mental health in the workplace project. London: Mentality.
Hurley, J. (2006) Working time and work-life balance: a policy dilemma? Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Huselid, M. (1995) The impact of human resource management practices on turnover, productivity and financial performance. Academy of Management Journal, 38, 3, pp 635-672.
Ipsos Mori Report for the DH (2008) What matters to staff in the NHS. Department of Health: London.
Isles, N. (2005) The Joy of Work? London: The Work Foundation
Johnson, J., Stewart, W., Hall, E., Fredlund, P. & Theorell, T. (1996) Long-term psychosocial work environment and cardiovascular mortality among Swedish men. American Journal of Public Health, 86, pp 324–331.
Jordan, J., Gurr, E., Tinline, G., Giga, S., Faragher, B., Cooper, C. (2003) Beacons of excellence in stress prevention, HSE Research Report 133, London: HSE
Karasek, R. (1979) Job demands, job decision latitude, and mental strain: implications for job redesign. Administrative Science Quarterly, 24, pp 285–308.
Kersley B, Alpin C, (2004) Inside the Workplace: First Findings from the 2004 Workplace Employment Relations Survey. London: HSE.
Kessler, C., Mickelson, K. & Williams, D. (1999) The prevalence, distribution, and mental health correlates of perceived discrimination in the United States. Journal of Health and Social Behaviour, 9, pp 70–80.
Kidd, J. (2008) Careers at Work, State-of-Science Review: SR-C I 0. Report by the Foresight Project. London: Government Office for Science.
KIitzman, S., House, J., Israel, B. & Mero, R. (1990). Work stress, nonwork stress, and health. Journal of Behavioural Medicine, 13, pp 221-243.
Kim, S. (1998) Does profit-sharing increase firm profits? Journal of Labour Research, 19, 2, pp 351–70.
Kivimäki, M., Vahtera, J., Pentti, J. & Ferrie, J. (2000) Factors underlying the effect of organisational downsizing on health of employees: longitudinal cohort study. British Medical Journal, 320, pp 971–975.
Kivimäki, M., Vahtera, J., Thomson, L., Griffiths, A., Cox, T. & Pentti, J. (1997) Psychosocial factors predicting employee sickness absence during economic decline. Journal of Applied Psychology, 82, pp 858–872.

Klammer, U. (2005) Flexicurity schemes. In Reconciling Labour Flexibility with Social Cohesion – Facing the Challenge, Trends in Social Cohesion, No.15. Belgium: Council of Europe Publishing.
Kompier, M. & Cooper C. (1999) Preventing Stress, Improving Productivity. London: Routledge.
Kompier, M. & Kristensen, T. (2001) Organisational work stress interventions in a theoretical, methodological and practical context. In Dunham, J. (ed.) Stress in the Workplace: Past, Present and Future. London: Whurr Publishers.
Kompier, M., Cooper, C. & Geurts, S. (2000) A multiple case study approach to work stress prevention in Europe. European Journal of Work and Organisational Psychology, 9, pp 371-400.
Kouvonen, A., Vahtera, J., Elovainio, M., Cox, S.J., Cox, T., Linna, A., Virtanen, M. & Kivimaki, M. (2007) Organisational justice and smoking: the Finnish public sector study. Journal of Epidemiology and Community Health, 61, pp 427-433.
Kreis, J. & Bödeker, W. (2004) Health-related and economic benefits of workplace health promotion and prevention: summary of the scientific evidence. Essen: BKK Bundesverband.
Krieger, N. (1999) Embodying inequity: a review of concepts, measures, and methods for studying health consequences of discrimination. International Journal of Health Services, 29, pp 19–32.
Kruse, D. & Blasi, J. (1995) Employee ownership, employee attitudes and firm performance: A review of the evidence. NBER Working Paper Series 5277. Cambridge MA: National Bureau of Economic Research.
Kümmerling, A. & Lehndorff, S. (2007) Extended and unusual working hours in European companies. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Kuzel, A. (1992) Sampling in qualitative inquiry. In B Crabtree & W. Miller (ed) Doing Qualitative Research. Newbury Park: Sage.
Landeweerd, J. & Boumans, N. (1994) The effect of work dimensions and need for autonomy on nurses' work satisfaction and health. Journal of Occupational and Organizational Psychology, 67, pp 207-217.
Leather, P. & Zarola, T. (2008) Violence at Work, State-of-Science Review: SR-C I I. Report by the Foresight Project. London: Government Office for Science.
Lelliott, P., Boardman, J., Harvey, S., Henderson, M., Knapp, M. & Tulloch, S. (2008) Mental Health and Work A report for the National Director for Work and Health. London: Royal College of Psychiatrists.
Lewis, S. & Cooper, C. (2005) Work-Life Integration: Case Studies in Organizational Change. Chichester: John Wiley & Sons.
Lo Sasso, A., Rost, K. & Beck, A. (2006) Modelling the impact of enhanced depression treatment on workplace functioning and costs: a cost-benefit approach. Medical Care, 44, pp 352-358.
Lowe, G., Scheuenberg, G. & Shannon, H. (2003). Correlates of employees' perceptions of a healthy work environment. American Journal of Health Promotion, 17, pp 390-399.
Lunt, J., Bowen, J. & Lee, R. (2005) HSE Review of the Risk Prevention Approach to Occupational Health Applying Health Models to 21st Century, Occupational Health Needs Health Models Information Pack. London: HSE.
Lunt, J., Bowen, J. & Lee, R. (2005) Report on proceedings of HSE's Health Models Review Workshop - Manchester 20th September. London: HSE.

MacKay, C.J, Cousins, R., Kelly, P.J., Lee, S. & McCaig, R. (2004) Management standards and work-related stress in the UK: policy background and science. Work and Stress, 18, 2, pp 91-112.
Marchand, A., Demers, A., Durand, P. (2005) Does work really cause distress? The contribution of occupational structure and work organization to the experience of psychological distress. Social Science and Medicine, 61, pp 1–14.
Marmot, M., Bosma, H., Hemingway, H., & Stansfeld, S. (1997) Contribution of job control and other risk factors to social variations in coronary heart disease incidence. Lancet, 350, pp 235–239.
Martin, U. & Schinke, S. (1998) Organizational and individual factors influencing job satisfaction and burnout of mental health workers. Social Work and Health Care, 28, 2, pp 51-62.
Mason, J. (2002) Qualitative Researching (2nd edition). London: Sage.
McCartney, J. (2004) Financial participation in the EU: Indicators for benchmarking, Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
McCartney, J., Croucher, R., Svetlik, I. (2005) Financial participation in the EU: A benchmarking study of Slovenia. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
McDaid, D. (2008). Mental Health in Workplace Settings. Consensus paper. Luxembourg: European Communities.
McLeod, J. & Henderson, M. (2003) Does workplace counselling work? British Journal of Psychiatry, 182, pp 103-104.
Meltzer, D., Fryers, T., Brugha, T. & McWilliams, B. (2003) Social position and the common mental disorders with disability. Estimates from the national psychiatric survey of Great Britain. Social Psychiatry and Epidemiology, 38, 238-243.
Meltzer, D., Singleton, N., Lee, A., Bebbington, P., Brugha, T. & Jenkins, R. (2002) The Social and Economic Circumstances of Adults with Mental Disorders. Newport: Office of National Statistics.
Michie, S. & Williams, S. (2003) Reducing work-related psychological ill health and sickness absence: a systematic literature review. Occupational and Environmental Medicine, 60, pp 3-9.
Miles, M. & Huberman, A. (1994) Qualitative Data Analysis (2nd edition), London: Sage.
Mimura, C. & Griffiths, P. (2003) The effectiveness of current approaches to workplace stress management in the nursing profession: an evidence based literature review. Occupational & Environmental Medicine, 60, 1, 10-15.
Mind Out for mental health (2004) Line managers' resource: A practical guide to managing & supporting mental health in the workplace. London: Mind Out for Mental Health.
Moorman, R. (1991) Relationship between organizational justice and organizational citizenship behaviors: do fairness perception influence employee citizenship? Journal of Applied Psychology, 76, pp 845–55.
Muntaner, C., Benach, J., Hadden, W., Gimeno, D. & Benavides, F. (2006) A glossary for the social epidemiology of work organisation: part 1 terms from social psychology. Journal of Epidemiology and Community Health, 60, 914-916.
Muntaner, C., Benach, J., Hadden, W., Gimeno, D. & Benavides, F. (2006) A glossary for the social epidemiology of work organisation: part 2 terms from the

sociology of work and organisations. Journal of Epidemiology and Community Health, 60, 1010-1012.
Muntaner, C., Benach, J., Hadden, W., Gimeno, D. & Benavides, F. (2007) A glossary for the social epidemiology of work organisation: part 3 terms from the sociology of labour markets. Journal of Epidemiology and Community Health, 61, 6-8.
Munz, D. & Kohler. J. (1997) Do worksite stress management programs attract the employees who need them and are they effective? International Journal of Stress Management, 4, pp 1-11.
Murphy, L. (2008) Current Sources of Workplace Stress and Wellbeing, State-of-Science Review: SR-C I. Report by the Foresight Project. London: Government Office for Science.
Murphy, L. (1996) Stress management in work settings: A critical review of the health effects. American Journal of Health Promotion, 2, pp 112-135.
Murphy, L. & Cooper, C. (2000) Healthy and Productive Work: An International Perspective. London: Taylor & Francis.
Naegele, G., Barkholdt, C., De Vroom, B., Goul Andersen, J. & Krämer, K. (2003) A new organisation of time over working life. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
National Institute for Mental Health in England (2005) Making it possible: Improving Mental Health and Well-being in England. Leeds: National Institute for Mental Health in England.
National Social Marketing Centre (2008) Business success and employee wellbeing. The case for a new cross-Government approach. London: National Social Marketing Centre.
Niedhammer, I., Teck, M., Starke, D. & Siegrist, J. (2004) Effort-Reward Imbalance Model and self reported health: Cross-sectional and prospective results from the GAZEL Cohort. Social Science & Medicine, 58, 8, pp 1531-1541.
O'Driscoll, M. & O'Driscoll, E. (2008) The Impact of New Technology in the Workplace on Mental Wellbeing, State-of-Science Review: SR-CS. Report by the Foresight Project. London: Government Office for Science.
Parker,S., & Wall, T. (1998) Job and work design: Organising work to promote well-being and effectiveness. Thousand Oaks, CA: Sage.
Parkes, K. & Sparkes, T. (1998) Organizational interventions to reduce work stress: Are they effective? HSE Contract Research Report 193/1998. Norwich: HMSO.
Pattani, S., Constantinovici, N. & Williams, S. (2001) Who retires early from the NHS and how much does it cost? A national cross-sectional study. British Medical Journal, 322, pp 208-209.
Pettigrew, M. & Egan, M. (2006) Relevance rigour and systematic reviews. In J. Popay (ed) Moving Beyond Effectiveness in Evidence Synthesis. London: National Institute for Health and Clinical Excellence.
Pikhart, H., Bobak, M., Pajak, A., Malyutina, S., Kubinova, R., Topor, R., Sebakova, H., Nikitin, Y. & Marmot, M. (2004). Psychosocial factors at work and depression in three countries of Central and Eastern Europe. Social Science & Medicine, 58, 8, pp 1475-1482.
Pil, F. & MacDuffie, J. (1996) The adoption of high-involvement work practices. Industrial Relations, 35, 3, pp 423–55.
PriceWaterhouseCoopers (2008) Building the case for wellness. London: PriceWaterhouseCoopers LLP.

Reid, P., White, D. & Stevenson, B. (2007) Out-of-school care services for children living in disadvantaged areas. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Richards, L. (2002) Using NVivo in Qualitative Research, Melbourne: QSR International.
Rick, J., Briner, R., Daniels, K., Perryman, S. & Guppy, A. (2001) A critical review of psychosocial hazard measures. Health and Safety Executive. Contract Research Report 356/2001. London: HSE.
Rick, J., Thomson, L., Briner, R., O'Regan, S. & Daniels, K. (2002) Review of existing supporting scientific knowledge to underpin standards of good practice for key work-related stressors - Phase 1. Research Report 24. Brighton: The Institute for Employment Studies.
Riedmann, A., Bielenski, H., Szczurowska, T. & Wagner, A. (2006) Working time and work–life balance in European companies. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Rivara, F. & Thompson, D. (2000) Prevention of falls in the construction industry: Evidence for program effectiveness. American Journal of Preventive Medicine, 18, 4s, pp 23-26.
Robertson, I. & JFlint-Taylor, J. (2008) Leadership, psychological well-being and organisational outcomes. In The Oxford Handbook on Organisational Well-being, S. Cartwright & C. Cooper (eds) Manchester: Robertson Cooper Ltd.
Rose, J., Jones, F. & Fletcher, B. (1998) The impact of a stress management programme on staff well-being and performance at work. Work and Stress, 12, I, pp 12-124.
Rost, K., Smith, J. & Dickinson, M. (2004) The effect of improving primary care depression management on employee absenteeism and productivity. A randomised trial. Medical Care, 42, pp 1202-1210.
Ryff, C. & Keyes, C. (1995) The structure of psychological well-being revisited. Journal of Personality and Social Psychology, 69, pp 719-727.
Sainsbury Centre for Mental Health (2007) Mental Health at Work: developing the business case. Policy Paper 8. London: The Sainsbury Centre for Mental Health.
Saltzstein. A., Ting, Y. & Saltzstein, G. (2001) Work-family balance and job satisfaction: The impact of family-friendly policies on attitudes of federal government employees. Public Administration Review, 61, pp 452-467.
Sauter. S., Murphy, L. & Hurrell, J. (1990) Prevention of work-related psychological disorders: A national strategy proposed by the National Institute for Occupational Safety and Health (NIOSH). American Psychologist, 45, pp 1146-1158.
Schnabel, A. & Webster, J. (1999) Participating on Equal Terms? The gender dimensions in organisational change. European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Schneider, J. (1998) Work interventions in mental health care: some arguments and recent evidence. Journal of Mental Health 7, pp 81-94.
Semmer, N. (2008) Stress Management and Wellbeing Interventions in the Workplace. State-of-Science Review: SR-C6. Report by the Foresight Project. London: Government Office for Science.

Seymour, L. & Grove, B. (2005) Workplace interventions for people with common mental health problems: Evidence review and recommendations. London: British Occupational Health Research Foundation.
Siegrist, J. (2006) Effort-reward imbalance at work questionnaire. Department of Medical Sociology, Dusseldorf University.
Siegrist, J. (2008) Effort-reward imbalance at work: Theory, measurement and evidence. Department of Medical Sociology, Dusseldorf University.
Siegrist, J., Starke, D., Chandola, T., Godin, I., Marmot, M., Niedhammer, I. & Peter, R. (2004) The measurement of effort–reward imbalance at work: European comparisons. Social Science & Medicine, 58, pp 1483–1499.
Simmering, M. (2003) Conscientiousness, autonomy fit and development: a longitudinal study. Journal of Applied Psychology 88, 5, pp 954-963.
Singleton, N. & Lewis, G. (2003) Better or Worse: a longitudinal study of the mental health of adults living in private households in Great Britain. London: National Statistics.
Sisson, K. (2000) Direct Participation and the Modernisation of Work Organisation. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Sisson, K., Fröhlich, D., Wickham, J., & O'Kelly, K. (2001) Employment through flexibility: Squaring the circle. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Skarlicki, D. & Folger, R. (1997) Retaliation in the workplace: the roles of distributive, procedural, and interactional justice. Journal of Applied Psychology, 82, 3, pp 434-443.
Sloman, M. (2007) Training and its Significance in the Workplace State-of-Science Review SR-C9. Report by the Foresight Project. London: Government Office for Science.
Smith A, Brice C, Collins A, Matthews V, McNamara R. (2000a). The scale of occupational stress: A further analysis of the impact of demographic factors and type of work. Centre of Occupational and Health Psychology, School of Psychology, Cardiff University. Contract Research Report 311/2000. London: HSE.
Smith, a., Johal, S. & Wadsworth, E. (2000b) The Scale of Occupational Stress. The Bristol Stress and Research at Work Study. Contract Research Report 265/2000. London: HSE.
Smith, A., Wadsworth, E, Shaw, C., Stansfield, S., Bhui, K. & Dhillon, K. (2005) Ethnicity, work characteristics, stress and health. Research Report 308. London: HSE.
Smith, J., Rost, K., Nutting, P., Libby, A., Elliott, C. & Payne, J. (2002) Impact of primary care depression intervention on employment and workplace conflict outcomes: is value added? Journal of Mental Health Policy and Economics, 5, pp 43-9.
Snelgrove, S. & Phil, H. (2001) Occupational stress and job satisfaction: A comparative study of health visitors, district nurses and community psychiatric nurses. Journal of Nursing Management, 6, pp 97-104.
Sosik, J. & Godshalk, V. (2000). Leadership styles, mentoring functions received, and job-related stress: A conceptual model and preliminary study. Journal of Organizational Behavior, 21, pp 365-390.

Stansfeld S, & Candy, B. (2006) Psychosocial work environment and mental health – a meta-analytic review. Scandanavian Journal of Work and Environmental Health, 32, 443-62.
Stansfield, S., Woodley-Jones, D., Rasul, F., Head, J., Clarke, S. & Mackay, C. (2004) Work related stress and related disorders. Occupational Health Dicennial Supplement. London: HSE/
Stansfield, S., Head, J. Rashul, S., Singleton, N. & Lee, A. (2003) Occupation and Mental Health: Secondary analysis of the ONS Psychiatric Morbidity Survey of Great Britain. London: HSE Books.
Tasho, W., Jordan, J. & Robertson, I. (2005) Case study: Establishing the business case for investing in stress prevention activities and evaluating their impact on sickness absence levels, HSE Research Report 295, London: HSE.
Taylor, L., Taske, N., Swann, C., Waller, S., Barnett-Page, E. & Seymour, L. (2007) Public health interventions to promote positive mental health and prevent mental health disorders among adults: Evidence briefing. London: National Institute of Clinical Excellence.
Tehrani, N. (2004) Recovery, Rehabilitation and Retention: Maintaining a Productive Workforce. London: Chartered Institute of Personnel and Development.
Tepper, B. (2000) Consequences of abusive supervision. Academy of Management Journal, 43, pp 178-190.
Terry, D. & Jimmieson, N. (2001) Work control and Employee well-being: A decade Review. In C. Cooper & I. Robertson (eds) Well-being in Organisations. Chichester: John Wiley & Sons.
The Work Foundation (2006) The Good Worker: A survey on attitudes to work in the UK. (2006) London: The Work Foundation.
Tilford, S., Delaney, F., Vogels, M. (1997) Effectiveness of mental health promotion interventions: a review. London: Health Education Authority.
Tsutsumi, A., Kayaba, K., Theorell, T. & Siegrist, J. (2001) Association between job stress and depression among Japanese employees threatened by job loss in comparison between two complementary job-stress models. Scandinavian Journal of Work Environment and Health, 27, pp146-153.
Tsutsumi, A., Takao, S., Mineyama, S., Nishiuchi, K., Komatsu, H., & Kawakami, N. (2005) Effects of a supervisory education for positive mental health in the workplace: A quasi-experimental study. Journal of Occupational Health, 47, pp 226-235.
Van der Klink, J., Blonk, R., Schene, A. & van Dijk, F. (2001) The benefits of interventions for work-related stress. American Journal of Public Health, 91, 2, pp 270–76.
Van Dierendonck, D., Haynes, C., Borritt, C., & Stride, C. (2004) Leadership behavior and subordinate well-being. Journal of Occupational Health Psychology, 9, PP 165-175.
Van Loon, A., Tijhuis, M., Surtees P. & Ormel, J. (2000) Lifestyle risk factors for cancer: the relationship with psychosocial work environment. International Journal of Epidemiology, 29, pp 785–92.
Van Vegchel, N, De Jonge, J. & Landsbergis, P. (2005) Occupational stress in (inter)action: The interplay between job demands and job resources. Journal of Occupational Behaviour, 26, pp 535-560.
Van Vegchel, N., De Jonge, J., Bakker, A. & Schaufeli, W. (2002) Testing global and specific indicators of rewards in the Effort-Reward Imbalance Model: Does it make any difference? European Journal of Work and Organizational Psychology, 11, pp 403 – 421.

Vermeylen, G. & Hurley, J. (2007) Varieties of flexicurity: reflections on key elements of flexibility and security, background paper. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Viswesvaran, C., Sanchez, J. & Fisher, J. (1999) The Role of Social Support in the Process of Work Stress: A Meta-Analysis. Journal of Vocational Behavior, 54, 2, pp 314-334.
Waddell, G. & Burton, A. (2006) Is Work Good for Your Health and Well-being? London: The Stationery Office.
Waddell, G., Burton, A. & Nicholas A. (2008) Vocational rehabilitation: what works, for whom, and when? Report by the Vocational Rehabilitation Task Group, Industrial Injuries Advisory Council, Kendall Publisher: The Stationery Office.
Wang, P., Patrick, A., Avorn, J., Azocar, F., Ludman, E., McCulloch, J., Simon, G. & Kessler, R. (2006) The costs and benefits of enhanced depression care to employers. Archives of General Psychiatry, 63, pp 1345-1353.
Wang, P., Patrick, A., Avorn, J., Azocar, F., Ludman, E., McCulloch, J., Simon, G. & Kessler, R. (2007) Telephone screening, outreach, and care management for depressed workers and impact on clinical and work productivity outcomes: a randomised controlled trial. Journal of the American Medical Association, 298, pp 1401-11.
Webster, S., Buckley, P. & Rose, I. (2007) Psychosocial working conditions in Britain in 2007. London: HSE.
Webster, J. (2003) Working and living in the European knowledge society: The quality of working life and its effects on the wider lives of employees. Employment Research Centre, Department of Sociology, Trinity College, Dublin.
Weiler A. & Whittal, M. (2007) Attractive workplaces for all, a contribution of the Lisbon strategy at company level examples. European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Weiler, A. (2005) Quality in work and employment. Report by the European Foundation for the Improvement of Living and Working Conditions. Luxembourg: Office for Official Publications of the European Communities.
Westman, M. (2008) Flexible Working Time Arrangements and their Impact on Work-Family Interface and Mental Wellbeing at Work. State-of-Science Review: SR-C4. Report by the Foresight Project. London: Government Office for Science.
Wilson, M., Dejoy, D.,Vandenberg, R., Richardson, H. & Mcgrath, A. (2004) Work characteristics and employee health and well-being: Test of a model of healthy work organization. Journal of Occupational and Organizational Psychology, 77, 4, pp 565-588.
Wilson, N. & Peel, M. (1991) The impact on absenteeism and quits of profit-sharing and other forms of employee participation. Industrial and Labour Relations Review, 44, 3, pp 454–68.
Wilthagen, T. & Tros, F. (2004) The concept of "flexicurity": A new approach to regulating employment and labour markets. European Review of Labour and Research, 10, 2, pp 166–86.
Witherspoon, S. Hunting foxes: reflections on the use of synthetic reviews in policy making. In J. Popay (ed) Moving Beyond Effectiveness in Evidence Synthesis. London: National Institute for Health and Clinical Excellence.

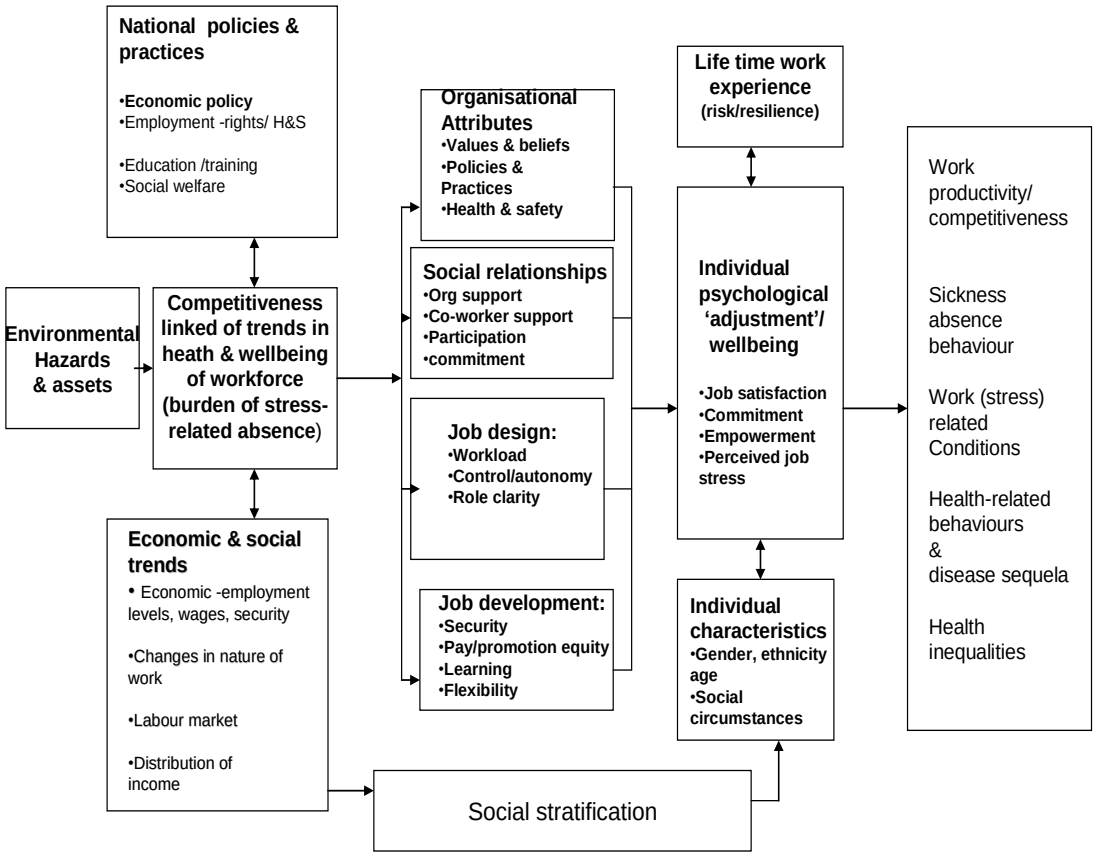
Woodland, S., Simmonds, N., Thornby, M., Fitzgerald, R., McGee, A. (2003) The Second Work-Life Balance Study: Results from the Employers' Survey – Main Report. Employment Relations Research Series No. 22. London: DTI.
Wright, T. & Cropanzano, R. (2000) Psychological well-being and job satisfaction as predictors of job performance. Journal of Occupational Health Psychology 5, 1, pp 84-94.

Appendix 1. Extraction summary sheet

1.Authors : Year:

2.Type of document: Review / Case studies / Discussion paper / Survey / Policy document or report / Non-survey study

3. RELATES TO WHICH LOGIC FRAMEWORK AREA/S



KEY TERMS USED/DEFINITIONS:

KEY FINDINGS/CONCLUSIONS:

DESIGN/QUALITY

Design:

Population:

Intervention:
Comparator:
Measures:

NOTES:

Appendix 2. Extraction table for epidemiology review

Survey	Dates data obtained	Population	Questions asked	Prevalence findings	Theme
		Country: **N=** **Age range:** **Sampling process:** **Other demographics:**			

Appendix 3. Epidemiology data

1. Questions relating to well-being

Job satisfaction	Overall satisfaction with work or job at the moment	Very satisfied – 22%, Satisfied 45%, Neutral 17.7, Dissatisfied 10%, Very dissatisfied 5% Full timers least satisfied, self employed most satisfied	Isles The Joy of work
	i) How satisfied are you with your current position ii) Has your job satisfaction increased or decreased since the beginning of your working life	i) very satisfied – 35%, quite satisfied – 43% neither satisfied nor dissatisfied – 10% quite dissatisfied 6% very dissatisfied 5% ii) Increased 60% Stayed the same 8% Decreased 31%. Younger workers tended to think it had got better.	The Good worker
	On the whole are you very satisfied, satisfied, not very satisfied or not at all satisfied with working conditions in your main paid job	Very satisfied 45%, Satisfied 47%, Not very satisfied 7%, not at all satisfied 1%	Fourth European Working Conditions Survey 2007
	How satisfied or dissatisfied are you with the following aspects of your job Sense of achievement	Very satisfied – 18%, Satisfied 52%, Neither 19%, Dissatisfied 8%, Very dissatisfied 3%	Workplace employment relations survey (Kersley et al, 2005)
	How satisfied or dissatisfied are you with the following aspects of your job Work itself	Very satisfied – 17%, Satisfied 55%, Neither 19%, Dissatisfied 7%, Very dissatisfied 3%	Workplace employment relations survey (Kersley et al, 2005)
	Job satisfaction	1 Completely dissatisfied to 7 completely satisfied Mean of 5.3	British Household Panel Survey 2002
Illness	No. 481 Apart from the accident you just told me about within the last 12 months have you suffered from any illness, disability, or other physical or mental problem that was caused or made worse by your job or by work you have done in the past. No. 482 How many illnesses have you had in the last 12 months that have been caused or been made worse by your work.	Estimated 530,000 people in GB believed they were suffering from stress, depression or anxiety that was caused or made worse by their current work (1.2%). Estimated 0.83% new cases. Estimated 237,000 males and 294,000 females ever employed suffering from stress, depression or anxiety caused or made worse by work. Estimated prevalence rate – 1.1% males and 1.3% females 45-54 and 35-44 age groups highest. Data by occupation, industry, and workplace size	Labour Force Survey Self-reported work-related injuries section

		22% workers quite or very concerned that stress might cause them harm 14% thought that this risk had increased, 10% thought it had reduced. 12% found job very or extremely stressful, 1/3 moderately stressful	Workplace Health and Safety Survey Programme HSE
		Just under a third of organisations report increase in work-related stress, 11% report decrease 39% unchanged Public sector highest (46%) private service organisations least likely (25%) Top three causes of stress – workload (56%), management style (40%), relationships at work (36%).	Absence Management survey
	Does your work affect your health	Yes 21%	Fourth European Working Conditions Survey 2007
	Over the past 12 months how many days in total were you absent from work for reasons of health problems	3.8	Fourth European Working Conditions Survey 2007
	Your job makes you feel Tense	All of the time 4% Most of the time 15% Some of the time 42% Occasionally 27% Never 12% All of the time 3% Most of the time 30% Some of the time 29% Occasionally 27% Never 11%	Workplace employment relations survey (Kersley et al, 2005)
	Calm Relaxed	All of the time 3% Most of the time 23% Some of the time 27% Occasionally 29% Never 18%	
	Worried	All of the time 2% Most of the time 10% Some of the time 35% Occasionally 32% Never 21%	
	Uneasy	All of the time 2% Most of the time 8% Some of the time 28% Occasionally 33% Never 29%	
	Content	All of the time 5% Most of the time 33% Some of the time 30% Occasionally 22% Never 11%	Workplace employment relations survey (Kersley et al, 2005)
	I worry a lot about work outside of work hours	Strongly agree 7% agree 20% neither agree nor disagree 23% Disagree 34% strongly disagree 16%	
		79% did not have a common mental disorder at either time point. 6% had onset of common mental disorder between T1 and T2, 15% had disorder at baseline. Generalised to GB population – 8% with	Singleton, N. & Lewis, G. (2003) Better or Worse: a longitudinal study of the mental health of adults living in private households in GB. ONS/HMSO

		common mental disorder No sig gender difference or age difference in onset Lowest rate of onset among women working part time at baseline. Men who were unemployed at T1 especially high risk of developing an episode of common mental disorder (OR 5.86) Men in paid employment had the lowest rate of episode occurrence (4%) Higher onset for those in rented accommodation vs homeowners (11% vs 5%). Among men those earning less than £400 per week lower risk Significant association between life events and onset of common mental disorders.	Longitudinal study
	Number of cases reported to psychiatrists and occupational physicians per year	Estimated rate of 3485 referrals per 100,000 workers.	HSE THOR (SOSMI and OPRA) surveillance scheme data
	In general how do you find your job	T1 Stress at work – not at all stressful 9%, mildly stressful 29% moderately stressful 43% very stressful 16% extremely stressful 3% T2 not at all stressful 8%, mildly stressful 31% moderately stressful 44% very stressful 15% extremely stressful 3% Full time greater than part time. Age range 25-54 and 45-54 higher levels of stress. Females in full time employment report higher levels of stress	The Scale of Occupational Stress. The Bristol stress and health at work study. 2000 Cohort study
	Have you been told by a doctor that you have or have had any of the following	Health associations across both time points Significant associations between high work stress and high blood pressure 15% vs 12%), nervous trouble/depression (21 vs 9%), breast cancer (1.3 vs 0.4%), arthritis (15 vs 12%), hay fever (21 vs 17) + digestive disorders, foot trouble, mouth, and other recurring health problems. Those in high stress group also more likely to take pills/tablets. Greater percentage of most acute illnesses. Also difference between the two groups in anxiety, depression and general health scales. Differences between high and low work stress in terms of health persisted even when those with high life stress were eliminated.	The Scale of Occupational Stress. The Bristol stress and health at work study. 2000

	How often do you take part in sports activities that are Mildly energetic Thinking about the past year, have you suffered from any illness that you think was caused or made worse by work	Those with low levels of work stress more likely to engage in mildly energetic forms of activity, and sleep for more hours, eat breakfast cereal. Those in high stress group significantly more likely to agree that they have suffered from an illness caused or made worse by work over the last year (42 vs 18%) Difference between high stress and low stress on measures of satisfaction with achievements, satisfaction with job itself, job satisfaction measures, mental and physical health problems. Only clinical difference oral temperature (not cortisol), more negative mood.	The Scale of Occupational Stress. The Bristol stress and health at work study. 2000

2. Questions relating to work context and work content

	Question/s	Findings	Data source
Work context			
Hazards	Environmental risk factors ie noise, temp, fumes, radiation Do you work in an environment where the level of background noise disturbs your concentration	15.4% vibration, 23.7% noise, 16.4% high temp, 11.7% fumes, tiring/painful positions 30.6% Higher stress more frequent in those often working in noisy background (4.7 vs 13.5%)	Fourth European Working Conditions Survey 2007 The Scale of Occupational Stress. The Bristol stress and health at work study. 2000 Cohort study
Employee-management relations	How would you describe relations between management and other employees? At my workplace, management and employees are always at loggerheads Managers at my workplace usually keep their promises to their employees I share many of the values of my organisation	v good – 35% quite good – 46% not very good – 13% not at all good – 5% agree strongly – 4%, agree – 13%, disagree – 50%, strongly disagree – 14%, neither agree nor disagree – 20%. agree strongly – 6%, agree – 43%, disagree – 17%, strongly disagree – 5%, neither agree nor disagree – 27%. agree strongly – 15%, agree – 49%, disagree – 9%, strongly disagree – 0%, neither agree nor disagree – 24%.	Brit Soc Attitudes Survey - Employment Attitudes(DTI 2004)

	In general how would you describe relations between managers and employees here 1=most unfavourable condition 5= the most favourable condition Number of cases reported to psychiatrists and occupational physicians per year How often do you get help and support from your colleagues	Very good – 19% Good 41% Neither 24% Poor 12% Very poor 4%. Relationships – 4.1 Managerial support – 3.7 Peer support – 3.9 Next most frequent was interpersonal relationships (29%) Lower proportion of high stress group got help and support from colleagues (48 vs 37%) or from superior	Workplace employment relations survey (Kersley et al, 2005) Webster et al (2008) Psychosocial working conditions in Britain 2008 London: HSE HSE THOR (SOSMI and OPRA) surveillance scheme data The Scale of Occupational Stress. The Bristol stress and health at work study. 2000 Cohort study
Management behaviour /bullying/harassment	In the last 2 years with your employer, have you PERSONALLY been treated unfairly because of any of the following (18 answers + other) Over the past 12 months have you or have you not personally been subjected to violence threats of violence Bullying and harassment	6.9% personally unfairly treated at work 3.8% had personally experienced bullying or harassment at work in the last 2 years. Women more likely to be bullied. 8.8% of all British employees had personally experienced unfair treatment, bullying or sexual harassment at work in the last 2 years. 9% 11% 4% men, 7% women	Fair Treatment at Work Survey (DTI 2007) Fourth European Working Conditions Survey 2007
Job security	I feel there will be a job for me where I work now for as long as I want it How satisfied are you with the following aspects of your job Job security I feel my job is secure in this workplace	agree strongly – 17%, agree – 42%, disagree – 20%, strongly disagree – 7%, neither agree nor disagree – 22%. Very satisfied – 13%, Satisfied 50%, Neither 22%, Dissatisfied 11%, Very dissatisfied 5% Strongly agree 19% agree 48% neither agree nor disagree 18% Disagree 11% strongly disagree 5%	Brit Soc Attitudes Survey - Employment Attitudes(DTI 2004) Workplace employment relations survey (Kersley et al, 2005) Workplace employment relations survey (Kersley et al, 2005)
Employee participation	Consultation Over the past 12 months have you or have you not been consulted about changes in work organisation and/or working conditions	Joint consultative committees present in 14% of workplaces, further 25% had no committee but a consultative forum. More common in large workplaces. Yes – 54%	Workplace employment relations survey (Kersley et al, 2005) Fourth European Working Conditions Survey 2007

	How satisfied or dissatisfied are you with the following aspects of your job Involvement in decision making	Very satisfied – 8%, Satisfied 30%, Neither 39%, Dissatisfied 17%, Very dissatisfied 6%	Workplace employment relations survey (Kersley et al, 2005)
Communication	People at my workplace usually feel well informed about what is happening there Communication Do you get sufficient information from line management Do you get consistent information from line managers	Agree strongly – 7%, agree – 44%, disagree – 26%, strongly disagree – 5%, neither agree nor disagree – 17%. Methods of communication – meetings with entire workforce or team briefings – 91%. Systematic use of management chain – 64%. Regular newsletters – 45%. Noticeboards – 74%. Suggestion schemes – 30%. Employee surveys- 42%. Information about developments – investments plans (41%), financial position (55%), staffing plans (64%). Smaller proportion of high stress workers feel they get sufficient and consistent information from managers (35 vs 21% & 31 vs 19%) Lower proportion of high stress group got help and support from colleagues (48 vs 37%) or from superior	Brit Soc Attitudes Survey - Employment Attitudes(DTI 2004) Workplace employment relations survey (Kersley et al, 2005) The Scale of Occupational Stress. The Bristol stress and health at work study. 2000 Cohort study
Work content			
Working patterns	 How many hours do you usually work per week in your main job Do you work at night Do you have to work long or unsociable hours	11% of employees usually worked more than 48 hours per week UK 35 hours Associations between high/low stress at both T1 and T2 High stress more frequent in those often working at night (11.5 vs 17.4%), often working unsociable hours(18.5 vs 34.6%)	Workplace employment relations survey (Kersley et al, 2005) Fourth European Working Conditions Survey 2007 The Scale of Occupational Stress. The Bristol stress and health at work study. 2000 Cohort study
Flexibility in working hours		Workplaces offering flexible hours – reduced hours (70%), increased hours (57%) change working pattern (45%) flexitime (35%) job sharing (31%) homeworking (26%) term time only (20%) compressed hours (16%) annualised hours (6%)	Workplace employment relations survey (Kersley et al, 2005)

		zero hours contracts (5 %).	
	How are your working hours set?	Set by the company with no possibility for change 60%	Fourth European Working Conditions Survey 2007
	You can choose between several fixed working schedules	12%	
	You can adapt your working hours within certain limits	23%	
	Your working hours are entirely determined by yourself	5%	
Work-life balance	Which of these feelings best describes your feelings about your job?	I work hard but not so interferes with job – 48%, do best even if sometimes interferes with rest of life – 46%	Brit Soc Attitudes Survey - Employment Attitudes(DTI 2004)
	In general do your working hours fit in with your family or social commitments outside work very well, well not very well or not at all well.	Not very well – 10%, not at all well – 5%	Fourth European Working Conditions Survey 2007
Fulfilment	i) I regard my work as a means to an end ii) My work is a source of personal fulfilment to me iii) I regard my work as meaningless	i) strongly agree 28% slightly agree 23% neither agree nor disagree 10% slightly disagree 17% strongly disagree 20%. ii) strongly agree 43% slightly agree 27% neither agree nor disagree 7% slightly disagree 12% strongly disagree 12%. iii) strongly agree 4% slightly agree 5% neither agree nor disagree 4% slightly disagree 11% strongly disagree 75%.	The Good worker
Demand/effort	Does your job involved working at very high speed does your job involve working to tight deadlines	Composite index - 41% (0=never, 10 almost never, 25 = quarter of the time etc)	Fourth European Working Conditions Survey 2007
	My job requires that I work hard	Strongly agree 27% agree 49% neither agree nor disagree 18% Disagree 5% strongly disagree 0.5%	Workplace employment relations survey (Kersley et al, 2005)
	I never seem to have enough time to get work done	Strongly agree 14% agree 26% neither agree nor disagree 30% Disagree 26% strongly disagree 3%	
	1=most unfavourable condition 5= the most favourable condition	Demands – 3.6	Webster et al (2008) Psychosocial working conditions in Britain 2008 London: HSE
	Number of cases reported to psychiatrists and occupational physicians per year	Largest percentage for reason given was factors intrinsic to the job (40%) and within this workload/over demand/pressure of work	HSE THOR (SOSMI and OPRA) surveillance scheme data
	Do you have to work very fast	Higher stress more frequent in those often working very fast (30 vs 55%)	The Scale of Occupational Stress. The Bristol stress and health at work study. 2000

	Do you have to work very intensively Do you have enough time to do everything Are your tasks such that others can help you if you do not have enough time	Often Working intensively (33 vs 68%) Never/almost never have time to do everything (11 vs 33%) Low stress group more likely to have tasks others can help with compared to high stress (24 vs 10%)	Cohort study
	Does your work demand a high level of skill or expertise	High occupational stress group more likely to feel that work demands high level of skill (48 vs 70%)	
	Do different groups demand things from you that you think are hard to combine	Greater proportion of high stress group often find that different groups demand things they think are hard to combine	
	I have constant time pressures due to a heavy workload	High stress group more likely to report time pressures due to heavy load (50 vs 89%)	The Scale of Occupational Stress. The Bristol stress and health at work study. 2000 Cohort study
	How important are the following factors in how hard you work in your job	Machine – 5%, clients 53%, supervisor 41%, fellow workers 42%, pay 22% reports/appraisals 27%.	Skills at Work 1986-2006. Felstead, A., Gallie, D., Green, F. & Zhou, Y. (2007) Cardiff: ESRC Centre on Skills, Knowledge and Organisational Performance.

Control/decision latitude	Able to choose or change order of tasks, able to choose or change method of work, able to choose or change speed of work, influence over choice of working partners, able to take a break when desired	Composite indicator – in the UK average control over 2.8 of the 5 indicators	Fourth European Working Conditions Survey 2007
	How satisfied or dissatisfied are you with the following aspects of your job Scope for using initiative	Very satisfied – 20%, Satisfied 52%, Neither 18%, Dissatisfied 8%, Very dissatisfied 3%	Workplace employment relations survey (Kersley et al, 2005)
	How satisfied or dissatisfied are you with the following aspects of your job Influence over job	Very satisfied – 12%, Satisfied 45%, Neither 28%, Dissatisfied 11%, Very dissatisfied 3%	Workplace employment relations survey (Kersley et al, 2005)
	In general how much influence do you have over the pace at which you work	None 12% A little 1^% Some 36% A lot 37%	Workplace employment relations survey (Kersley et al, 2005)
	In general how much influence do you have over how you do your work	None 4% A little 11% Some 34% A lot 50%	
	Does your job require you to take the initiative	Higher proportion of high stress group indicate that their job requires them to take the initiative (85 vs 64) Greater proportion of workers with low stress indicate they often have a say in work speed (49 vs 41.5)	The Scale of Occupational Stress. The Bristol stress and health at work study. 2000 Cohort study
	My working time can be flexible I can decide when to take a break	Greater proportion of low stress workers indicate their working time more flexible (31 vs 26%) Greater proportion in low stress group often decide when to take a break at work (58 vs 46%)	
	Suppose there was going to be a decision made at your place of work that changed the way you do your job. Do you think that you personally would have any say in the decision about the change or not? How much say or chance to influence the decision do you think you would have?	58% yes would have say in decision 43% quite a lot of influence in decision	Skills at Work 1986-2006. Felstead, A., Gallie, D., Green, F. & Zhou, Y. (2007) Cardiff: ESRC Centre on Skills, Knowledge and Organisational Performance.

		Summary index of the 4 questions , 0 no influence at all to 3 a great deal of influence , average of summed scores. Task discretion index score in 2006 – All/M/F 2.2	Skills at Work 1986-2006. Felstead, A., Gallie, D., Green, F. & Zhou, Y. (2007) Cardiff: ESRC Centre on Skills, Knowledge and Organisational Performance
		83% of workplaces with teams, teams had responsibility for specific products and services, 61% said they could jointly decide how work was done. 6% allowed to appoint own team leader.	Workplace employment relations survey (Kersley et al, 2005)
	1=most unfavourable condition 5= the most favourable condition	Control – 3.45	Webster et al (2008) Psychosocial working conditions in Britain 2008 London: HSE
	How much influence do you personally have on how hard you work	A great deal 52% A fair amount 38% not much 7% none at all 2%	Brit Soc Attitudes Survey - Employment Attitudes(DTI 2004)
	How much influence do you personally have on deciding which tasks you are do to How much influence do you personally have on deciding how you are to do the task How much influence do you personally have on deciding the quality standards to which you work	A great deal 29% A fair amount 37% not much 23% none at all 11% A great deal 43% A fair amount 39% not much 13% none at all 5% A great deal 52% A fair amount 31% not much 12% none at all 6%	Skills at Work 1986-2006. Felstead, A., Gallie, D., Green, F. & Zhou, Y. (2007) Cardiff: ESRC Centre on Skills, Knowledge and Organisational Performance.
	How closely are you supervised in your job	Very closely 8% quite closely 30% not very closely 42% not at all closely 20%.	Skills at Work 1986-2006. Felstead, A., Gallie, D., Green, F. & Zhou, Y. (2007) Cardiff: ESRC Centre on Skills, Knowledge and Organisational Performance.
Role	1=most unfavourable condition 5= the most favourable condition	Role – 4.6	Webster et al (2008) Psychosocial working conditions in Britain 2008 London: HSE
Reward	How satisfied or dissatisfied are you with the following aspects of your job Pay	Very satisfied – 4%, Satisfied 31%, Neither 24%, Dissatisfied 28%, Very dissatisfied 13%	Workplace employment relations survey (Kersley et al, 2005)
	How satisfied have you been with the following – your usual take home pay Your work prospects	Greater proportion of high stress group either dissatisfied or very dissatisfied with usual take home pay. (23.5 vs 28 & 5 vs 11) Smaller proportion of high stress group satisfied with work prospects	The Scale of Occupational Stress. The Bristol stress and health at work study. 2000 Cohort study

Appendix 4. List of codes and frequency of coding within the data

Node	Documents Coded	Passages Coded
Study designs	50	103
Stress programmes	36	101
Prevalence	39	76
Employer benefits	43	75
Implementation	38	72
Job type or employer type differences	36	71
Individual attributes	34	66
Changing work characteristics	18	49
Working schedules	22	49
Associations/demand and other factors	21	43
Associations/ERI and other factors	19	42
Management	27	39
Associations/job satisfaction and other factors	22	36
Health inequalities	22	34
Associations/management and worker wellbeing	21	34
Job design/control	16	33
Associations/health and stress	20	32
Associations/health and work	19	32
Job strain and job stress definitions	12	32
Job design/demand	19	29
Gender differences	19	28
Well-being	14	28
Associations/control and health	14	20
Associations/control and strain	12	19
Organisational climate	10	18
Associations/home life and other factors	13	18
Associations/support and other factors	10	15
Effort and reward	11	15
Support	12	15
Job design/other job features	7	14
Employee participation	7	13
Associations/role and other factors	6	11
Organisational justice	4	10
Associations/Organisational justice and other factors	5	9
Associations/communication and other factors	6	8
Associations/ management and business outcomes	5	8
Associations/health and job security	6	8
Associations/participation and positive outcomes	6	8
Associations/control and organisation outcomes	6	6
Associations/health and overcommitment	6	6
Associations/depression and other factors	2	4
Associations/health and other factors	3	4
Associations/psychological flexibility & control	1	3