

**Promoting mental well-being through productive and healthy
working conditions**

**Supplementary information to Final Review
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1. Background

The review outlined a framework of elements which may influence the well-being of employees and described where potential associations have been reported. The report described how wider influences such as national policies and practices, economic and social trends, and individual characteristics can be influential. It also identified the potential significance of a range of elements linked to the workplace context, the content of the employment, and highlighted how aspects of the individual response to these may impact on well-being. The review reported that there would be considerable interplay between the elements described, in any relationship between the workplace and individual well-being.

The additional information contained in this supplementary report further analyses the types of evidence suggesting particular associations between elements. It is important to note that the evidence examined in this work was based on documents identified by an expert reference group rather than by a systematic review search strategy. It therefore makes no claim to represent a comprehensive evaluation of the evidence available, providing instead an overview of the types of evidence described in this particular document set.

2. Methods

The literature coded to each theme was classified in terms of type of evidence, using the following criteria.

Table 1. Criteria for assessing type of evidence

D	Discussion documents including books, book chapters and published papers that are not reviews or empirical work. Also, policy documents published by government or other organisations.
R	Review papers including systematic reviews and narrative reviews
M	Meta-analysis of data from more than one study
X	Cross-sectional studies
C	Cohort study
L	Longitudinal (before and after) studies and Interrupted Time Series
CBA	Longitudinal studies with a control group
CC	Case control studies
cRCT	Cluster randomised controlled trials
RCT	Randomised controlled trials

3. Findings

3.1 Work context and well-being

The documents described ten potential aspects of the employment context that may be associated with positive or adverse worker well-being. Of these, five elements seem to have received the most attention from authors as being of particular significance (see Table 2). In addition, prevalence data suggested the significance of the industry or employer type (see Final Review). In this document set two studies provided odds ratio/effect sizes for work context aspects, one in regard to organisational justice and one in regard to communication systems. See Appendix 1 for further details of these studies.

Table 2. Evidence reporting associations between work context aspects and well-being

Management style and employee well-being	D = 8 R = 3 X = 5 (USA x2 + UK x3) C = 2 (UK + USA) L = 2 (Japan + UK)
Organisational justice and employee well-being	D = 2 X = 4 (Finland x3 + USA) CBA = 1 (USA)
Work-place support and employee well-being	D = 11 R = 2 X = 1 UK M = 3 (1 Non UK European data) cRCT = 2 (USA)
Participation and employee well-being	D = 3 R = 3
Communication systems and well-being.	D = 3 R = 2 (2 UK, 1 includes some case studies) X = 1 UK M = 1

3.2 Work content and well-being

Of the elements identified, six in particular were identified as offering potential avenues for work on establishing clearer links between job content and well-being (see Table 3). In addition, prevalence data highlighted the significance of the type of occupation as having particular characteristics that could impact on well-being. In this data set four studies provided odds ratio/effect sizes in regard to work content aspects of demand/control and effort/reward (see Appendix 1 for details).

Table 3. Evidence reporting associations between work content and well-being

Work demands and employee well-being	D = 8 R = 2 X = 3 (Holland x2 USA) M = 1
Level of control and employee well-being	D = 4 R = 3 X = 2 (Finland + Holland) M = 1 C = 2 (UK + USA) CC = 1 (Sweden) cRCT = 1 (UK).
High demand together with low control and well-being	D = 8 X = 1 (Netherlands) L = 2 (UK + USA)
Effort and reward and employee well-being	D = 7 M = 3 X = 5 (UK + Holland + Netherlands + Eastern Europe + Finland) C = 2 (UK + Europe)
Role and employee well-being	D = 6 X = 1 UK
Working schedules and employee well-being	D = 9 X = 4 (UK + Europe x3)
Sense of fulfillment and employee well-being	D = 2
Job stability and employee well-being	D = 5 R = 1 C = 1 (UK)

3.3 Individual characteristics and well-being

The potential influence of individual responses to the work-place was described as an under-researched area. Limited evidence was found in relation to two elements (see Table 4).

Table 4. Evidence reporting associations between individual employee aspects and well-being

Psychological flexibility and well-being	D = 4 cRCT = 1 (UK)
Social resources and well-being.	D = 3 X = 2 (Canada + USA)

3.4 Associations between employee well-being and employer outcomes

The review described a number of potential benefits for employers associated with improved employee well-being. Table 5 outlines where particular links were made within this document set.

Table 5. Evidence reporting associations between work context and content elements and business outcomes

Workplace support and business outcomes	M = 1
Control and business outcomes	D = 2 R = 1 M = 1 C = 1 (Finland) cRCT = 1 (UK)
Management style and business outcomes	D = 3 X = 1 (USA) M = 1
Participation and business outcomes	R = 1 M = 1 X = 2 (Europe)
Effort, reward and business outcomes	R = 1 X = 2 (Holland + Netherlands) C = 1 (Europe) M = 1
Working schedules and business outcomes.	D = 2 R = 2 X = 4 (UK + Europe x3)

4. Discussion

This further exploration of the data has outlined evidence supporting associations between fifteen elements of the framework and employee well-being outcomes. Whilst indicating that these are the key areas of evidence suggested by this review, the nature of identification of the document set suggests caution is needed in drawing conclusions. It is also important to fully consider that these aspects are described as having strong inter-relationships or moderating effects, with the associations reported above drawn from studies that frequently describe complex relationships between individual elements in their findings. The nature of the individual and individual responses in moderating these work context and work content factors is also a potentially important, but under-researched area.

Appendix 1. Studies reporting effect sizes

Due to the nature of selection of the document set it is important to note that the documents included represent a partial view of a very extensive literature, with the purpose of the work to build the framework of elements rather than systematically review the available evidence. The following documents within the set provided indications of odds ratios or effect sizes, however they should not be interpreted as representing the best evidence available.

Work context – organisational justice

Elovainio et al. (2002)

Population: Employees of 7 hospitals in Finland (n= 4,076)

Intervention: None

Comparator: None

Measures: Procedural justice scale, relational justice scale, self-rated health, minor psychiatric morbidity, recorded absence.

Findings: Low relational justice was associated with a risk of minor psychiatric disorders in women (OR 1.65). Perceived low procedural justice and relational justice in both sexes were associated with self-certified and medically certified sickness absence (OR 1.2-1.9).

Conclusions: Low organisational justice is a risk to the health of employees.

Work context - communication systems

Bond et al. (2006)

Meta-analysis of the impact of effectively communicating and managing change.

2 studies evaluated the impact on self rated performance with a pooled effect size of 0.11. 2 studies evaluated impact on turnover intention with a pooled effect size of 0.28

Conclusions: small but promising evidence base suggesting that detailed and accurate communication about change can reduce turnover intention.

Work content – work demands and level of control

Bond et al. (2006)

Meta-analysis of the impact of higher levels of job control.

11 studies evaluated the impact on objective performance with a pooled effect size of 0.23. 3 studies evaluated the impact on performance ratings with a pooled effect size of 0.32. 4 studies evaluated the impact on absenteeism with a pooled effect size of -0.11. 4 studies evaluated the impact on turnover intention with a pooled effect size of -0.21.

Conclusions: Various business benefits for higher levels of employee control are supported.

Bond et al. (2008)

Population: Customer service centre employees (n=312)

Intervention: Staff input into changes in working patterns and the development of training.

Comparator: no change implemented

Measures: job control scale, acceptance and action questionnaire, general health questionnaire, intrinsic job motivation scale, absence.

Findings: The intervention group reported reduced psychological distress (ES 0.12) and reduced days absence (ES 0.27) and more perceived control (ES 0.19).

Conclusions: Increasing job control through re-organisation is effective in improving employee mental health and absence. The effects are greater in workers with greater psychological flexibility.

De Jonge et al. (2000)

Population: Employees of a risk assessment project in the Netherlands (n = 636)

Intervention: none

Comparator: none

Measures: psychological job demands questionnaire, physical demands questionnaire, job control questionnaire, occupational rewards questionnaire, employee well-being inventory.

Findings: OR of emotional exhaustion for workers with high demands and low control 10.94 compared to workers with low demands and high control. OR of negative effects 2.89-3.31 for workers with high demands and low control compared to workers with low demands and high control.

Conclusions: The risk of poor well-being in employees suffering from high job strain (high demand-low control) was 3-5 times as high as that for people with low demands and high control. High strain jobs can give rise to ill-health or poor well-being

Bond et al. (2006)

Meta-analysis of the impact of higher levels of job demand.

4 studies evaluated the impact on objective performance with a pooled effect size of -0.22. 2 studies evaluated the impact on performance ratings with a pooled effect size of -0.34. 3 studies evaluated the impact on turnover intention with a pooled effect size of 0.02.

Conclusions: Demands tends to have an effect in laboratory experiments, however difficulty in separating other confounding factors in the workplace.

Effort and reward

De Jonge et al. (2000)

Population: Employees of a risk assessment project in the Netherlands (n = 636)

Intervention: none

Comparator: none

Measures: psychological job demands questionnaire, physical demands questionnaire, job control questionnaire, occupational rewards questionnaire, employee well-being inventory.

Findings: Increased risk of psychosomatic complaints (OR 8.88) for employees with high effort and low reward versus employees with low effort and high rewards. Increased risk of emotional exhaustion (OR 15.43) for high effort and low reward versus low effort and high reward.

Conclusions: Stronger effects for effort-reward imbalance than for demand-control. Occupational rewards the strongest predictor of all outcomes except physical complaints. Important moderating factor of overcommitment. Risk of emotional exhaustion for workers who are characterised by overcommitment 21 times higher.

Van Vegchel et al. (2002)

Population: Nursing home employees in Holland (n=167)

Intervention: none

Comparator: none

Measures: questionnaire encompassing perceived effort, occupational reward, health complaints, physical health symptoms, exhaustion.

Findings: High effort and low reward was associated with increased physical symptoms (OR 8.88), psychosomatic complaints (OR 5.49), exhaustion (7.77) compared to employees reporting low effort and high reward. Strongest odds ratios for workers reporting high effort.

Conclusions: Importance of balance between effort and reward supported. Health outcomes vary according to which reward is measured.