

Women and men and their working conditions:

The importance of organizational and psychosocial factors for work-related and health-related outcomes



Knowledge Compilation

Women and men and their working conditions:
The importance of organizational and
psychosocial factors for work-related and
health-related outcomes

Magnus Sverke, Professor, Department of Psychology, Stockholm University

Helena Falkenberg, PhD, Department of Psychology, Stockholm University

Göran Kecklund, Professor, Stress Research Institute, Stockholm University

Linda Magnusson Hanson, Associate Professor, Stress Research Institute,
Stockholm University

Petra Lindfors, Professor, Department of Psychology, Stockholm University

2017-08-31

Table of contents

Summary.....	7
1. Introduction and aim	10
The commission.....	10
The aim of the report.....	11
The structure of the report	11
2. Method	13
Criteria for the literature search	13
Literature search	15
Selection criteria.....	16
3. Models and concepts	18
Organizational and psychosocial factors.....	19
Work-related and health-related outcomes	22
4. Women and men on the labour market.....	23
Horizontal segregation	23
Vertical segregation	24
Labour market segregation in relation to work-related and health-related outcomes	25
5. Definitions and prevalence of identified organizational factors.....	27
Organizational factors.....	27
Conclusions: Prevalence of organizational factors	34
6. Definitions and prevalence of identified psychosocial factors.....	35
Job demands.....	35
Conclusions: Prevalence of job demands	43
Job resources.....	43
Conclusions: Prevalence of job resources.....	48
7. Identified work-related and health-related outcomes	49
Work-related outcomes	49
Health-related outcomes	53
8. The importance of organizational factors for work-related and health-related outcomes.....	58
The importance of organizational factors	58
Conclusions: The importance of organizational factors	71

9. The importance of psychosocial factors for work-related and health-related outcomes.....	74
The importance of demands	74
Conclusions: The importance of demands.....	97
The importance of resources.....	101
Conclusions: The importance of resources	112
10. Discussion and conclusions	116
Methodological approach	116
Identified environmental factors and outcomes.....	116
The prevalence of various organizational and psychosocial factors among working women and men	116
The importance of different factors at work.....	119
Future avenues	123
Research implications	124
Methodological issues.....	125
Conclusions.....	126
References	128

Summary

This report includes a research overview commissioned by the Swedish Work Environment Authority with the aim of detailing relationships between organizational and psychosocial factors at work, and various work-related and health-related outcomes among working women and men. A second aim involved reporting on the prevalence of the different work environment factors among women and men. To fulfil the first aim, systematic research reviews, including meta-analyses and literature reviews, were retrieved from combined searches in different international and national databases. Search terms were chosen to target the broad array of organizational and psychosocial factors, and to retrieve published journal articles and systematic reports of Swedish government agencies linking such factors to various outcomes. The time period was restricted to the past ten years.

The literature search resulted in the identification of 27 different work environment factors. Drawing on existing occupational research theories and models, these factors were categorized into organizational or psychosocial factors. In total, 8 organizational factors and 19 different psychosocial factors were identified. These factors were then defined and, by making use of existing research models, the psychosocial factors were further categorized into job demands and job resources. In summary, 13 job demands and 6 job resources were identified. The organizational factors included, among other things, shift-work, employment contract types, leadership and organizational change. The psychosocial factors included demands such as job strain and job insecurity, and resources such as job control and social support.

To fulfil the second aim, prevalence data were retrieved from available statistical records for the organizational and psychosocial factors, based on nationally representative data. These statistics, which are presented separately for working women and men residing in Sweden, show that there are some differences between women and men. For instance, a larger percentage of women have part-time employment and work shifts, and report higher job demands and poorer job resources. However, men report longer working hours. Yet, for several of the organizational and psychosocial factors, the percentages of women and men seem comparable.

Coding of the associations between organizational or psychosocial factors and various outcomes reported in the systematic research

reviews and reports resulted in an identification of 23 different outcomes. These outcomes were grouped into two broad categories of work-related and health-related outcomes respectively. The work-related outcomes included three different categories, namely work-related attitudes, work-related behaviour and other work-related outcomes. The health-related outcomes were further categorized into mental and physical health outcomes. In total, this resulted in a vast number of potential associations to be investigated.

Looking into these different associations reproduced what is known from previous systematic research reviews, namely that different organizational and psychosocial factors respectively are associated with various work-related and health-related outcomes. But when it comes to women and men specifically, or occupations or sectors dominated by women or men, considerably less is known of meta-analytic or systematic literature review findings. Importantly, however, reports of gender-specific associations suggest that, overall, linkages between organizational and psychosocial factors to various outcomes hold for both women and men. Also, different meta-analyses mention that gender-specific analyses are hindered by the primary studies failing to include gender-specific statistics.

In view of prevalence statistics differing between women and men, the finding that the associations between organizational and psychosocial factors respectively and various outcomes were comparable for women and men may seem unexpected. However, the prevalence statistics are not linked to any outcomes. Also, these statistics are estimates from a single time point in a specific setting which may explain any variations. Yet, as is suggested, existing official statistics on organizational and psychosocial factors can be linked to various outcome statistics in order to detail and longitudinally monitor the interplay between factors at work and key outcomes for women and men in different occupational groups and sectors of the labour market in Sweden. In addition to providing a tool for monitoring change, such data, along with stimulating research undertakings focusing more specifically on occupational research that also targets different organizational settings, would be valuable. In particular, this would enable employers to comply with current legislation and regulatory frameworks, while also facilitating the inspection work of the Swedish Work Environment Authority and achieving a healthy and sustainable working life for the different groups of workers.

The main conclusion from this report is that organizational and psychosocial factors matter for work-related and health-related outcomes. Too high job demands and a lack of job resources are

generally associated with lower job satisfaction, increased turnover intentions as well as poorer mental and physical health. The results also show that there is well-established evidence regarding what organizational and psychosocial factors that contribute to positive work-related and health-related outcomes. These findings underscore the importance of promoting a good work environment in general, for women as well as men, for different occupations and for different sectors of the labour market.

1. Introduction and aim

This report has been produced within the Swedish Work Environment Authority's government assignment on specific preventive efforts regarding women and their work environment. The reasons for commissioning the report relates to statistics showing that ill-health is more prevalent among women than men, to women accounting for a greater share of sick-leave than men, and to more women than men leaving the labour market prematurely. The government commission aims to counteract work-related issues related to women having to leave the labour market for different reasons. Within the framework of the assignment to the Swedish Work Environment Authority, several reports have been produced. These reports have for instance focused on physical workload and health-related outcomes in working life for women and men (Lewis & Mathiassen, 2013) and have recognized that the fact that women and men work in different sectors of the labour market and in different occupations may provide an explanation for why women and men to varying degrees develop and suffer from musculoskeletal disorders. Another report from the Swedish Work Environment Authority has concluded that the linkages between the work environment, occupational health, and sick leave can only be understood when taking into account the various labour market and organizational factors that govern the working conditions of women and men (Vänje, 2013). Over the past years, other reports have been published to identify the specific aspects of the organization of work along with the psychosocial factors that may relate to different types of ill-health and associated absenteeism. For example, a report from the Swedish Research Council for Health, Working Life and Welfare (FORTE) has described how different psychosocial factors at work may relate to mental health and sickness absenteeism (Vingård, 2015).

THE COMMISSION

With this background, the Swedish Work Environment Authority commissioned a report that included asking the project group to produce a research overview describing the importance of various aspects of the work environment as related to different aspects of occupational health and well-being. The contract specified that the report was to "describe the current knowledge regarding the similarities and differences between women and men with a focus on organizational factors, such as working hours and employment conditions, and psychosocial factors in terms of perceived demands and resources." Furthermore, these factors were to be related to

various work-related and health-related outcomes to describe and study “the organizational and psychosocial factors of importance for mental health, self-reported health, work-related well-being, and sick leave for working women and men.”

THE AIM OF THE REPORT

The overall aim of this report was to add to the knowledge of the working conditions of women and men by examining the relationships between organizational factors, psychosocial work environment and work-related health and well-being from a broad perspective. In more detail, this overall objective was split into three specific aims:

- (a) to describe the prevalence of various organizational and psychosocial factors among women and men
- (b) to compile current knowledge of how different organizational and psychosocial factors relate to various work-related and health-related outcomes
- (c) to, when possible, describe how these relationships vary between women and men, between different sectors and between different occupations.

THE STRUCTURE OF THE REPORT

Chapter 2 describes the approach taken in this report with respect to the method of systematic selection of literature and criteria used to exclude and include existing publications of relevance for the topic. Chapter 3 provides a brief introduction to the scientific models and concepts that guided the work. Chapter 4 describes where on the Swedish labour market women and men work. This provides a background to why working conditions and health may differ between women and men, and between occupations and sectors dominated by women or men. The following two chapters define the various organizational factors (Chapter 5) and psychosocial factors in terms of demands and resources at work (Chapter 6) that were distinguished in the scientific articles identified through the initial literature search. These two chapters report results by, where possible, providing prevalence statistics for different organizational and psychosocial factors for women and men. Chapter 7 includes definitions of the various work-related and health-related outcomes identified in the literature search. Chapter 8 presents results regarding the importance of various organizational factors for work-related and health-related outcomes. Chapter 9 focuses on the importance of the psychosocial work environment for work-related

and health-related outcomes, separately for job demands and job resources respectively. Chapter 10 discusses the main findings and presents conclusions of the report.

This report targets a broad audience including the various actors of the work environment area, such as the Swedish Work Environment Authority, occupational health services, human resources departments and the partners on the labour market. Hopefully, laypeople with a general interest in occupational health and safety issues as well as researchers will find it useful too.

2. Method

This report summarizes the current knowledge regarding how organizational and psychosocial factors at work relate to work-related and health-related outcomes. This summary is based on systematic research reviews. These systematic research reviews are based on existing primary studies. Choosing this method provides an opportunity to summarize an extensive amount of data, and to describe several aspects of the organizational and psychosocial work environment and their impact on various work-related and health-related outcomes. When possible, variations in the linkages between work environment factors and different outcomes between women and men are included. When systematic research reviews include employees working in a specific sector (e.g., health care, education or social services) or within certain occupations (e.g., nurses or doctors), this is specifically reported. In addition to these linkages, prevalence statistics detailing various organizational and psychosocial work environment factors among women and men in Sweden are included. To compile these statistics, a combination of public statistics and reports from specific nationally representative surveys has been used.

The systematic research reviews that we make use of have compiled data, either quantitatively in what is referred to as meta-analyses, or in narrative descriptions which are typically called systematic literature reviews. In this report, the term 'systematic research review' is used to refer to both meta-analyses and systematic literature reviews. In some cases, there are references to primary studies. A primary study is a study including results from a specific study (original observations). Typically meta-analyses and literature reviews include primary studies reporting on individual studies.

CRITERIA FOR THE LITERATURE SEARCH

Given the wide scope of this report, some criteria were set to decide which research to include. One such criterion involved limiting the search to the past ten-year period (2005-2015). The search was also restricted to specific geographical areas, namely Sweden, Europe, North America, Australia and New Zealand. The literature searches were carried out using English or Swedish terms, depending on the language of the database used. Despite limiting the search to the past ten years and to specific geographic areas, the primary studies included in the review studies may be published earlier or involve other geographic regions. Another obvious criterion, which relates to the report aim, involved excluding physical aspects of the work

environment. This criterion relates to the fact that these areas have already been covered in other recently published reports which, for instance, cover physical demands at work (Lewis & Mathiassen, 2013) and physical activity (Fristedt & Fransson, 2015). Other aspects of the psychosocial work environment, which also have been covered in previous reports from the Swedish Work Environment Authority have also been excluded. This includes issues relating to threats and violence, bullying and harassment at work (de los Reyes & Yazdanpanah, 2011; Göransson et al., 2011). With this report focusing on work environment factors, various aspects that are primarily related with non-work areas, such as home and family conditions, lifestyle factors, and rest and recovery, have been omitted.

Systematic research reviews only including occupations that are nonexistant on the Swedish labour market (e.g. oil platform work) have been excluded. Also, review studies of health outcomes with explanatory factors most likely being related to other factors than the organizational and psychosocial aspects of the work (e.g., cancer, pregnancy and birth-related outcomes) have been excluded. Moreover, publications describing and evaluating different work environment programs or interventions were excluded. Similarly, systematic research reviews focusing on rehabilitation, work and return to work have been excluded. The rationale for doing so relates to the aim of the present report and its focus on the potential effects of organizational and psychosocial work environment factors on various work-related and health-related outcomes for different occupational groups.

Another criterion concerns the organizational and psychosocial work environment factors included in this report. Some work environment factors were found in a few systematic research reviews only. This means that the relationships with work or health-related outcomes reported in such a review study only include a few primary studies, which makes it difficult to draw any conclusions. Thus, such work environment factors have been omitted in this report. As for the quality of the review studies included, all the studies have been scrutinized following the regular peer-review procedure of systematic research reviews and scientific journals indexed in the well-known databases used for conducting the literature searches. Beyond this, no in-depth quality assessment of the studies and the findings they present were performed. Thus, we only report whether or not the systematic research reviews included in this report support any particular association.

With this report being based on review studies, there is a risk of several systematic research reviews investigating specific organizational and psychosocial factors in relation to specific work-related or health-related outcomes partly include the same primary studies. Considering this, we focused primarily on the most recently published systematic review study for any particular association. Where possible, we verified that any systematic research reviews, targeting the same factors, did not overlap extensively with regard to the primary studies they included.

The surveys that have been used to describe the prevalence statistics of various organizational and psychosocial work environment factors have been limited to reports or studies that reflect the working conditions of women and men on the Swedish labour market. All are based on surveys that can be considered nationally representative of women and men of working age in Sweden, and thus includes a variety of sectors and occupations of the Swedish labour market.

LITERATURE SEARCH

To cover the many aspects of the organizational and psychosocial work environment, we performed a broad search without deciding and specifying beforehand any specific work environment factors (the below text provides examples of keywords). The searches focused on organizational and psychosocial aspects of the work environment. The work-related and health-related outcomes included in this report are those which the different systematic research reviews have linked to organizational and psychosocial work environment factors.

The literature searches for this report were carried out mainly in September and October 2015. After consulting a librarian at the Stockholm University Library, a broad literature search was performed. This included the article database EDS, which combines a variety of article databases, among others MEDLINE, Scopus, ERIC and CINAHL. Then broad and more specific searches were carried out in the databases MEDLINE and PsycINFO. Searches were also carried out in the databases Cochrane and SwePub. All searches, except those in SwePub, were conducted using English search terms. In these broad searches, different keywords related to organizational and psychosocial factors were used, for example, "employment", "occupation", "occupational health" and "occupational exposure". In the more specific searches, the terms "work" and "job" were combined with, for example: "organizational change", "work*-hour*", "work*-time", "shift work*", "part-time",

full-time", "part-time", "full-time", "over-time", "day-time", "night-time", "flexible work", "work shift", "demand*", "work*load*", "time pressure*", "stress", "control", "influence", "decision latitude", "skill discretion", "decision authority", "job strain", "work strain", "social support", "support", "demand*" AND "resource*", "effort*" AND "reward*" and "justice*". In addition, the searches used the keywords "gender", "women", "men", and "sex". All terms were searched for in the publication titles, abstracts and keywords.

Additionally, the reference lists of the retrieved systematic research reviews were scrutinized. Additional searches were carried out using the author name of well-established researchers in the field. Finally, relevant reports from the Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU), which have analysed the linkages between work environment factors and specific health-related outcomes, were included.

SELECTION CRITERIA

Overall, the literature search produced about 3600 publications. After reviewing titles and abstracts, and excluding duplicates, 384 articles were downloaded in full. Of these, 286 articles were considered relevant for more careful consideration. Systematic research reviews were judged as relevant if they included organizational and psychosocial factors and related these factors to work-related and/or health-related outcomes. A total of 80 review studies and four SBU reports were included (these are marked with an asterisk in the reference list). Also included were five studies presenting prevalence statistics for organizational and psychosocial factors for women and men in Sweden (these are also marked with an asterisk in the reference list). Of the systematic research reviews, slightly more than half were meta-analyses, while slightly fewer than half were systematic literature reviews. As concerns the systematic literature reviews, about half focused on health care workers, with the majority covering the work environment of nurses as related to different outcomes. Although the systematic research reviews primarily include quantitative primary studies (based on quantifiable empirical data), qualitative primary studies (not quantifying data but detailing qualities of data) are also included. The systematic research reviews included in this report have been published in numerous different scientific journals and come from several different disciplines such as psychology, medicine, ergonomics, epidemiology, and public health. Most of the survey studies have been published in scientific journals in Europe and North America.

There were different reasons for excluding publications at different stages of the selection process. Mostly, publications were excluded since they, at closer scrutiny, did not include any of the target factors of this report. For example, this included primary studies or systematic research reviews that did not investigate the relationships between work environment factors and outcomes of relevance for the present report. In addition, publications not fulfilling the set inclusion criteria were excluded. Beyond this, we excluded publications examining the relationships between different outcomes without relating the outcomes to work environment factors. Some publications examined the relationships between different work environment factors without including any work-related or health-related outcomes. In addition to this, publications were excluded when the article was a debate paper, or merely included a theoretical discussion, or focused on developing any method. Publications focusing on personality were also excluded, along with publications including financial outcomes only, such as the cost of staff turnover among nurses.

Through the included systematic research reviews, a broad range of organizational and psychosocial factors was identified. The identified organizational factors are presented in Chapter 5, while Chapter 6 presents the identified psychosocial factors. These chapters also describe how the different factors have been grouped together. Chapter 7 specifies the large number of work-related and health-related outcomes that were included in the different systematic research reviews.

3. Models and concepts

The focus of this report is on organizational and psychosocial work environment factors, as well as work-related and health-related outcomes among women and men in working life. These concepts concern large areas that are not easy to define. In this chapter, we describe how organizational factors and psychosocial work environment are usually defined in research, and go briefly through some of the most commonly used scientific models that explain how the work environment can result in work-related and health-related outcomes. While this chapter describes what we mean by organizational factors and psychosocial work environment in a broad sense, we follow up with more concrete definitions in Chapter 5 (organizational factors) and Chapter 6 (psychosocial work environment).

Both organizational and psychosocial factors are related to the situation that individuals experience at work. The distinction between organizational and psychosocial factors is not always entirely clear. In this report organizational factors refer to conditions that characterize work and its organization. Thus, the organizational factors can be considered in part to frame the psychosocial work environment. The psychosocial work environment includes an individual's experience of the work situation, and can be divided into job demands and job resources. Both organizational and psychosocial factors can affect work-related health and well-being. Here we distinguish work-related outcomes from health-related outcomes. Work-related outcomes are, in turn, categorized into work-related attitudes (to the job and the organization), behaviour (job performance and the intention to remain in or leave a job) and other work-related outcomes (e.g., sickness presenteeism and absenteeism). Health-related outcomes are, in turn, divided into mental and physical health respectively.

Figure 3.1 shows the basic assumptions that have guided this report. The organizational factors can be considered to be surrounding conditions that partly shape the psychosocial work environment in terms of job demands and job resources (the dashed arrow). Organizational factors as well as the psychosocial work environment are assumed to be associated with work-related and health-related outcomes (the solid arrows).

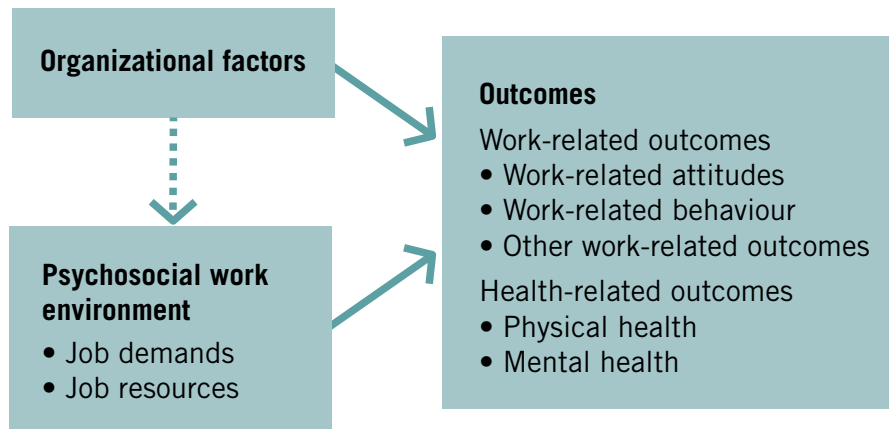


Figure 3.1. Conceptual model of organizational factors, psychosocial work environment, and work-related and health-related outcomes.

ORGANIZATIONAL AND PSYCHOSOCIAL FACTORS

Most models describing how characteristics of the work environment relate to work-related and health-related outcomes assume that there is an objective work environment which, through the continuous interplay with individuals' experiences, forms their interpretation of situations, which then influences various health and well-being outcomes (Katz & Kahn, 1978). However, individuals sharing a work environment in terms of what can be considered an "objective situation" can still vary in their individual interpretation and experience of this situation. While one individual can experience the demands of any given situation as rewarding and stimulating, another individual may experience the same demands stressful and taxing (Frankenhaeuser & Johansson, 1981). How the individual interprets a situation depends on a variety of factors – both individual (e.g., personality, preferences and previous experiences) and situational (e.g., the resources available to manage the demands). In order to scientifically investigate the characteristics of the work environment – and study how various work environment factors are associated with work-related and health-related outcomes – different methods are used. Some of these methods measure the objective work environment, for example through expert assessments of job demands. Other methods set out to capture individual experiences and interpretations of the work environment, in many cases through questionnaires.

The survey studies conducted are typically based on theoretical models describing key aspects of the work environment. Many models cover similar factors, but focus on different aspects. In several models, the demands placed on the workers in a work situation are an important component. Demands include, for instance, the extent to which workers have to do their job quickly and intensely (Karasek & Theorell, 1990). Other models make a distinction between quantitative (time restraints) and qualitative

(degree of difficulty) demands (French & Caplan, 1972) or between physical, cognitive and emotional demands (de Jonge and Dormann, 2006). Yet other models argue that the demands are to reflect the specific work situation and should not be specified in advance (Demerouti et al., 2001). One of the models uses the term “effort” instead of demands (Siegrist, 1996).

Overall, these general work environment models share the fact that they relate the demands/effort to other factors of the work environment. These other factors may, for instance, include employee control over their work situation, that is, how, where, when and with whom they work. However, this also includes employee opportunities to learn and vary their work (Karasek & Theorell, 1990). Effort has been related to rewards, such as salary, recognition and job security (Siegrist, 1996). Some models relate job demands to the resources that are needed to carry out the work and cope with job demands. Some models distinguish between physical, emotional and cognitive resources (de Jonge & Dormann, 2006) whereas other models emphasize resources that are specific to the actual job situation, organization or occupation (Demerouti et al., 2001). A general assumption of these models is that high job demands do not necessarily influence work-related and health-related outcomes if they are coupled with adequate resources or rewards.

A common assumption in these models is an inverted U-shaped association between demands/effort/pressure and performance/well-being. This well-established relationship shows that when demands are too low or too high, individual performance and well-being is poor, while moderate demands are related to optimal performance and well-being. While this relationship holds for nearly all individuals, the experience of what is perceived as reasonable demands varies between individuals. A model that makes the explicit assumption that the relationship between work environment factors and outcomes is non-linear is the so-called Vitamin model (Warr, 1987). This model addresses a variety of work environment characteristics, such as opportunities for personal control, clear goals, opportunities to make use of one's skills, social support and variation in the work. According to this model, these environmental factors contribute to improved well-being, like vitamins, but only to a certain extent. A model emphasizing the importance of resources is the so-called Conservation of Resources (COR) model. This model assumes that individuals constantly strive for maintaining and increasing their resources (Hobfoll, 1989). When this is achieved, individual health and well-being is improved. When individuals perceive that resources are threatened, this instead increases the risk of illness and poor well-being. Other models cover additional aspects of the work situation by including various areas of the work environment (James & Sells,

1981). In addition to paying attention to demands and different types of resources at work (such as work content and opportunities for control, along with social support from the work group), this model emphasizes the importance of leadership and various organizational factors.

These work environment models differentiate between different demands and resources at work. In the present report, we use these two dichotomies – job demands and job resources – to describe the psychosocial work environment. Job demands refer to the workload that the worker has to handle. Job resources refer to factors of the work environment that facilitate dealing with the job demands. These two aspects of the psychosocial work environment are described in Chapter 6.

There are also models that, in addition to the psychosocial work environment, focus on organizational factors at work. We use the term to describe the organizational terms and conditions that, on an overall level, influence and regulate employees' ability to perform their work. For instance, such organizational factors include leadership and management. This also includes staffing, employment contracts (e.g., temporary work, part-time contracts), work hours (e.g., scheduling of working hours and distance work) as well as organizational change. Chapter 5 provides definitions of the organizational factors.¹

1 Organizational factors and psychosocial work environment are concepts that can be used in many different ways, and include several different aspects. In the new provisions about organizational and social work environment (Swedish Work Environment Authority, 2015), which came into effect on 31 March 2016, there is a distinction between the organizational work environment and the social work environment. The organizational work environment is defined as terms and conditions of work, including (1) management and governance, (2) communication, (3) participation and freedom of action, (4) allocation of work tasks and (5) demands, resources and responsibilities. The social work environment is in turn defined as the terms and conditions, which include social interplay, collaboration and social support from managers and colleagues. In addition, the provisions underscore demands at work, which are described as the parts of work that require repeated effort, including factors such as cognitive, emotional and physical load, degree of difficulty, and social conditions. Resources for work are defined as those aspects of work that contribute to (1) achieving the work goals, or (2) managing work demands. The provisions mention unhealthy workload as such situations "when the demands of work more than temporarily exceed the resources" and notes that such an imbalance between demands and resources become unhealthy if it lasts for a long time and there are insufficient opportunities for rest and recovery. Finally, the provisions describe victimization as a further aspect of the organizational and social environment (Swedish Work Environment Authority, 2015, 4 §).

It should be noted that the Swedish Work Environment Authority provisions is a legal text. In this report we use a perspective where the categorization into organizational factors and psychosocial work environment is based on the frequently used research models. This means that the definitions of organizational factors used in this report partially overlap with the definitions of the new provision. Following the scientific models, we for instance classify control, feedback, job insecurity and quantitative demands as part of the psychosocial work environment, where we distinguish between two broad categories, namely, job demands and job resources.

WORK-RELATED AND HEALTH-RELATED OUTCOMES

In this report we apply a broad perspective of occupational health and well-being. This means that we focus on health-related aspects where there is reason to believe that there is a relationship to organizational factors and the psychosocial work environment. Furthermore, we set out to include indicators of good health and well-being. This resulted in the outcomes studied including various aspects of employee attitudes, satisfaction and behaviour at work. In line with this, we distinguish between two main groups of outcomes that may be affected by organizational and psychosocial factors, namely work-related outcomes and health-related outcomes.

In this report, the concept of work-related outcomes includes three categories. The first of these deals with employee attitudes towards work and towards the organization in which they work. The second relates to work-related behaviour such as the propensity to quit one's job, as well as various aspects of job performance. The third category consists of other work-related outcomes and covers sickness presenteeism, sickness absenteeism and accidents. The work-related outcomes are defined in Chapter 7.

In describing the concept of health-related outcomes, we included two main categories. The first category consists of mental health. This covers overall indicators of mental health/ill-health/well-being but also other aspects such as burnout, symptoms of depression and fatigue/sleep. The second category concerns physical health, which for instance includes physical symptoms, musculoskeletal disorders and cardiovascular disease. Health-related outcomes are also defined in Chapter 7.

4. Women and men on the labour market

Various concepts are used to describe where women and men are found on the labour market. The starting point of the discussion often relates to segregation, since there are substantial differences regarding where and in what occupations women and men work. Concepts that are commonly used are horizontal and vertical gender segregation. This chapter uses these concepts to describe the position of women and men on the labour market in Sweden. We also relate these aspects of segregation to potential consequences for various work-related and health-related outcomes.

HORIZONTAL SEGREGATION

The horizontal segregation between women and men describes the over- or under-representation of women or men in different sectors, industries, occupations, organizations or workplaces (SOU, 2004). The horizontal gender segregation seems to be decreasing in the Scandinavian countries (Ellingsæter, 2014), including Sweden (Kjellson et al., 2014; Statistics Sweden, 2014). However, in 2013, 77% of all municipal employees and 78% of all county council employees were women. Among those employed by the state, the distribution is more equal with 51% being women (2013). In 2013, women accounted for 39% and men for 61% of the professionals in the private sector (Statistics Sweden, 2014).

As for professions in Sweden, statistics from 2012 show an even distribution of women and men in three of the 30 largest occupations (an even distribution means that 40-60% are women). These three professions included chefs, doctors, and teachers within higher education (Statistics Sweden, 2014). In the professions that mostly employ women (nurses and nursing assistants), 93% were women, and in the professions mostly employing men (construction carpenters and joiners), 99% were men. This horizontal segregation means that in 2012, 14% of women and 13% of men had jobs with an equal gender distribution (Statistics Sweden, 2014). The horizontal segregation seems related to working conditions, with occupations having a fairly equal gender distribution typically being characterized by more favourable working conditions (Kjellson et al., 2014). However, the statistics show that most women and men have professions with an uneven gender distribution. This segregation may be related to variations in working conditions between women and men. Such variations may be of importance for work-related and health-related outcomes among women and men.

VERTICAL SEGREGATION

A vertical segregation between women and men means that either women or men are under-represented in higher positions. Typically, women are underrepresented (Ellingsæter, 2014). The hierarchical position of the work is associated with various organizational factors such as employment conditions, possibilities for flexible working hours and type of employment contract (LO, 2015). The hierarchical position is also linked to psychosocial work environment factors such as job content, possibilities to influence organizational activities and having job control (Siegrist & Marmot, 2004). In 2012, 64% of all managers in Sweden were men (Statistics Sweden, 2014).

The vertical segregation, which is reflected in more men than women holding managerial positions, also involves a *horizontal* segregation. This means that women and men in management positions are found in different sectors of the labour market. Women typically hold management positions within the municipalities (67%) and county councils (73% women), while men hold management positions in the private sector (about 71%). At the top level of the private sector, there is a marked vertical segregation between women and men. In 2011, the proportion of women directors of listed companies was 13% and the proportion of women among CEOs was 14% (Statistics Sweden, 2014). In 2013, 95% of the board chair positions, and 94% of CEO posts in listed companies were held by men. Within the state and in partly state-owned companies, the distribution between women and men was more even. In 2013, 37% of the chairs of boards were women, while the proportion of women among CEOs was 29% (Statistics Sweden, 2014).

If there are differences in working conditions between managers in the private and the public sector, this is probably reflected in variations in the health and well-being of women and men who hold managerial positions. Lack of time and emotional demands are examples of factors that are more prevalent among managers in the public sector as compared to managers in the private sector; this holds for both women and men (Nyberg et al., 2015). However, the conditions for leadership also vary between organizations within the same sector. For instance, when the conditions for municipal managers in home care and in technical administration are compared, the number of subordinates tends to be larger in home care than in technical administration; in addition, access to administrative support and material resources also tends to be considerably better in technical administration than in home care services (Swedish Work Environment Authority, 2014b). As long as organizations are gender segregated, these types of variations

in the prerequisites for leadership need to be considered in order to understand and change the consequences of different conditions for women and men in managerial positions.

LABOUR MARKET SEGREGATION IN RELATION TO WORK-RELATED AND HEALTH-RELATED OUTCOMES

The gender segregation on the Swedish labour market means that there may be variations in working conditions between women and men. For instance, this may relate to factors such as flexibility in working hours, opportunities to work full time or part time, or the extent to which employment contracts are temporary. This can also apply to the balance between the various job demands (e.g., physical, cognitive, emotional) and job resources that are available (e.g., social support, control at work and opportunities to learn). The content of a profession also depends on the demands and to what extent it is possible to influence work. Many jobs within education, health care, and social services, that is, human service occupations, involve considering and responding to other people's needs. Such emotional demands, which result from having direct contact with people, may be more difficult to handle as compared to demands that are primarily related to different objects. Similarly, work that includes direct contact with people may be more difficult to plan and control than is work that primarily manages objects (SOU, 2015). This is related to the difficulties of controlling people's behaviour, that is, to control students and patients, in comparison to controlling different machines or objects. These variations in working conditions that are associated with the segregated labour market mean that the importance of organizational factors and psychosocial work environment for various work-related and health-related outcomes may vary between sectors, occupations and positions.

Although the *importance* of organizational factors and psychosocial factors for work-related and health-related outcomes seem similar for women and men, variations between women and men can be related to the horizontal and vertical gender segregation in the labour market. More women than men work in human service occupations, and women are also over-represented in the public sector (especially in municipalities and county councils). This means that more women than men have to deal with the working conditions that exist in human service occupations and the public sector. The vertical segregation between women and men means that men are over-represented in higher positions, which are generally characterized by better working conditions and health (Siegrist & Marmot, 2004). However, it is yet unclear, due to limited empirical studies, whether the variations in health between women and men are related to

the gender segregation in the labour market. Because women report poorer health (Kjellson et al., 2014) and a greater increase in sickness benefit withdrawal (Angelov et al., 2011), regardless of the percentage of women in the profession, the importance of the gender-segregated labour market has been questioned. Instead, different factors outside work have been considered important for overall variations in sick leave (Hägglund & Johansson, 2016), as well as for differences between women and men (Angelov et al., 2011).

Overall, the linkages between the gender segregation on the labour market and various work-related and health-related outcomes among women and men are complex. In view of the clear gender segregation, it is, however, necessary to consider the organizational conditions and the psychosocial work environment that characterize different sectors, occupations and hierarchical levels in order to understand the variations in work-related and health-related outcomes among women and men.

5. Definitions and prevalence of identified organizational factors

This chapter describes the various organizational work environment factors that were included in the systematic research reviews identified through the literature search. The chapter thus deals with the most commonly occurring factors that were identified from the research literature that forms the basis for this report. The chapter also describes how the various organizational factors are defined in the research literature. Finally, prevalence statistics of different organizational factors are also reported on the basis of relevant and available statistics based on gainfully employed people in Sweden. Where possible, prevalence statistics are reported for women and men.²

ORGANIZATIONAL FACTORS

The terms and conditions surrounding employees' possibilities to perform their work are here referred to as organizational factors. Organizational factors include the scheduling of working hours and employment contract status, but also involve factors related to the management strategies of an organization, such as leadership, Human Resource Management practices and organizational change. Table 5.1 presents the organizational factors identified in the systematic research reviews included in the present report and also gives examples of scientific concepts to cover terms that are used in the international literature researching organizational factors. Each organizational factor is described in more detail in the text. Table 5.2 reports the prevalence statistics for different types of organizational factors among women and men in Sweden.

² For some organizational factors, there are no updated overall statistics available. For some factors, no recent statistics provide separate estimates for women and men.

Table 5.1. Definitions of organizational factors.

Organizational factor	Scientific terminology	Definition
Shift work and night work	Shift work, night work, irregular work hours	<p>Shift work means that two or more teams (shifts) follow one another at a set time each working day. Shift work may involve switching between different shifts that are at different times of day, such as morning, evening, night or weekend.</p> <p>Night work is defined according to the Working Hours Act as that at least three hours of work is performed within the time interval 22–06. Other definitions assume that at least three hours of work are located between the hours 24 and 05.</p>
Long working hours	Long working hours, overtime work	Includes work shifts longer than 10 hours, or work weeks equivalent to more than, e.g., 40, 48, or 60 hours.
Distance work	Telecommuting, telework, distance work	Work that, with the help of information technology, is carried out completely or partially outside the primary workplace. Distance work is often scheduled in the home or other places close to home. In addition to the spatial dimension, distance work may also involve changes in the scheduling of working hours.
Part-time work	Part-time work, part-time employment	Often defined as working time shorter than 35 hours/week
Temporary employment	Temporary employment, contingent work, precarious work	Employment applying to a certain limited time, as stipulated in fixed-term contracts
Leadership	Leadership, transformational leadership, leader–member exchange	The impact that the formal managers have on their employees. Different leadership models pay attention to different aspects of leadership, such as the managers' characteristics, behaviour, or their ability to inspire and encourage their employees
HRM strategies	Human resource management (HRM), reward systems, empowerment, participation-enhancing practices	A collective term for organizational measures aimed at, for example, strengthening the staff in their professional roles, promoting skills development and participation, or clarifying the organization's reward system.
Organizational change	Organizational change, restructuring, downsizing, privatization	Changes that affect a significant portion of an organization. For example, downsizing, restructuring or privatization.

Shift work and night work

Working hours regulate when employees can work – and are expected to do their job – during the 24 hours in the day. For instance, this includes when during the day work is to be done, how work shifts are organized over time, as with shift work, and the length of the work shifts (SBU, 2015). The Swedish Work Environment Survey (SWES), conducted by the Swedish Work Environment Authority in collaboration with Statistics Sweden, presents representative prevalence statistics for different types of working hours for women and men. Table 5.2 presents results from the 2014 SWES (Swedish Work Environment Authority, 2014a).

Inconvenient working hours or shift work typically refers to work done outside the time interval 07–19 on weekdays. Shift work means that two or more teams (so-called shift teams) follow one another at fixed times each working day. Shift work may involve employees working solely on fixed shifts during the evening and night, but can also involve working hours alternating between day, evening and night shifts. Often shift work is categorised on the basis of when the work is scheduled during the day, such as morning shifts (e.g. at. 07–15), evening shifts (for example, at 15–23) and night shifts (e.g. at. 23–07). Shift work can thus include night work. Night work is defined according to The Working Hours Act as at least three hours of work performed within the time interval 22–06. Sometimes, however, a narrower definition is used, which assumes that at least three hours of work are placed between the hours of 24 and 05 (Stevens et al., 2011). Furthermore, there are specific characteristics of some schedules that only exist in certain occupations. One such characteristic involves split shifts, that is, the working day consists of two periods of work with a long break (between 1.5 and 5 hours) inbetween. Split shifts are mainly found in the public sector, within health care occupations, and in public transport. Another specific shift schedule component is on-call work, which occurs, for instance, among doctors and ambulance drivers in health care, among firefighters and in some technical occupations. Such on-call work, or call duties, requires that workers spend a long time (up to 24 hours in some cases) at work, but have the right to sleep if the workload is low. If the workload is high, however, employees can be forced to work 24 hours straight (Tucker et al., 2013).

Regarding the prevalence of shift work (defined as varying working hours) among women and men, women work shifts to a greater extent than men. However, there are no differences in evening or night shifts between women and men. However, a higher proportion of men than women have a schedule that mixes day and night work, while more women have split shifts (see table 5.2).

Long working hours

In addition to shift and night work, working hours can be described based on the length of the shift. There is no single definition of what constitutes a long working shift, but in many studies, shifts that are longer than 10 hours are considered long. Long working hours may also include long working weeks. Sometimes a long work week is defined as corresponding to more than 40 or 48 hours (Åkerstedt et al., 2012) and sometimes more than 60 hours (e.g. Kivimäki et al., 2015a).

When it comes to long working hours, a higher proportion of men than women work long shifts (> 10 hours), many working days in a row (≥ 6), and on a schedule that mixes day and night work (see Table 5.2). Women often have split shifts, short daily rest (< 11 hours), and schedules, which mean that working hours are planned for shorter periods (for example, 5–10 weeks). Women also have more weekend work and less daytime work than men. But men work more overtime than women. As for flexitime, there are no variations between women and men.

Distance work

Distance work, sometimes called telecommuting or flexible work, is another way to organize the work in time and space. When it comes to scheduling time, distance work can sometimes be an opportunity for workers to decide when the work is to be done. When it comes to scheduling place, the ability to work in different locations is a central aspect of distance work. Distance work usually means that the work, in whole or in part, takes place outside the main place of work. This often means working in different places. There may be a shift between work carried out at a primary workplace and work at home or in any place that is located closer to home than the main workplace. Central to distance work is the use of information technology for communication and cooperation with other employees who telework in the same organization, or with employees who work at the main workplace.

Regarding the prevalence of distance work there are no clear statistics. This partly relates to distance work/teleworking being defined in different ways. Broad definitions of distance work can include large groups that sometimes work from home, while the narrower definitions of distance work are based on clearer restrictions, which then include fewer people. As shown in Table 5.2, it seems to be somewhat more likely to work from home one or two days per week for men (9%) than women (6%).

Table 5.2. The prevalence of organizational factors among women and men.

Organizational factor	Question in the survey	Women %	Men %
Shift and night work	Daytime work, no work on Saturday or Sunday ¹	57	62
	Works flexitime ¹	35	35
	Shift work, varying working hours ¹	25	21
	Night work, at least half of the working days ¹	5	6
Schedule characteristics for shift workers	Mixed night and day work, at least once a month ²	41	54
	On-call work, at least once a month ²	16	25
	Split duty at least once a month ²	22	14
	Self-scheduling/flexible work hours (working hours planned for a period of 1-6 weeks) ²	52	46
	Less than 11 hours of rest between shift, at least once a month ²	43	30
	Ten hour long work shift or more, at least once a month ²	52	59
	Six or more work shifts in row, at least once a month ²	24	33
Long working hours	Overtime, at least 5 hours during the reference week ¹	10	15
Distance work	Work at home, at least 1–2 days a week ¹	6	9
Part-time work	Permanent part-time employment (<35 hours/week) ¹	26	9
	Permanent full-time employment ¹	55	70
Temporary employment	Fixed-term contract ¹	14	10
Leadership	Gets instructions from the manager/supervisor regarding what should be done first (mostly not or never) ¹	39	35
	Experiences (to a high or very high degree) that the manager listens to me and pays attention to what I say ³	70	71
Organizational change	There are plans at the workplace to expand ³	21	32
	There are plans at the workplace to downsize ³	14	11
	There are plans at the workplace to close down ³	2	2
	There have been new people employed at the workplace during the past two years ³	74	72
	There have been people laid off at the workplace during the past two years ³	33	35
	A new owner/principal has taken over the workplace during the past two years ³	10	13
	The working group has been merged with another working group/unit during the past two years ³	21	20

1) Swedish Work Environment Authority (2014a), 2) Åkerstedt et al. (2012), 3) Kinsten et al. (2007).

Part-time work

Part-time work is one way to define the work in relation to time, and there are different ways to define part-time employment. Usually part-time work involves a working week that corresponds to less than 35 hours. Part-time work can be performed on different days of the week, including weekends.

The Swedish Work Environment Survey 2013 shows that a higher proportion of women (26%) than men (9%) have permanent part-time employment (see Table 5.2).

Temporary employment

Temporary employment is a broad category that includes all forms of fixed-term contracts. There are many different types of temporary employment, such as seasonal, substitute and freelance work, but specific to temporary employment contracts is that they apply for a limited time period, which is typically defined. Because this category differs from permanent employment, but is wide and diverse, the terms 'atypical employment' or 'alternative employment contracts' are sometimes used. Some definitions term this type of employment as "peripheral" in relationship to the core of employees with permanent contracts within an organization. Others stress that the temporary employments vary with any organizational fluctuations in labour needs, and call them temporary positions that are contingent upon labour demand. Further definitions recognize that temporary jobs, compared with permanent contracts, often mean poorer employment and working conditions (and therefore use the term precarious employment), but there are also categories of temporary contracts that have good terms.

In terms of prevalence, temporary employment is, as shown in Table 5.2, more common among women (14%) than among men (10%).

Leadership

There is no universally accepted definition of leadership, but most studies seem to consider leadership as a process of influence that aims at facilitating the execution of collective tasks within an organization. Generally speaking, working life research has primarily been interested in the leadership that is included in managerial tasks and thus researched the impact that formal managers have on their subordinates. Leadership research has focused on different qualities of managers and their behaviour, and how these factors are related to job satisfaction, motivation and performance. More general working life research, in turn, has investigated how leadership characteristics are related to a good

work environment and to employee health and well-being. Different leadership models focus on different aspects of leadership: some place an emphasis on leadership skills, while others pay specific attention to leadership behaviour and leadership styles, and still others emphasize leader abilities to inspire and encourage their employees (transformational leadership). Other models focus on the relationship between the leader and the led, and assume that the relationship may vary for different employees (leader-member exchange). Specifically, this means that employees with one and the same manager can have different relationships with their boss.

Regarding experiences of leadership, the levels seem relatively comparable among women and men (Table 5.2).

HRM strategies

Human Resource Management (HRM) is used here as a collective term for organizational measures to promote employees' work environment, satisfaction, commitment and well-being, and to counteract staff turnover. HRM strategies are similar to organizational leadership and management, but differ from leadership by focusing on specific strategies, systems and approaches within the organization. Such HRM strategies include well-developed reward systems and measures to promote employee opportunities for participation and influence in the organization, and strategies to strengthen staff in their professional capacity (empowerment). This category also includes obstacles at work, which can be related to less developed HRM strategies, such as the absence of good information channels and systems for employee participation at work.

Organizational change

Organizational change usually means a change affecting a substantial part of the organization. Components of an organization that can change include its structure, goals, culture, work or staffing. Organizational changes are usually planned and initiated by the top management. Organizational changes usually include changes in the organizational structure, such as increased decentralization, or greater centralization. Changes may also involve ownership, where privatization and mergers represent typical examples, or involve changes in organizational culture. Reduction of staff (downsizing) is a common form of organizational change, partly because it can be a major change in itself, partly because staff cuts are often included as a part of other types of organizational change.

As shown in Table 5.2, women and men experience different types of organizational change to a relatively comparable extent.

CONCLUSIONS: PREVALENCE OF ORGANIZATIONAL FACTORS

In summary, the results concerning the prevalence of organizational factors indicate certain differences between women and men in Sweden. Part-time work is more common among women than men. Furthermore, statistics indicate that temporary employment is slightly more common among women. It is also more common for women to work shifts. However, a slightly higher percentage of men than women are working long hours. Overall, there are no major differences between women and men as regards experiences of organizational change, frequency of distance work or leadership perceptions. Statistics for certain types of organizational factors, such as leadership and HRM strategies, are limited. This makes it difficult to draw conclusions about any differences between women and men for these factors.

6. Definitions and prevalence of identified psychosocial factors

This chapter describes different psychosocial work environment factors identified in the systematic research reviews included in this report. This means that the focus is on the most commonly occurring factors in the literature, which were identified based on the literature search that forms the basis of this report. This chapter also specifies how the various psychosocial factors are defined in the research literature. Finally, the prevalence of psychosocial factors is reported on the basis of relevant and available statistics based on employees in Sweden. Where possible, separate statistics are reported for women and men.³

The psychosocial work environment can, on an overall level, be divided into two parts, namely, job demands and job resources (see Chapter 3). Job demands include demands associated with the work, while psychosocial resources include resources needed to carry out the work. According to different models which distinguish job demands from job resources, job demands can generally be associated with reduced opportunities for a job well done, impaired health and lower well-being, while job resources are generally assumed to be associated with increased opportunities for a good performance and with better health and well-being. In line with existing scientific models, various job resources are assumed to mitigate the negative effects of high job demands (Demerouti et al., 2001; Karasek & Theorell, 1990).

JOB DEMANDS

There is a variety of psychosocial factors in the work environment, which, in some way, places demands upon the individual who works in an organization. Job demands can, for example, mean that skilled and complex tasks must be performed in a short time, that the work tasks require that employees are able to deal with groups of individuals with different needs and abilities, that there are demands to demonstrate or hold back emotions depending on the characteristics of the working situation, or that there are obstacles, conflicts and ambiguities in the work. Table 6.1 provides

³ For some factors, no recent and relevant statistics are available. In some cases, there are no separate statistics for women and men.

a brief description of the various job demands included in this report, that is, those demands that were covered by the systematic research reviews identified in the literature search. Each job demand is also described in more detail in the text. The table also provides examples of terms from the international literature to describe how each job demand may be defined. In cases where it has been possible to include the prevalence of the different types of job demands included in the report, such information is also provided (see Table 6.2).

Job strain

According to the Job Demand–Control model, which was described in Chapter 3, psychosocial demands can be described as the demands placed on individuals to work under time pressure and with a high workload. Control, according to the model, refers to the ability of individuals to influence the work and, for example, to decide how and when different tasks can be performed. Demands and control can be combined in different ways, providing different types of work situations. Job strain corresponds to a work situation characterized by high demands combined with low control. In a further development of the demand–control model, social support is included. This allows for a more complex description of different work situations, depending on whether the social support is high or low. When a job strain situation also includes low social support, that is, being isolated, the work situation that arises is usually described in terms of iso-strain.

Table 6.1. Definitions of psychosocial factors: Job demands

Job demand	Scientific terminology	Definition
Job strain	Job strain, iso-strain	A work situation that is characterized by high psychological demands combined with low control (and sometimes also with low social support).
Psychological demands	Psychological job demands, workload	High workload. Can also involve high complexity and degree of difficulty in the work.
Quantitative demands	Quantitative job demands, workload, role overload	Large amount of work which, for example, is about producing a great deal within a certain time interval, taking care of many students or patients.
Cognitive demands	Cognitive demands, qualitative demands	May involve several things needing to be done at the same time, that much attention is required and/or that the tasks are complex.
Emotional demands	Emotional demands	Is about the possibility and reasonability to express or have to hold back emotions in the different work situations.
Hindrance demands	Hindrance demands, hindering factors	Various barriers that might exist for a person to be able to perform different tasks. It may be a matter of administrative barriers.
Unclear goals	Goal unclarity, role ambiguity, lack of clear goals	A lack of clarity about the objectives to be achieved and how these objectives will be achieved.
Effort/reward imbalance	Effort/reward imbalance	The result of an imbalance between perceived effort and the reward the work efforts provide.
Job insecurity	Job insecurity, perceived job insecurity, employment uncertainty	A stressor that reflects (the subjectively perceived) risk of losing one's current job.
Psychological contract breach	Psychological contract breach	Occurs when the mutual expectations between employee and employer about the rights and obligations perceived to be involved in the employment relationship are not met.
Work stress	Job stress, work stress, high pressure	Experience of general stress, time pressure and overload in the work.
Role conflict	Role conflict	Conflicts between different roles in the job. It can be, for example, that the position entails contradictory demands from supervisors.
Interpersonal conflicts	Interpersonal conflicts, conflicts, intragroup conflicts, team conflicts	May, for example, include conflicts between employees but also involve conflicts between staff and persons in a supervisory position or management position.

As shown in Table 6.2, about 36% of women state that they experience job strain, compared with around 21% of men. Based on the Swedish Work Environment Survey (SWES), it is clear that job strain is particularly common in certain occupations, including primary school teachers, nurses, high school teachers, midwives and nursing with special competence, nursing assistants, orderlies, as well as preschool teachers and leisure time pedagogues, that is, in education, health care and social service occupations dominated by women.

Psychological demands

Psychological demands at work are usually about the psychological load at work and can include time pressure but also reflect the intensity needed for the work. Psychological demands may also include aspects related to the degree of complexity or difficulty of the work.

The statistics presented in Table 6.2 show that high psychological demands at work are common. For example, the majority of the workforce in Sweden reports that they, wholly or partly, have too much to do. High psychological demands also seem more common among women than men. Around 57% of women report, for instance, that they have too much to do, while the corresponding figure for men is 48%. A significantly higher proportion of women also experience that they have a heavy workload and that they need to work quickly all the time or almost all the time. About 25% of women report that they, to a great extent, experience a heavy workload, while the corresponding figure for men is 16%. Almost a third of the working population in Sweden reports that they are expected to work fast all the time or almost all the time. Furthermore, 35% of the women say that they need to work fast all the time or almost all the time, while the corresponding figure for men is 29%. Psychological demands can also be described in terms of mentally demanding work, which is also common among women. While 35% of men report mentally stressful work, 42% of the women indicate that work is mentally stressful.

In terms of occupations and sectors, a high workload is common among teachers, as well as among managers. Even preschool teachers and leisure time pedagogues report that they, to a great extent, have too much to do (Swedish Work Environment Authority, 2014a). Mentally stressful work is common in so-called human service occupations where work includes contact with other people (for example, teaching professions, health care and social care professions, as well as psychologists and social workers), and in work that requires theoretical expertise within biology and health care (which includes physicians). Operations or business managers are a group that, to a great extent, consider their work as mentally demanding.

Table 6.2. Prevalence of job demands among women and men.

Job demand	Question in the survey	Women %	Men %
Job strain	High tension/job strain ¹	36	21
Psychological demands	Mentally stressful work ¹	42	35
	High workload ¹	25	16
	Far too much to do ¹	57	48
	Need to work at a very high speed (almost) all of the time ²	35	29
Quantitative demands	Do you have enough time to get the job done? (%seldom or never) ²	15	12
Cognitive demands	Work requires undivided attention and concentration nearly all the time ¹	49	38
	At least half of the time is spent comprehending and solving complex problems ¹	46	54
Emotional demands	In my work I often have to enter into other people's situation ³ (% often)	54	29
	The work often puts me in emotionally disturbing situations ³ (% often)	20	7
Unclear goals	Can mostly not/never get in contact with my superior for setting of priorities ¹	31	26
Effort/reward imbalance	Considering all my efforts and achievements, I do not receive the acknowledgement I deserve (and I am distressed or very distressed by it) ³	14	13
Job insecurity	Risk of being involuntary transferred to new duties ¹	18	15
	Threat of termination or forced to work shorter hours ¹	17	15
	Fear loosing my job in the next 6 months ²	13	16
	My job security is poor and and I am distressed or very distressed by it ³	7	8
Work-related stress	So stressful that I do not have time to talk or even think of anything other than work at least half of the time. ¹	47	34
Interpersonal conflicts	Have you, during the last two years, been involved in any kind of conflict at work? ³	34	31
	Been involved in conflicts/trouble at work with superiors at some time during the last 12 months ¹	24	27
	Been involved in conflicts/trouble at work with fellow workers at some time during the last 12 months ¹	31	32
	Been involved in conflicts/trouble at work with others (patients, clients etc.) at some time during the last 12 months ¹	35	35

1) Swedish Work Environment Authority (2014a), 2) Sixth European Working Conditions Survey (2015), 3) Kinsten et al. (2007).

Quantitative demands

Psychosocial job demands can be expressed in terms of quantitative demands. Quantitative demands mainly deal with various aspects of the workload. An example includes the number of pupils or students in a group that a teacher is expected to handle or the number of patients a team of healthcare professionals have to care for during a shift.

In terms of prevalence statistics, about 13% of the workforce in Sweden report that they seldom or never have enough time for their tasks (see Table 6.2). This corresponds to 15% of women and 12% of men.

Cognitive demands

Cognitive demands are demands that involve a cognitive load. It may be a matter of complex tasks and demands on concentration and attention. It can also involve complex work tasks that require much attention simultaneously.

In terms of prevalence statistics (see Table 6.2), a higher proportion of women (49%) than men (38%) report that the work almost constantly requires attention and concentration. At the same time, a lower proportion of women (46%) than men (54%) report that at least half the time is spent on solving challenging problems.

Emotional demands

Emotional demands are usually demands requiring individuals to adapt and manage their emotions but also how emotions are expressed in different work situations. It may be a matter of having to hold back their own feelings or expressing certain emotions and holding back others. In the meeting with students and patients, this may for instance concern the need to hold back one's own emotions but at the same time communicate and provide reasonable expression of certain feelings.

Table 6.2 shows that 54% of women believe that the work demands putting themselves into the situation of others, while the corresponding figure for men is 29%. A higher proportion of women (20%) than men (9%) also report that the work often puts them in emotionally difficult situations.

Hindrance demands

Hindrance demands consist of such hindering factors that in different ways can make it more difficult for an employee to perform their duties. It may, for example be a matter of organizational barriers in the form of administrative procedures.

Unclear goals

Unclear goals represent another type of job demands that emphasize that it may be unclear to the worker what results are to be achieved at work. It can also represent a lack of clarity about how or in which way the different objectives are to be achieved.

As for statistics regarding unclear goals, the Swedish Work Environment Survey 2013 provides some data (see Table 6.2). The percentage that never or mostly never receives an answer from the manager about what work to prioritize is slightly higher among women (31%) than among men (26%).

Effort/reward imbalance

The imbalance between effort and reward refers to the demands that arise when an individual experiences that the effort made is not matched by the rewards given. Rewards may be in acknowledgement of the work done, but also be related to the actual compensation paid in the form of salary.

As for the imbalance between effort and reward, there are statistics available regarding the extent to which employees report that they do not get the recognition they feel they deserve, given the effort they put in and what they are doing in their work (see table 6.2). The proportion that reports that this, to a high or very high degree, is demanding is similar among women (14%) and men (13%).

Job insecurity

Job insecurity, sometimes called employment uncertainty, is usually defined as a subjective experience reflecting the risk of losing one's current job. Some studies also recognize that this is something involuntary, and thus define the phenomenon as employees' worry of losing their job against their will. Other studies are based on a more objective definition and for instance focus on the threat of redundancy. All these definitions reflect an uncertainty about future employment.

Regarding prevalence statistics (see Table 6.2), a slightly higher proportion of women than men experience a risk of having to transfer to another job as well as threats of dismissal or being forced to work shorter working hours. At the same time, a slightly lower proportion of women than men report risking losing their job within the next six months, and that their work is so threatened that it is perceived as stressful.

Psychological contract breach

Psychological contracts involve the implicit, mutual expectations that employees and other representatives of the organization (e.g., managers) can have of each other, beyond those included in the formal, explicit employment contract. Breach of the psychological contract involves beliefs and expectations concerning various aspects of the relationship between employer and employee being perceived as unmet. Usually this is studied from the perspective of the employee, such as the experience of performing well not being reciprocated by the employer in terms of, for example, salary increase or secure employment. Central to the concept is that it is about a perceived breach of implied beliefs and expectations regarding various rights and obligations perceived at work.

Work-related stress

Demands in the form of work-related stress usually refer to a general and overall feeling that the work is stressful and time-pressured. Work-related stress can also include overload and stressful events at work. Work-related stress is thus a description of the work as stressful in a very broad sense.

When it comes to the incidence of work-related stress, there are statistics that indicate that women (47%), to a greater extent than men (34%), report that the work is so stressful that at least half the time they do not have time to talk or think about anything other than work (see table 6.2).

Role conflict

Role conflict involves demands that arise when employees experience that their job entails contradictory or incompatible demands. This means that it can be difficult to perform some of the work without also having to abstain from fulfilling other parts of the work. Role conflict can also refer to a person having to deal with conflicting directives from management or violating their own beliefs in order to carry out the work. Role conflict makes it difficult to, on an overarching level, live up to the demands that are made.

Interpersonal conflicts

Interpersonal conflicts are psychosocial demands regarding conflicts between people in a workplace. This may involve, for example, conflicts between employees but also involve conflicts between staff and people with supervisory or managerial responsibility.

Regarding the prevalence of interpersonal conflicts (see Table 6.2), about a third of both women and men report that during the past two years they have been involved in some form of conflict in the workplace. The proportions are similar for conflict specifically with colleagues and with other people (such as patients and clients), while it is about a quarter for both women and men when it comes to conflicts with managers.

CONCLUSIONS: PREVALENCE OF JOB DEMANDS

In summary, the results regarding the prevalence of demands at work indicate several gender differences. Several different types of psychosocial job demands are more common among women than men. In particular, this applies to job strain, psychological demands, emotional demands, unclear goals and general work stress. Such job demands are more common in occupations within education, health care and social services that mostly employ women. Overall, there are, however, no clear differences between women and men in terms of quantitative demands, cognitive demands, effort/reward imbalance, job insecurity and interpersonal conflicts. However, there are no statistics for certain types of demands, such as hindrance demands, psychological contract breach and role conflict, making it difficult to draw conclusions about any variations between women and men when it comes to these factors.

JOB RESOURCES

Just as there are psychosocial factors that represent the demands at work, there are other aspects of the psychosocial work environment that include the resources available to meet the job demands. Such job resources can be a matter of opportunities for influence and control at work, access to social support from managers or colleagues, the experience of being treated in a fair manner, and a sense of meaning in the work. Table 6.3 provides a brief description of the different psychosocial job resources that are included in this report, based on the systematic research reviews identified in the literature search. The table also provides examples of how these job resources are being termed in the international literature. Each job resource is described in more detail in the text. In cases where it has been possible to report prevalence statistics of the different types of resources included in the present report, this information is also provided (see Table 6.4).

Table 6.3. Definitions of psychosocial factors: Job resources.

Job resource	Scientific terminology	Definition
Control	Control, job control, participation, autonomy	How, when and with whom the work is performed. This also includes the possibility to influence the work and the organization, as well as the degree of autonomy at work.
Social support	Social support	Social support at work can be divided into type of support (emotional and instrumental support respectively), but also according to the source of support (from manager and from colleagues respectively).
Organizational justice	Organizational justice, justice at work, fairness, perceived justice	Describes the extent to which employees perceive themselves to be treated in a just or equivalent manner. Sometimes justice reflects an overall feeling of being treated fairly, sometimes the focus is on various dimensions of justice.
Learning opportunities	Learning, job challenge, opportunities for skills use	Ability to learn new things, professional development as well as the opportunity for career development.
Rewards	Rewards	For example, pay, promotion and job security, but also things such as recognition and social status. The reward is often in relation to effort in the so-called effort/reward imbalance model.
Feedback	Feedback, feedback from managers	The extent to which workers receive direct and clear information about how well they perform at work and meet organizational goals.

Control

Job control refers to the control employees have over how and when the work is done, and also the ability to influence with whom the work is performed. In this report, the possibility to exert influence over the work or the organization, and autonomy, are included in the control concept.

Table 6.4 shows that women and men report comparable levels of opportunity to influence the order of tasks (77% for both women and men) and working methods (82% for women, 85% for men), as well as for the experience of having too little influence (26% for both women and men). The proportion of women who report that they can influence the pace of work (55%) is slightly lower than the proportion of men (62%). A slightly higher proportion of women

(30%) than men (24%) report that they never or most of the time cannot participate in decisions relating to the structuring of their own work. Among women, 61% report that they can influence the pace of work for half the working hours at most, while the corresponding proportion for men is 45%. Overall, this suggests that women generally have fewer opportunities for control and influence at work.

Statistics also show that low potential to affect the pace of work is common in occupations mostly held by women, and occupations that are regulated by contact with other people, such as patients, clients or students. Examples of such human service occupations are teachers (primary school teachers and high school teachers), midwives, nurses and assistant nurses, ward assistants and child carers, as well as occupations that require special expertise in biology or health care, for example, doctors and medical specialists (Swedish Work Environment Authority, 2014a).

Social support

Social support can be divided into emotional support, i.e., support in the form of someone listening and being emotionally engaged, and instrumental support in the form of concrete assistance or sharing of relevant information. Social support can also be categorized according to the source of support. The present report includes both social support from colleagues, which covers support from the workplace but also cooperation between different categories of staff (mainly observed in studies in health care), and social support from people in supervisory positions, which also includes support from management and support from the organization.

As shown in Table 6.4, the percentage that experience lack of support from managers and colleagues is slightly higher among men than among women. Lack of support and encouragement from colleagues is common in occupations where individuals to a high extent work alone, such as cleaners, agricultural workers, gardeners, forestry workers and fishermen. Even within executive and managerial work, there is perceived lack of support from colleagues when work tasks are difficult. Also agricultural workers, hunters, forestry workers and fishermen tend to experience, to a greater extent, a lack of support from managers, as do plant operators and tool machine operators. A lack of support from managers is also common among teachers in primary and upper secondary schools, as well as among nurses and assistant nurses (Swedish Work Environment Authority, 2014a).

Organizational justice

Organizational justice is a phenomenon that, in some studies, is considered as an overall experience of being treated in a just and fair way by the organization, while other studies distinguish between different dimensions of justice. Perhaps the most classic dimension, distributive justice, reflects whether resources are perceived as being fairly distributed. Another important dimension, procedural justice, deals with whether employees experience that different procedures are fairly designed and whether they are perceived to be followed in a fair manner. Another dimension of fairness, interactive justice, is about how employees perceive themselves to be treated by the organization and its representatives. In many studies interactive justice is further divided into the subcategories of interpersonal justice (if workers perceive themselves to be treated with respect and dignity) and informative justice (the extent to which workers feel they receive adequate information at the right time). The different dimensions of organizational justice are often referred to as organizational justice (Elovainio et al., 2010). Many studies also highlight the lack of organizational justice (injustice), usually measured by low values of organizational justice being coded as experiences of injustice. Although injustice in many studies is considered to be a job demand, or a stressor, we have chosen to deal with all the experiences of justice under the category of “job resources” and instead take into account whether high or low levels of justice are being studied.

As for prevalence statistics (see Table 6.4), the proportion of workers who fully or partially agree that all parties are represented in decision-making in the organization is equal for women and men (44%).

Table 6.4. Prevalence of job resources, among women and men.

Job resource	Question in the survey	Women %	Men %
Control	Can, mostly not/never decide on my own when tasks are to be done ¹	30	24
	Are you able to choose or change your order of tasks ²	77	77
	Are you able to choose or change your methods of work ²	82	85
	Are you able to choose or change your speed/rate of work ²	55	62
	Have too little influence (partly or fully agree) ¹	26	26
Social support	Have the possibility to set the work tempo at most half of the time ¹	61	45
	Have too little support and help from fellow workers/superiors ¹	23	21
	Have access to advice or help if working tasks feel difficult (mostly not/never) ¹	13	17
	Receive support and encouragement from superiors (mostly not/never) ¹	32	36
	Receive support and encouragement from fellow workers (mostly not/never) ¹	13	19
Organizational justice	Agree completely or partly that all sides affected by a decision are represented ³	44	44
Learning opportunities	Have opportunities to learn something new and develop in the profession every week ¹	45	51
	Have you spent days over the past 12 months in training paid or provided by the employer ²	49	47
	Have you, during the last 12 months, received training for at least five days on company time ¹	10	11
Rewards	My supervisor expresses appreciation for my work every week ¹	28	36
	Other persons (e.g. colleagues, patients, clients) express appreciation for my work every week ¹	64	63

1) Swedish Work Environment Authority (2014a), 2) Sixth European Working Conditions Survey (2015), 3) Kinsten et al. (2007).

Learning opportunities

Another type of resource that can be found in the literature involves opportunities for professional development. Learning opportunities at work reflect the extent to which employees have the opportunity to learn new knowledge and skills at work, and to develop in their professional role. In this report we have also included opportunities for career and professional development.

The Swedish Work Environment Survey 2013 shows that about a tenth of both women and men received training during paid working hours during the last year (see Table 6.4), which was more common among salaried employees than among manual workers (Swedish Work Environment Authority, 2014a).

Rewards

By rewards at work is often meant material rewards (such as pay, promotion, fringe benefits, and sometimes job security), but also intangible rewards (such as recognition, encouragement and social status). The reward is often put in relation to effort in the so-called effort/reward imbalance model (ERI; see Chapter 3).

As shown in Table 6.4, a lower proportion of women (28%) than men (36%) report that their manager shows appreciation for their work every week. As for appreciation from others (e.g. colleagues, customers and patients), the proportions are similar for women (64%) and men (63%).

Feedback

Feedback at work refers to the extent to which workers receive direct and clear information regarding how well they perform at work and whether they meet organizational goals. Studies investigating feedback often focus on the degree of feedback from the immediate superior.

CONCLUSIONS: PREVALENCE OF JOB RESOURCES

In summary, the results show several gender differences regarding the prevalence of job resources. Low control is somewhat more prevalent among women than among men, whereas low social support is somewhat more common among men. Low control is common in education, health care and social services professions, that is, in human service occupations that are characterized by contact with other people. Thus, teachers and health care and social services staff seems to be risking an unfavourable balance between job demands and job resources, which is also supported by a higher prevalence of job strain in these groups. There are no major differences between women and men in terms of perceptions of organizational justice and learning opportunities at work. There are, however, relatively limited statistics available for organizational justice and rewards at work, making it difficult to draw any conclusions about any differences between women and men for these factors. There are also no statistics on feedback at work.

7. Identified work-related and health-related outcomes

To clarify the importance of organizational factors and different aspects of the psychosocial work environment, various systematic research reviews have focused on a range of different outcomes. These outcomes can be divided into two broad categories, namely, work-related outcomes and health-related outcomes. This chapter briefly describes the different outcomes that have been identified in the various studies that form the basis of this report.

WORK-RELATED OUTCOMES

The work-related outcomes included in this report can be grouped into three broad categories. All work-related outcomes described here are those that have been included in the international and national research identified in the literature search. The first of these categories includes different attitudes to work and to the employing organization. The second category includes various work-related behaviour, where different aspects of job performance are included. The third category, described here as other work-related outcomes, includes sickness presenteeism, sickness absenteeism and accidents. Table 7.1 provides a brief description of the various work-related outcomes included in this report. The table also provides examples of terms used in the literature to describe these work-related outcomes. The various work-related outcomes are also described in the text.

Work-related attitudes

Work-related attitudes form a category of commonly occurring work-related outcomes in the systematic research reviews that aim to identify work-related consequences of organizational factors and the psychosocial work environment. This report includes three such work-related attitudes.

Job satisfaction

Job satisfaction reflects an experience of satisfaction and contentment with the current job. The construct often refers to a general, overall sense of satisfaction with the job. Other studies, however, focus on different aspects of job satisfaction and focus specifically on satisfaction with facets such as management, colleagues, work tasks, salary, and opportunities for professional development. Other studies distinguish between extrinsic and

intrinsic aspects of job satisfaction. Extrinsic factors include, for example, reward systems and opportunities for promotion, while intrinsic factors may involve job content and client relationships. Extrinsic and intrinsic factors are often combined to reflect an overall sense of job satisfaction.

Work engagement

In this report, work engagement is used as a collective term referring to work-related attitudes that reflect employees' experiences of vigor, dedication and absorption at work (work engagement) but also perceptions of the job as a central component in life (job involvement). Thus, these attitudes include a sense of energy and flow as related to the performance of the work but also indicate whether the current work occupies a central place in one's life.

Organizational commitment

Organizational commitment reflects an employee's identification with the organization and its goals and values, a sense of belonging to the organization and the feeling of being proud to belong to it. The most common aspect of organizational commitment relates to this affective dimension. Other definitions may also include a commitment to the organization based upon, among other things, moral or normative grounds.

Table 7.1. Definitions of work-related outcomes.

Work-related outcome	Scientific terminology	Definition
Work-related attitudes		
Job satisfaction	Job satisfaction, satisfaction with work, overall job satisfaction	An overall sense of satisfaction with the current work.
Work engagement	Job involvement, work engagement	Experiences of dedication and absorption while working and involvement in the job.
Organizational commitment	Organizational commitment, organizational attachment, organizational identification	Sense of identification with the organization and its values and belongingness to the organization.
Work-related behaviour		
Turnover	Turnover intention, (voluntary) turnover, staff turnover	The employees' desire to, based on their own initiative, terminate their current employment. This includes the actual termination on one's own initiative and overall measures of staff turnover.
Job performance	Job performance, task performance, in-role behaviour	Is about the way individuals perform the tasks included in the job description.
Organizational citizenship behaviour	Organizational citizenship behaviour, contextual performance, extra-role behaviour	How employees perform in extra-role behaviour, i.e., act while performing tasks other than those formally defined, such as helping others, going beyond the job description and standing up for the organization.
Counter-productive work behaviour	Counter-productive work behaviour	Negative job performance. Actions that damage an organization.
Other work-related outcomes		
Sickness presenteeism	Sickness presenteeism, sickness presence	Means that workers who really should have stayed at home because of health reasons still go to work.
Sickness absenteeism	Sickness absenteeism, sickness absence	Means that workers are not at work but absent due to reasons that somehow relate to illness.
Accidents	Accidents, injuries, safety hazards, incidents	Actual incidents and accidents that can, but need not, result in occupational injury or absence.

Work-related behaviour

Work-related behaviour refers to what employees do, that is, employee actions and behaviours. Research often focuses on the willingness of employees to remain in or leave an organization and various aspects of performance at work. When it comes to job performance, this report aligns with a traditional categorization of performance into three main categories, namely task performance, organizational citizenship behaviour (contextual performance) and counterproductive behaviour.

Turnover

One of the most studied work-related behavioural outcomes includes the willingness or intention of employees to voluntarily terminate their current employment. Sometimes this is studied in its opposite form, as the willingness to remain in the organization. A number of studies also focus on actual turnover as initiated by employees themselves (e.g., where the intention has then been put into action). Other studies focus on overall measures of staff turnover, but such measures need not reflect the voluntary turnover of employees.

Job performance

The most common measure of performance at work focuses on the way individuals perform the tasks included in the more formal job description, i.e., task performance. Such measures often include the self-reported performance of employees, but can also consist of assessments by superiors. In the present report, job performance also includes various measures of quality in the job performance.

Organizational citizenship behaviour

One aspect of job performance relates to the ways employees perform tasks other than those formally prescribed. Behaviours such as helping others, carrying out tasks that go beyond the description of the role, and standing up for the organization fall into this category, which is sometimes termed contextual performance or extra-role behaviour. Here, organizational citizenship behaviour is used as a collective term for behaviours that reflect an expression of such employee or citizenship behaviour.

Counterproductive work behaviour

Another aspect of job performance is about performance in a negative sense. This category concerns behaviour that harms, or risks harming, the organization. Such counterproductive behaviour can include extreme forms of sabotage and theft, but also includes facets such as uncivilized behaviour and withholding of information.

Other work-related outcomes

We use the term ‘other work-related outcomes’ to denote a category including three types of outcomes identified in the research. This includes sickness presenteeism, sickness absenteeism and workplace accidents. These other work-related outcomes may be related to health, but there need not be a clear association to health. However, there is always a link to an employment relation. That is the reason they are included among the work-related outcomes rather than among the health-related outcomes.

Sickness presenteeism

Sickness presenteeism refers to situations in which an employee who really should have stayed home from work because of illness still goes to work. In some studies this is defined as an expression of loyalty or organizational citizenship behaviour. In other studies, sickness presence is regarded rather as an expression of the illness, where the individual for various reasons (e.g., personal financial situation or pressured work situation) does not have the option to stay home from work.

Sickness absenteeism

Sickness absenteeism can be described as the condition that arises when an employee is not at work fulfilling their duties to the same extent as usual but, for reasons that can be considered health-related, is absent from the workplace. Sick leave may be of a shorter duration (short-term) or longer duration (long-term), and include full-time as well as part-time absence.

Accidents

In this report, accidents are used as a collective term referring to actual accidents as well as to incidents that could result in accidents. Such accidents or incidents can, but need not, result in occupational injury or absence.

HEALTH-RELATED OUTCOMES

Systematic research reviews seeking to clarify the role of different organizational and psychosocial work environment factors have focused on several different health outcomes. On a general level, the various health outcomes can be divided into two main categories. These categories are about outcomes that can be considered related to mental and physical health respectively. Table 7.2 provides a brief description of the different health outcomes included in the various studies that form the basis of this report. The table also provides examples of terms used in the international literature to clarify how the health-related outcomes included in this report have been

defined in the systematic research reviews. Each outcome is also described in the text.

Mental health

In the present report, mental health includes measures of different aspects of health and well-being, as well as indicators of poor mental health. Most of the existing research has traditionally focused on negative outcomes rather than positive outcomes such as well-being. We have divided the various aspects of mental health into seven categories. These categories reflect the outcomes that have been included in the systematic research reviews included in the present report.

Symptoms of depression

Symptoms of depression are typically self-reported and based on standardized ratings on a scale. Typically, the degree of symptoms is studied, rather than symptoms of the level associated with a significant decrease in mental functioning. Symptoms can, beyond sadness and loss of interest or reduced happiness, include anxiety, passivity, cognitive disorders and various physical symptoms. Importantly, symptoms of depression or a high score on a rating scale need not be synonymous with a diagnosis of depression.

Table 7.2. Definitions of health outcomes.

Health-related outcome	Scientific terminology	Definition
Mental health		
Symptoms of depression	Symptoms of depression, depression, anxiety	Symptoms are self-reported based on a rating scale. Symptoms include, for example, depressed mood and loss of interest/pleasure. Anxiety as well as cognitive and certain physical symptoms can also be included here.
Burnout	Burnout, emotional exhaustion, cynicism	A condition characterized by severe and persistent tiredness/lack of energy which is usually considered to be work-related. Can also be associated with, e.g., cognitive disorders and sleep problems.
Mental health problems	Mental health problems, mental distress	Various aspects of self-reported depression, anxiety, stress and anxiety, which are reported on a rating scale.
Mental health complaints	Mental health complaints	Different types of mental health problems, such as a sense of general anxiety and stress.
Well-being	Mental/psychological well-being, life satisfaction	Psychological well-being or satisfaction with life.
Perceived stress	Perceived stress, overall stress	Self-reported stress load.
Fatigue/sleep	Fatigue, sleep, sleeping problems	Self-reported fatigue and sleep problems, such as difficulty falling asleep, repeatedly waking.
Physical health		
Physical health complaints	Subjective health complaints, physical symptoms	Types of physical discomfort or symptoms.
Gastrointestinal complaints	Gastrointestinal problems	Various disorders of the gastrointestinal tract, such as nausea and stomach pain.
Metabolic disorders	Metabolic disorders, metabolic states	Includes metabolic syndrome, metabolic diseases, with, among others things, abdominal obesity and high cholesterol, high blood pressure and/or disturbed regulation of blood sugar levels in the body.
Type 2 diabetes	Type 2 diabetes, T2DB	A disease that causes too much sugar in the blood.
Cardiovascular disease	Cardiovascular disease, ischemic heart disease, stroke	Includes, for example cardiovascular disease and stroke.
Musculoskeletal disorders	Musculoskeletal disorders, musculoskeletal symptoms	Problems in different parts of the musculoskeletal system, such as back pain or problems in the neck and shoulders.

Burnout

Burnout is sometimes referred to as chronic fatigue syndrome. Burnout and fatigue syndrome partly overlap and are partly two different conditions. They are both a form of stress-related mental condition that is typically associated with work, and which causes severe and persistent fatigue that is difficult to cure with rest. Most studies in this research area focus on burnout, which is usually a self-reported condition. Sometimes a distinction is made between three dimensions of burnout, namely emotional exhaustion, depersonalization/cynicism and (lack of) personal accomplishment/professional efficacy.

Mental health problems

Mental health problems refer to various forms of self-reported worry, stress and anxiety. Self-reports are usually made on the basis of an established rating scale.

Mental health complaints

In the research that forms the basis of this report, mental health complaints are described as self-reported symptoms such as anxiety and stress. This often involves one or more symptoms that are included in a general list, where individuals have to decide for themselves whether they experience any symptoms or not. This means that mental health complaints do not have to be based upon any established rating scale.

Well-being

Well-being can, for instance, cover different aspects of psychological well-being, life satisfaction and quality of life. Unlike mental health problems and mental health complaints, well-being does not focus on dysfunction and health deficits, but on the individual resources that can promote individual functioning in different areas of life.

Perceived stress

Perceived stress includes various aspects of overall self-reported stress in life.

Fatigue/sleep

Fatigue and sleep include the self-reported symptoms that an individual experiences with regard to fatigue and sleep. Sleep problems may apply to difficulty falling asleep, repeatedly awakening during the night, disturbed sleep and not feeling rested.

Physical health

In this report, we have categorized the various aspects of physical health into eight areas that reflect the health outcomes that can be identified in the systematic research reviews included – and where organizational and psychosocial work environment factors may be considered pertinent to that particular aspect of physical health.

Physical health complaints

Physical health complaints often include various types of problems or symptoms that an individual experiences. It may be a matter of stomach ache, constipation, heartburn, headache, or heart palpitations.

Gastrointestinal complaints

Gastrointestinal complaints include various types of complaints and disorders of the stomach and bowel. It may be irritable bowel syndrome or other disorders that cause abdominal pain.

Metabolic disorders

Metabolic disorders include metabolic syndrome or other metabolic disorders. This type of physical ill-health is associated with an increased risk of cardiovascular disease and is characterized by, among other things, abdominal obesity, an unfavourable composition of blood fats, high blood pressure and/or a disturbed regulation of the body's blood sugar levels.

Type 2 diabetes

Type 2 diabetes is a disease characterized by excess sugar in the blood.

Cardiovascular disease

Cardiovascular disease includes various types of cardiovascular diseases, such as heart attack and stroke.

Musculoskeletal disorders

Musculoskeletal disorders include problems and pain from different parts of the musculoskeletal system such as the neck, shoulders, and different parts of the back, legs, arms, wrists and fingers.

8. The importance of organizational factors for work-related and health-related outcomes

This chapter describes the current knowledge regarding the importance of various organizational factors for the identified work-related and health-related outcomes. This overview of the relationships between organizational factors and outcomes is based on systematic research reviews (meta-analyses and literature reviews) published during the last decade. The chapter is organized so that, for every organizational factor, we first specify the associations that have been identified for various work-related and health-related outcomes. We then summarize the current knowledge and, in addition to overall associations, also specify what can be concluded for women and men respectively, sectors dominated by women and men respectively, as well as for different occupations. The chapter ends with a table providing an overview of all the organizational factors identified and included in this report.

THE IMPORTANCE OF ORGANIZATIONAL FACTORS

Shiftwork and nightwork

Shift and night work is a term referring to work that is typically based on the scheduling of work hours into various shifts and includes working outside traditional regular working hours (see Table 5.1).

Work-related outcomes

There are few general systematic research reviews focusing on how shiftwork and nightwork are associated with work-related attitudes and behaviour. A systematic literature review focusing specifically on nurses as an occupational group and their work environment shows a link between shiftwork and nightwork, and work-related behaviour. This association shows that nurses working evenings and nurses with night shifts have an increasing wish to resign (Chan et al., 2013). When it comes to shiftwork, there is no association to other work-related outcomes, such as sickness presenteeism (Miraglia & Johns, 2015). Shiftwork has, however, been found to be associated with a higher risk of work-related accidents (Wagstaff & Sigstad Lie, 2011).

Health-related outcomes

Regarding the importance of shift and night work for different health-related outcomes, systematic research reviews show that it is impossible to draw any conclusions about any associations regarding symptoms of depression and burnout (SBU, 2014a). Systematic research reviews also show that shiftwork is associated with an increased risk of sleep disturbances (SBU, 2013). Regarding linkages to physical health, it has been shown that shiftwork and nightwork are associated with a higher risk of type 2 diabetes and stroke (Knutsson & Kempe, 2014; SBU, 2015). Nightwork is associated with a higher risk of heart disease (SBU, 2015), but it is not possible to draw any conclusions regarding the relationship between shiftwork in general (which also includes shiftwork that includes no night shifts) and heart disease (SBU, 2015). When it comes to the relationship between shiftwork/nightwork and musculoskeletal disorder, the systematic research reviews show an association between shiftwork and back problems (SBU, 2014b). This association persists when the data are analysed separately for women, whereas a similar analysis for men only was unfeasible due to limited data (SBU, 2014b).

Summary and comparisons between different groups

Overall, there are few systematic research reviews regarding the importance of shiftwork and nightwork for various work-related outcomes. However, there are more systematic research reviews of different health-related outcomes. This probably relates to research on shiftwork and nightwork being mainly focused on work-related accidents and various health-related outcomes. In terms of health-related outcomes, it is unclear how shiftwork and nightwork are related to mental ill-health. Yet, shiftwork and nightwork are associated with physical ill-health. With shiftwork and nightwork being defined in different ways, there are some unclarities making it more difficult to carry out systematic research reviews.

Regarding the importance of shiftwork and nightwork for different groups, the systematic research reviews including shiftwork and nightwork have often focused on specific occupations. Some reviews include, for example, only industrial workers and thus mainly include men, while others include nurses and instead mostly include women. Overall, women are underrepresented in systematic research reviews on shiftwork and health-related outcomes; for example, one systematic research review on type 2 diabetes only includes one primary study focusing on women, while five include men (Knutsson & Kempe, 2014). Yet, a comprehensive American research study of nurses, which examined how shiftwork relates to

heart disease and type 2 diabetes in women, shows an elevated risk of both outcomes. This increased risk is comparable to that of men working shifts in the industry (Kawachi et al., 1995; Pan et al., 2011). The fact that there are very few studies with an equal distribution of women and men makes it difficult to draw certain conclusions whether the importance of shiftwork and nightwork for health-related outcomes is comparable for women and men. There is also a scientific discussion regarding whether the association between shiftwork and physical health is specific for certain occupations, for certain psychosocial factors such as a heavy workload (e.g., the presence of job strain), as well as demanding shift schedules (e.g., a high incidence of night shifts or long working hours in the schedule). Thus, there is a need for additional primary studies investigating whether shiftwork and nightwork is associated with such an increased risk in certain occupations. This means that, at the moment, the understanding of the importance of shiftwork and nightwork for various work-related and health-related outcomes in different groups is unclear. The conclusion is that there is a shortage of systematic research reviews investigating how shiftwork and nightwork relate to different outcomes for women and men, in relation to occupational level, as well as for different occupations in different sectors.

Long working hours

Long working hours may refer to both long working hours/shifts and long work weeks that include more working hours than what is typical for any normal full-time employment (see Table 5.1).

Work-related outcomes

Regarding the relationship between long working hours and work-related outcomes, no systematic research reviews on work-related attitudes were retrieved. As for the relationships between long working hours and work-related behaviour, there is an association between working conditions including more overtime and work-related behaviour. For nurses, this is expressed as an increasing wish to resign (Nei et al., 2015). For other work-related outcomes such as presenteeism, long working hours and overtime work have been found to be associated with a higher presenteeism. This holds for mixed groups of gainfully employed adults (Miraglia & Johns, 2015). In terms of accidents, a meta-analysis of long working hours has found that shifts longer than eight hours are associated with a higher risk of accidents (Wagstaff & Sigstad Lie, 2011).

Health-related outcomes

Regarding the relationship between long working hours and health-related outcomes, the systematic research reviews have found that there is an association between a long working week and mental ill-health in terms of symptoms of depression (SBU, 2014a). Long working weeks are associated with an increased risk of developing symptoms of depression for women. However, it is unclear whether the same association pertains to men, since there is a lack of scientific evidence (SBU, 2014a). As regards the associations between long working weeks and burnout or sleep disorders, respectively, these are unclear because of insufficient data (SBU, 2013, 2014a). However, a systematic literature review including medical staff in Europe shows that the number of working hours per month is associated with burnout (Bria et al., 2012). For physical health, there is an association between long working hours and gastrointestinal problems (Nixon et al., 2011). A meta-analysis (Kivimäki et al., 2015b) of the relationship between long working weeks and type 2 diabetes shows that long working weeks, of more than 55 hours, in combination with a low socioeconomic status, are associated with a higher risk of developing type 2 diabetes; yet, no association emerged for individuals with an intermediate or high socioeconomic status (Kivimäki et al., 2015b). However, a previously published meta-analysis, based on a smaller set of primary studies, found no association between long working weeks and type 2 diabetes (Cosgrove et al., 2012). Moreover, systematic research reviews show that long working weeks are associated with cardiovascular disease. However, the association with stroke is unclear, because of the limited number of primary studies of the topic (SBU, 2015). But, a comprehensive meta-analysis (Kivimäki et al., 2015b) of about 600 000 people, shows the opposite: long working weeks, representing more than 48 working hours per week, resulted in a greater risk of stroke, while there was no association to cardiovascular disease. Moreover, a dose-response relationship was found for stroke, with the greatest risk for individuals who worked more than 55 hours per week. As for the associations between long working weeks and musculoskeletal disorders, it is unclear whether there is a relationship (SBU, 2014b).

Summary and comparisons between different groups

Regarding the importance of long working hours, meta-analyses and systematic literature reviews have primarily examined long working weeks. As for the knowledge regarding long working weeks in relation to the various work-related and health-related outcomes, it seems that there are no systematic research reviews of primary studies focusing on work-related attitudes. Also the knowledge of work-related behaviour is limited. However, there is more knowledge regarding other work-related outcomes. This is probably related to

research on long working weeks mainly being focused on accidents and various health-related outcomes.

In terms of health-related outcomes, the importance of long working weeks for various aspects of mental ill-health remains unclear, as there are no conclusive results of the various research reviews, with their findings pointing in different directions. However, there is an association between long working weeks and physical ill-health in terms of cardiovascular disease. Yet, in this case too, results from different systematic research reviews point in different directions. These mixed findings are probably related to different ways of analysing the associations. For example, some meta-analyses consider data from published primary studies, while other comprehensive meta-analyses include data on an individual level for a large number of individuals, including not previously published data. Some variations regarding the importance of long working weeks for different health-related outcomes can also be associated with long working weeks being defined in different ways, making it difficult to compare different primary studies.

When it comes to long working weeks, and work-related and health-related outcomes in different groups, the knowledge regarding potential consequences for women and men is currently limited. This relates, in part, to the fact that different primary studies have treated women and men differently, which complicates systematic comparisons of the relationships between studies. Taken together, there is a lack of systematic research reviews investigating the importance of long working weeks for various work-related and health-related outcomes for different groups. This means that the associations are generally unclear for women and men, in relation to occupational position, and for different occupations within different sectors.

Distance work

Distance work (also known as telecommuting and telework) is an organizational factor that, among other things, indicates where paid work is carried out (see Table 5.1).

Work-related outcomes

Meta-analyses have established linkages between distance work and work-related outcomes. Specifically, there is an association between distance work and work-related attitudes such as increased job satisfaction (Gajendran & Harrison, 2007). When it comes to work-related behaviour, telecommuting has been linked to lower turnover intentions from the organization (Gajendran & Harrison, 2007). Moreover, there is an association between distance work and work-

related behaviour in terms of objective measures of job performance, which includes some types of supervisor evaluations or register data. This relationship between distance work and better job performance is stronger in groups with more women (Gajendran & Harrison, 2007). Unlike the objective measures, however, there is no association between distance work and self-rated job performance (Gajendran & Harrison, 2007). There are no systematic research reviews including other work-related outcomes.

Health-related outcomes

There are no systematic research reviews on the relationship between distance work and health-related outcomes.

Summary and comparisons between different groups

Overall, there are few published systematic research reviews from the past decade dealing with the importance of distance work for various work-related and health-related outcomes. There is a meta-analysis involving some work-related outcomes, while similar reviews focusing on health-related outcomes seem to be missing. This may be related to the difficulties of clearly delineating and defining distance work. Overall, there is a lack of knowledge about the relationship between distance work and various outcomes, particularly relating to health-related outcomes. This means that the current knowledge generally remains unclear in terms of whether the relationships between distance work and different outcomes varies between women and men, between different positions and between different occupations in different sectors.

Part-time work

Part-time employment usually refers to a working week of less than 35 hours per week (see Table 5.1).

Work-related outcomes

There is a lack of systematic research reviews focusing on the associations between part-time work and different work-related outcomes in terms of work-related attitudes. However, there is a meta-analysis investigating the relationships between full-time and part-time work as related to work-related behaviour among nurses in North America and in the Scandinavian countries. However, this meta-analysis shows no associations between full-time/part-time work and work-related behaviour, such as the wish to terminate one's employment (Nei et al., 2015). As regards the associations between part-time work and other work-related outcomes (such as sickness absenteeism and accidents), no systematic research reviews from the past ten years were retrieved.

Health-related outcomes

There are no systematic research reviews covering the associations between part-time work and different health-related outcomes.

Summary and comparisons between different groups

Overall, there are few systematic research reviews focusing on the importance of part-time work for various work-related and health-related outcomes. Although many primary studies consider employment contracts, part-time work seems to have rarely been the subject of systematic research reviews over the past decade. This may relate to difficulties in clearly delineating and defining part-time work. But, during the last decade, one meta-analysis was published. It focuses on nurses and includes some work-related outcomes, while systematic research reviews covering health-related outcomes seem to be missing. However, this meta-analysis only covers a profession (nursing) dominated by woman, thus making it impossible to draw any conclusions regarding the importance of part-time work for different outcomes specifically for women and men, for different occupational groups, in relation to the position, or for different sectors.

Temporary employment

Temporary employment means that an employment is limited in time (see Table 5.1). Such a temporary employment contract can be either short-term or long-term and involve a variety of occupations and tasks.

Work-related outcomes

There are no systematic research reviews focusing on the associations between temporary employment contracts in general and various work-related attitudes or behaviour. However, there are systematic research reviews including other work-related outcomes. When different types of employments are compared – and temporary employment is related to permanent employment – there is no support for any association to sickness presenteeism (Miraglia & Johns, 2015). Other systematic research reviews, however, show that temporary employment seems to be associated with an increased risk of sickness absenteeism and accidents, even if the relationship are somewhat unclear (Landsbergis et al., 2014).

Health-related outcomes

As regards the importance of temporary employment for health-related outcomes, associations have been found for mental health, with findings suggesting temporary employment being associated with more mental health problems and fatigue (Kim et al., 2012).

Moreover, associations have been found between temporary work and physical health – and specifically for physical health complaints and musculoskeletal disorders (Landsbergis et al., 2014).

Summary and comparisons between different groups

Overall, there is little knowledge regarding the importance of temporary employment for work-related and health-related outcomes. This relates to the fact that few systematic research reviews published during the last decade have focused on temporary work and summarized the results of various primary studies examining the possible outcomes of temporary employment. As for temporary employment in different groups, there are several primary studies of temporary employment among women and men. However, these have not studied the characteristics of the employment contract in relation to any outcomes (see, for example Campos-Serna et al., 2013; Landsbergis et al., 2014). Part of the lack of systematic research reviews may also relate to the fact that research on job insecurity deals with similar issues. However, job insecurity involves more of an experience, while temporary employment involves the actual employment contract itself. Another possible reason for the lack of systematic research review studies lies in temporary employment being a very heterogeneous category of employment contracts, which includes anything from unskilled jobs to jobs requiring a higher education and good qualifications. This means that it is difficult, in primary studies, to study such a heterogeneous category as a unit, and thus it is challenging to carry out meta-analyses and systematic literature reviews. Taken together, the current knowledge regarding the relationships between temporary work and various work-related and health-related outcomes is limited, also for women and men, for different positions and for different occupations in different sectors.

Leadership

Leadership involves the impact that any formal managers or supervisors have on their subordinates. Different leadership models emphasize and involve different aspects of leadership, such as the manager's personal attributes (traits), behaviour (leadership styles) or the abilities of leaders to inspire and encourage their employees (see Table 5.1).

Work-related outcomes

As regards the relationships between leadership and work-related attitudes, systematic research reviews have shown that a good leadership is associated with a high job satisfaction (Kuoppala et al., 2008) and an increased commitment to the organization (Bailey

et al., 2015; Dulebohn et al., 2012; Rockstuhl et al., 2012) among the subordinates. When it comes to leadership and leaders' abilities to, for example, develop and strengthen their employees, there is a positive association with the work engagement of the subordinates (Bailey et al., 2015). Leadership is also associated with work-related behaviour. Specifically, different types of leadership are associated with organizational citizenship behaviour (Dulebohn et al., 2012; Rockstuhl et al., 2012), lower turnover intention and lower actual turnover in terms of employees terminating their employments (Dulebohn et al., 2012; Rockstuhl et al., 2012). In addition, a meta-analysis that specifically investigated nurses shows, also for this specific occupation, an association between a good leadership and a lower intention to resign (Nei et al., 2015). When it comes to work-related behaviour in terms of job performance, there is an association between certain types of leadership and better performance among employees (Dulebohn et al., 2012; Rockstuhl et al., 2012), while a meta-analysis that included leadership more broadly revealed no linkage between leadership and employee job performance (Kuoppala et al., 2008). As regards other work-related outcomes, there is an association between the quality of leadership (such as planning and organizing work, encouraging participation, providing feedback) and sickness presenteeism (Miraglia & Johns, 2015). There is also an association between leadership and sickness absenteeism, which involves a good leadership being associated with a lower absenteeism (Kuoppala et al., 2008).

Leadership has also been at focus in a number of narrative literature reviews investigating specifically the importance of leadership for nurses. These systematic literature reviews show that employee-oriented leadership, that is, a high consideration of people, contributes to a higher job satisfaction (Cummings et al., 2010; Pearson et al., 2007) and a lower turnover intention (Cowden et al., 2011) among nurses. Also, systematic literature reviews examining various work environment characteristics among nurses show that such a relationship-oriented leadership is associated with an increased job satisfaction (Chan et al., 2013) and a lower intention to quit (Chan et al., 2013). Additionally, several systematic research reviews show that nurses in management positions are important for the psychosocial work environment of their subordinates (Chan et al., 2013; Pearson et al., 2007; Twigg & McCullough, 2014).

Health-related outcomes

As regards the importance of leadership for health-related outcomes, a systematic literature review study shows that good leadership is associated with mental health in terms of higher well-being (Kuoppala et al., 2008). Similarly, a comprehensive primary study of

34 European countries shows that poor leadership is related to lower mental well-being in both women and men (Schütte et al., 2014). For other mental health outcomes, and physical health outcomes, no systematic research reviews were retrieved.

Summary and comparisons between different groups

In summary, the knowledge about the importance of leadership for work-related and health-related outcomes varies. When it comes to work-related outcomes, such as work-related attitudes and work-related behaviour, the associations are more obvious, as compared to health-related outcomes where essentially no systematic research reviews have been published during the past ten years. But even if certain associations have been established between leadership and work-related outcomes, also specifically for nurses (a profession mainly including women), it is not yet possible to determine whether the importance of leadership for work-related and health-related outcomes differs between women and men. This relates to the diversity of leadership models, which focus on different aspects of leadership, such as leadership traits, behaviour or abilities to motivate employees. This makes it challenging to compare and contrast existing primary studies in systematic research reviews. Overall, there seems to exist a link between good leadership and work-related outcomes in different occupations, and specifically among nurses. While such results suggest associations that may generalize across settings, it is still difficult to draw any conclusions regarding whether the potential effects of different aspects of leadership on various work-related and health-related outcomes differ between women and men, between hierarchical levels, as well as between different occupations in different sectors.

HRM strategies

Human resource management (HRM) strategies include various types of measures aimed at strengthening employees in their roles (empowerment) as well as reward systems and ways of promoting employees' opportunities for participation and influence in the organization (see Table 5.1).

Work-related outcomes

A few systematic research reviews have examined how various HRM strategies are linked to different work-related outcomes. When it comes to work-related attitudes, one systematic literature review shows associations between workplace empowerment and job satisfaction (Cicolini et al., 2014). Similar associations are reported in a meta-analysis of nurses, where ways of strengthening employees in their professional capacity (empowerment) were

found to be associated with a higher degree of job satisfaction in this specific occupation as well (Saber, 2014). A systematic literature review shows that sufficient staffing and organizational measures to facilitate the work are associated with a higher job satisfaction among nurses (Utriainen & Kyngäs, 2009). Another literature review, focusing on staff working with individuals with intellectual disabilities, demonstrates that a supportive organizational work environment, with fewer restrictions and adequate staffing, may be linked to a higher job satisfaction (Thompson & Rose, 2011). No systematic research reviews seem to have focused on the linkages between HRM strategies and other work-related attitudes, such as organizational commitment or work engagement. When it comes to work-related behaviour, a systematic literature review focusing on nurses reports that support of the professional role (empowerment) is associated with a decreased turnover intention (Twigg & McCullough, 2014). A meta-analysis of the importance of various HRM strategies for employee turnover shows that different types of investments in HRM systems are associated with a reduced staff turnover – both overall and in terms of employees' intentions to quit their employment (Heavey et al., 2013). Examples of such investments, which showed statistically significant associations and were based on a relatively large number of primary studies, included HRM systems designed to promote employee engagement (high-commitment HR systems), investments in conflict resolution systems, ways of promoting internal mobility in the organization, ways of organizing work which promote employee participation in decision-making, investment in training, and various types of pay and reward systems. However, other HRM strategies, such as focusing on digital surveillance, are associated with a higher degree of staff turnover (Heavey et al., 2013).

Health-related outcomes

When it comes to health-related outcomes, the associations between various HRM strategies and different aspects of health have only been at focus in a few systematic research reviews. A systematic literature review, which includes associations between organizational climate and mental health in terms of burnout among staff working with individuals with intellectual disabilities, demonstrates that different ways of providing organizational support at work were associated with a lower risk of burnout (Thompson & Rose, 2011). When it comes to physical health in terms of physical problems, a meta-analysis (Nixon et al., 2011) shows that organizational factors associated with hindrances in the work are related to sleep disorders and gastrointestinal complaints in cross-sectional studies (where the exposure and outcome are measured at the same point in time) but these relationships are not statistically

significant in longitudinal studies (where the outcome has been measured at a later point in time).

Summary and comparisons between different groups

Overall, the systematic knowledge about the importance of HRM strategies for various work-related and health-related outcomes remains relatively scarce. There are various systematic research reviews showing that HRM strategies are associated with work-related attitudes and behaviour in terms of a higher degree of job satisfaction and a decreased intention to quit an employment. These relationships are found in mixed occupational groups but also specifically among nurses. However, there is a lack of systematic research reviews on work-related outcomes, such as job performance and sickness absenteeism. When it comes to health-related outcomes, different HRM strategies are associated with a lower risk of mental health problems and physical health problems. But, overall, the scientific basis regarding the importance of HRM strategies is limited. This may relate to the fact that different primary studies having investigated different types of HRM strategies. Such differences mean that it is difficult to compare systematically primary studies in systematic research reviews, particularly since various HRM strategies can vary in focus and meaning. Taken together, there is support for human resource management generally being associated with certain work-related and health-related outcomes, while there is currently no basis for any conclusions relating to whether these relationships differ between women and men, between different occupational groups or between different sectors.

Organizational change

The concept of organizational change includes different types of changes that can occur in an organization (see Table 5.1). Such changes may, for example, include downsizing, structural changes and various forms of ownership changes such as privatization and mergers.

Work-related outcomes

When it comes to relationships between organizational change and work-related outcomes, one systematic literature review, which focused specifically on the health care sector and nurses, reported an association between organizational change and lower job satisfaction among nurses (Shirey, 2006). When it comes to work-related behaviour, there are no systematic research reviews available from the past ten years. For other work-related outcomes, one meta-analysis shows that organizational change seems to be associated

with increased short-term sick leave (Duijts et al., 2007). Another systematic research review shows an increased susceptibility to sickness absenteeism and accidents among employees who remain in the organization after an organizational change involving layoffs (Landsbergis et al., 2014).

Health-related outcomes

When it comes to relationships between organizational change and health-related outcomes, a systematic research review involving civil servants and nurses revealed that organizational change is associated with mental health, specifically in terms of more mental health complaints (Bamberger et al., 2012). Such an association between organizational change and mental health complaints is also reported in other systematic research reviews (Landsbergis et al., 2014). Moreover, organizational change is also associated with both increased fatigue and perceived stress (Landsbergis et al., 2014). A literature review of burnout among employees who work with individuals with intellectual disabilities suggests that recurring organizational changes can be an important factor in explaining burnout (Thompson & Rose, 2011). Although the results are not entirely clear, there seems to be an increased risk of burnout in the initial phase of change; over time, however, levels of burnout seem to be lower. As for employees in different hierarchical positions, managers have a higher risk of burnout during the change phase itself, as compared to other employees (Thompson & Rose, 2011). In terms of linkages between organizational change and physical health, systematic research reviews show that organizational change may be related to both physical health complaints and cardiovascular disease (Landsbergis et al., 2014).

Summary and comparisons between different groups

Overall, only a few systematic research reviews focusing on the importance of organizational change for various work-related and health-related outcomes have been published during the last decade. Generally there is a lack of studies regarding the relationship between organizational change and work-related attitudes and behaviour, even if there are systematic literature reviews showing an association between organizational change and lower job satisfaction for nurses. As regards other work-related outcomes (such as sickness absenteeism) and health-related outcomes, more systematic research reviews are available, but the number is still limited. The fact that few systematic research reviews have been published over the past decade may be related to different primary studies investigating the role of different types of organizational change. This makes it difficult to compare different primary studies and identify a sufficient number of primary studies to enable any meta-analysis of

different types of organizational change. Another challenge lies in that the importance of different types of organizational change for different outcomes probably needs to be studied at different points in time. This means that there is a need for primary studies that include both longer and shorter follow-ups in order to clarify how differential effects of organizational change may evolve over time. Here it is of particular importance to differentiate clearly between any early and potentially negative effects during the implementation phase from any long-term effects, which can be both positive and negative, depending on the type of organizational change and its implementation.

Given the few systematic research reviews available, it can be concluded that the importance of organizational change in relation to different outcomes in different groups remains unclear. This may relate to changes in organizations often including a specific organization or setting where it is sometimes difficult to analyse the potential consequences for different groups. The conclusion is that it is unclear whether the associations between organizational change and various work-related and health-related outcomes differ between women and men, as well as between occupations or sectors including a majority of women or men.

CONCLUSIONS: THE IMPORTANCE OF ORGANIZATIONAL FACTORS

Table 8.1 shows the organizational factors included in this report. The table provides an overall summary of the importance of the different organizational factors for the various categories of work-related and health-related outcomes. Thus, the table only includes the overall categories of work-related attitudes, work-related behaviour and other work-related outcomes – including health-related outcomes in terms of mental and physical health respectively– without providing any details regarding the more specific outcomes of each category. The table is based on the summaries for each organizational factor. These summaries are, in turn, based on the above summaries of how each and every organizational factor is related to various work-related and health-related outcomes, where the more specific results are reported.

The table is to be read so that shadowed fields, in which the symbols “G: +”, “S +”, “♀: +” or “♂: +” are included, denote that there is some association that has been identified in this report. A + means that there is a basis to conclude that an association exists (without detailing whether this relationship is positive or negative), while 0 indicates that systematic research reviews find no association. For some fields, both + and 0 are included, with + meaning that

a relationship is demonstrated for any of the outcomes within the category, while 0 indicates that there is no association for any other outcome in the same category. G denotes that it is possible, based on the systematic research reviews included in this report, to draw conclusions on an overall level, while S refers to sector and occupation (e = professions within education; h = healthcare professions; c = social services professions) and shows that there are findings supporting a relationship for a specific type of sector or occupation. The "--" means that there are no available findings (these fields are white). This means that we identified no systematic research review, published during the last decade, which has studied the relationship between that specific organizational factor, and any of the particular variables within this category of outcomes. When both ♀: + and ♂: + are included in a field in the table, previous systematic research reviews provide support for an association in both women and men; when only one of the symbols is included, an association is reported for any specific group only.

Table 8.1 shows that there are many systematic research reviews summarizing findings concerning general associations between organizational factors and work-related and health-related outcomes respectively. As for work-related attitudes, there is knowledge about how distance work, leadership and HRM strategies are related to various work-related attitudes on a general level. For leadership, HRM strategies and organizational change, it is also evident that these factors are related to work-related attitudes also among health care staff (and, when it comes to HRM strategies, also for social services professions). Also, several organizational factors have been found to be associated to work-related behaviour in the healthcare sector. In contrast, no systematic research reviews include other work-related outcomes (sickness absenteeism, sickness presenteeism, or accidents) in health care, social services and education. None of the identified systematic research reviews examine whether the relationships between organizational factors and work-related outcomes vary between women and men.

In terms of health-related outcomes, some organizational factors have only been studied generally in relation to various outcomes, without examining specifically whether such associations vary between women and men, between occupations or between sectors. In particular, this applies to physical health outcomes. Other linkages have only been studied among certain groups or specifically among women. Such linkages include, for example, the importance of long working hours and HRM strategies for mental health outcomes. When it comes to distance work and part-time work, we have not identified any systematic research reviews

examining how these factors are associated with various health-related outcomes.

Overall, there is vast knowledge regarding general associations that make it possible to draw conclusions about the importance of organizational factors for work-related and health-related outcomes. There are also findings showing that certain associations are applicable to specific occupations. In addition, it is possible to conclude that some of these associations can be seen also in groups of women. However, it is difficult, on the basis of the available research material, to draw any conclusions regarding the specific associations for both women and men, irrespectively of occupation and sector.

Table 8.1. Summary of the importance of organizational factors for work-related and health-related outcomes.

Organizational factor	Work-related outcomes			Health-related outcomes	
	Attitudes	Behaviour	Other	Mental	Physical
Shiftwork and nightwork	--	Sh: +	G: +, 0	G: +	G: +, ♀: +, Sh: +
Long working hours	--	Sh: +	G: +	♀: +, Sh: +	G: +, 0
Distance work	G: +	G: +, 0	--	--	--
Part-time work	--	Sh: 0	--	--	--
Temporary employment	--	--	G: +, 0	G: +	G: +
Leadership	G: +; Sh: +	G: +, 0; Sh: +	G: +	G: +	--
HRM strategies	G: +; Sh, c: +	G: +; Sh: +	--	Sc: +	G: +, 0
Organizational change	Sh: +	--	G: +	G: +; Sh: +	G: +

-- = no data from systematic research reviews published during the last 10 years

G = general result (irrespectively of gender, occupation, or sector)

♀: = women

♂: = men

S = results for sector/occupation

Sh = healthcare sector/profession

Sc = social services sector/profession

Se = professions within education

0 = no association for any outcome within the category

+ = association confirmed for one or more outcomes within the category

9. The importance of psychosocial factors for work-related and health-related outcomes

With the starting point being the identified systematic research reviews, including meta-analyses and systematic literature reviews, published during the last decade, this chapter describes the current knowledge regarding the importance of various aspects of the psychosocial work environment for different outcomes. Here, as in previous chapters (see chapters 3 and 6), the psychosocial work environment is described using two broad categories, namely demands and resources. This chapter is organized so that, for each factor, we describe the existing linkages for various work-related and health-related outcomes. We then summarize the current knowledge and, in addition to overall relationships, also clarify what can be concluded for women and men respectively, sectors dominated by women and men as well as for different occupations. Each main section describes the importance of demands and resources respectively and ends with a table providing an overview of how the identified psychosocial factors are associated with different work-related and health-related outcomes.

THE IMPORTANCE OF DEMANDS

As shown in the definitions of the psychosocial demands that were identified through the systematic literature search which form the basis of this report, there are different types of work-related psychosocial demands. Often psychosocial demands are described and considered as being potentially negative and harmful. This is an overly simplified perspective, which ignores the fact that psychosocial demands, when they are aligned with individual or organizational skills and capabilities, also can bring about challenges, learning, and variation into the work. However, high psychosocial demands, exceeding individual or organizational skills and capacities, typically involve a burden. But too low or no psychosocial demands, for instance in terms of few opportunities for learning and variation in the work, can have negative consequences in terms of understimulation. Many theoretical models describing the linkages between job demands and different work-related and health-related outcomes take into account variations in the level of demands in relation to different outcomes. However, different

models vary in their ways of emphasizing different types of demands (see Chapter 6). This section describes how the identified demands are associated with work-related and health-related outcomes, such as work-related attitudes and behaviour, as well as various aspects of mental and physical health.

Job strain

Job strain typically includes a combination of high mental demands and low control (see Table 6.1).

Work-related outcomes

In terms of work-related outcomes such as work-related attitudes, there is a lack of systematic research reviews published during the past decade. For work-related behaviour, a systematic literature review focusing on nurses shows that job strain is associated with behavioural outcomes such as increasing intentions to quit one's job. Similarly, there is an association between job strain and actual resignation and staff turnover (Nei et al., 2015). With these findings being based on research focusing on nurses, these findings apply specifically to this profession. Moreover, there are associations between job strain and other work-related outcomes, such as sickness absenteeism. Here, meta-analyses show that job strain is associated with a high level of sick leave (Duijts et al., 2007), and with register-based sick-leave (Darr & Johns, 2008). More recent systematic literature reviews show that job strain is linked to absence due to illness (White et al., 2013).

Health-related outcomes

As regards health-related outcomes in terms of poor mental health, job strain is associated with increasing symptoms of depression. This is reported for both women and men (SBU, 2014a). When it comes to the relationship between job strain and burnout, the number of primary studies is limited, which means that it is not yet possible to draw any conclusions regarding this relationship (SBU, 2014a).

For such health-related outcomes that include some form of physical health complaints or physical health problems, there is a relationship between job strain and metabolic syndrome (Bergmann et al., 2014). However, this finding is based on limited data. As for the relationship between job strain and gastrointestinal disorders, there seems to be no association (Heikkilä et al., 2014). For diabetes, some systematic research reviews show no association between job strain and type 2 diabetes (Cosgrove et al., 2012). However, other, more recent studies, show that job strain is linked to type 2 diabetes. This association between job strain and type 2 diabetes is found among both women and men (Nyberg et al., 2014).

When it comes to cardiovascular problems, there is an association between job strain and cardiovascular disease. This association is considered to hold for both women and men with similar working conditions (SBU, 2015). For stroke, the number of primary studies is too small for allowing any conclusions (SBU, 2015). Some larger studies including many participants however suggest that job strain is associated with stroke (Fransson et al., 2015).

Job strain has been studied in relation to various musculoskeletal disorders and associations between job strain and back pain have been identified (Lang et al., 2012; SBU, 2014b). Separate analyses of women and men show an association between job strain and back pain for women, whereas the number of primary studies including men is considered too small thus making it unclear whether any association exists for men (SBU, 2014b). Job strain is also associated with neck pain (Lang et al., 2012; SBU, 2014b). When it comes to shoulder pain, some systematic research reviews show an association. This may be related to neck and shoulder pain being studied simultaneously (Lang et al., 2012). Other systematic research reviews, which focus clearly and exclusively on shoulder pain conclude that the association between job strain and shoulder pain is unclear. Such unclarities probably relate to the limited number of primary studies (SBU, 2014b). When it comes to job strain and pain in the elbows, arms, wrists and hands, the number of primary studies is small, which makes it difficult to draw any conclusions (SBU, 2014b). Systematic research reviews focusing on women in healthcare occupations, however, show an association between job strain and pain in the neck, lower back and knees (Bernal et al., 2015).

A particular type of the job strain situation not only involves high demands and low control, but also low social support. Such a work situation, often referred to as iso-strain, is associated with cardiovascular disease. For stroke, the number of primary studies is considered too small, thus making it difficult to draw any conclusions (SBU, 2015).

Summary and comparisons between different groups

Taken together, systematic research reviews investigating the importance of job strain for work-related outcomes in terms of work-related attitudes are lacking. However, there is an association between job strain and work-related behaviour specifically for nurses. Also, job strain is linked to increased absenteeism.

In addition, job strain is associated with poor mental health in terms of symptoms of depression and burnout. When it comes to physical

health, most systematic research reviews include cardiovascular disease and musculoskeletal disorders. Job strain is associated with both cardiovascular disease and musculoskeletal disorders, although the results vary between cardiovascular disease and musculoskeletal disorders in different parts of the body. In addition to the association between job strain and work-related behaviour, absenteeism and health-related outcomes in terms of symptoms of depression, fatigue, cardiovascular disease, musculoskeletal disorders and sickness absenteeism, systematic research reviews including other health-related outcomes and well-being are lacking.

Most systematic research reviews describe overall findings only. These overall findings are based on primary studies of different groups, including women and men in different occupations, and thus include individuals who work in various sectors of the labour market. However, few studies provide information on specific outcomes for different groups. With the exception of cardiovascular disease and symptoms of depression, where the relationships hold for both women and men, it is not possible to clarify whether the relationships for other health-related outcomes vary between women and men or whether the relationships are related to factors associated with the position, occupation or sector.

Psychological demands

Psychological demands at work relate specifically to the mental load at work and can include time pressure (see Table 6.1).

Work-related outcomes

Systematic research reviews show linkages between psychological demands and different types of work-related attitudes. More specifically, psychological demands are associated with lower job satisfaction and lower affective commitment to the organization, while there is no association with work engagement (Bowling et al., 2015). When it comes to psychological demands and work-related behaviour, systematic research reviews including various occupations also show that psychological demands generally are linked to an increased intention to quit (Bowling et al., 2015). Regarding specific occupational groups, a meta-analysis focusing on social workers shows no statistically significant association between psychological demands and turnover intention (Kim & Kao, 2014). These variations between systematic research reviews may be related to different occupational groups from different sectors often being merged; however, findings of specific occupational groups may stand out. But the differences may also relate to meta-analyses of specific occupations often including fewer individuals from fewer

studies. As for other work-related outcomes, high psychological demands are associated with increased presenteeism (Miraglia & Johns, 2015). Also, high psychological demands are associated with an overall increased absence from work (Bowling et al., 2015). Moreover, psychological demands are associated with sickness absenteeism (Duijts et al., 2007).

Health-related outcomes

When it comes to the linkages between psychological demands and poor mental health, psychological demands are associated with symptoms of depression (Bowling et al., 2015; SBU, 2014a). This relationship holds for both women and men (SBU, 2014a). In addition, psychological demands have been linked to burnout and then to the dimensions of emotional exhaustion and depersonalization. For burnout, it is not possible to draw any conclusions regarding whether the relationships are specific to women and men (SBU, 2014a). Meta-analyses focusing on burnout show that psychological demands are associated with emotional exhaustion, cynicism (Alarcon, 2011; Bowling et al., 2015; Lee et al., 2013) and depersonalisation (Bowling et al., 2015; Lee et al., 2013). These general and overall linkages are also found in systematic research reviews of specific occupations, including physicians (Lee et al., 2013). Besides being linked to symptoms of depression and burnout, psychological demands are associated with mental health problems (Bowling et al., 2015; Nieuwenhuijsen et al., 2010), including fatigue (Bowling et al., 2015). Moreover, psychological demands are associated with mental health in terms of lower well-being. However, there is no relationship to life satisfaction meaning that this finding only holds for psychological well-being (Bowling et al., 2015).

Systematic research reviews also include the linkages between psychological demands and various aspects of physical health. The results show that psychological demands are associated with various physical health complaints (Bowling et al., 2015; Nixon et al., 2011) including gastrointestinal problems (Nixon et al., 2011). When it comes to the link between psychological demands and various diseases, there is no established association to type 2 diabetes (Cosgrove et al., 2012). For different types of cardiovascular disease, the importance of psychological demands remains unclear: for both heart disease and stroke the number of primary studies is considered too few for making it possible to draw any conclusions (SBU, 2015).

As regards musculoskeletal disorders, some systematic research reviews show associations between high psychological demands

at work and back problems (Lang et al., 2012). However, other systematic research reviews conclude that the number of primary studies is too low, thus not allowing any definitive conclusions (SBU, 2014b). High psychological demands, however, are associated with neck pain (Lang et al., 2012; McLean et al., 2010; SBU, 2014b). When it comes to pain in the shoulders and elbows, forearms, wrists and hands, some results show that high psychological demands at work are associated with an increased incidence of pain in the neck, shoulders and upper extremities (Lang et al., 2012). Yet, other systematic research reviews note that there are too few primary studies, thus making it difficult to draw any conclusions regarding pain in the shoulders and upper extremities, including elbows, forearms, wrists and hands (SBU, 2014b). This variation in findings from different systematic research reviews may be related to differences in inclusion criteria of primary studies. Such systematic research reviews concluding that primary studies are lacking typically have stricter criteria regarding scientific quality and mainly include longitudinal studies.

Summary and comparisons between different groups

In summary, the importance of psychological demands for various work-related and health-related outcomes varies. This is associated with different systematic research reviews showing different results. When it comes to work-related attitudes the results vary for different work-attitudes. The same applies to work-related behaviour, where the overall results suggest an association, while the results for specific occupations show no association. Psychological demands are also linked to other work-related outcomes such as sickness absenteeism.

Psychological demands are associated with poor mental health. It is also, but only for symptoms of depression, possible to conclude that the relationships are similar for women and men. Moreover, findings suggest that psychological demands are associated with lower well-being. When it comes to physical health, psychological demands seem to be associated with more complaints. While there are no linkages between psychological demands and type 2 diabetes, the relationship to cardiovascular disease remains unclear. As for the relationships between psychological demands and musculoskeletal disorders, findings vary between different systematic research reviews: while some point to an association, others conclude that there are too few primary studies, thus not allowing any conclusions.

Similarly to job strain, the majority of the existing systematic research reviews of psychological demands report their findings

on an overall level. This means that the overall results include primary studies of women and men of different occupations in different sectors. But findings for these groups are not reported separately. This means that for most of the various work-related and health-related outcomes, it is not possible to clarify whether the relationships for psychological demands varies between women and men. Similarly, it is not possible to clarify whether the associations are related to position, occupation or sector.

Quantitative demands

One aspect of psychosocial demands at work includes quantitative demands, which, for instance, include the number of patients that healthcare workers can devote time to, or the number of students per teacher (see Table 6.1).

Work-related outcomes

When it comes to the relationship between quantitative demands and work-related attitudes, there seem to exist no systematic research reviews that have been published during the past ten years. As for the importance for work-related behaviour, one systematic research review shows no association between quantitative demands and organizational citizenship behaviour (Eatough et al., 2011). A recent meta-analysis including a specific occupation, namely social workers, shows no statistically significant relationship between quantitative demands (expressed as the number of cases that a social worker has to handle) and work-related behaviour in terms of organizational citizenship behaviour (Kim & Kao, 2014). These findings are based exclusively on two primary studies performed in the United States. Since these results include few primary studies from a specific context, the scientific support remains limited. However, another meta-analysis shows an association between quantitative demands and other work-related outcomes in terms of increased presenteeism (Miraglia & Johns, 2015). For other work-related outcomes, such as absenteeism, there is a lack of systematic research reviews published in the past decade.

Health-related outcomes

There are no systematic research reviews of the relationships between quantitative demands and poor mental health in terms of symptoms of depression. However, there are linkages between quantitative demands and burnout in terms of emotional exhaustion (SBU, 2014a), but it is unclear whether this association holds for both women and men. Other systematic research reviews focusing specifically on cross-sectional studies of university teachers also show that quantitative demands in terms of large classes and

many students, are linked to exhaustion terms of burnout (Watts & Robertson, 2011). Quantitative demands are also associated with low psychological well-being among both women and men. For the relationship to well-being, no variations between occupations have been observed (Schütte et al., 2014).

For physical health, systematic research reviews conclude that there are no primary studies. This allows no conclusions regarding the linkages between quantitative demands and musculoskeletal disorders (SBU, 2014b). The same holds for the relationship between quantitative demands and cardiovascular disease (SBU, 2015).

Summary and comparisons between different groups

In summary, there are no systematic research reviews detailing how quantitative demands are associated with work-related and health-related outcomes. When it comes to work-related attitudes, there seem to exist no systematic research review that have been published in the past decade. In contrast, systematic research reviews show that there seems to be no association between quantitative demands and work-related behaviour. However, there is an association between quantitative demands and other work-related outcomes, such as presenteeism.

As regards health-related outcomes, quantitative demands are associated with poor mental health in terms of burnout (including various dimensions of burnout), but it is not possible to draw any conclusions regarding linkages to symptoms of depression. For physical health complaints and various diseases, there are no systematic research reviews published in the last decade. The reason for there only being relatively few systematic review studies focusing on quantitative demands may partly relate to difficulties in distinguishing clearly between quantitative demands and psychological demands.

Few systematic research reviews show specific outcomes for women and men with different occupations working in different sectors. Thus, in most cases, it is impossible to determine whether any relationship varies between women and men or between positions, occupations or sectors with different gender compositions.

Cognitive demands

Cognitive demands involve an aspect of demands, which are associated with a cognitive load of having to deal with complex demands or demands requiring attention and focus (see Table 6.1).

Work-related outcomes

Cognitive demands have been linked to work-related attitudes in terms of job satisfaction and work engagement. More specifically, high cognitive demands are associated with lower job satisfaction and lower work engagement. The association with lower work engagement seems to apply to certain industries, such as manufacturing (Nahrgang et al., 2010). As for work-related behaviour, no systematic research review seems to exist. For other work-related outcomes, there is an association between cognitive demands and accidents. This association is considered weak, but, relatively speaking, stronger for health care workers (Nahrgang et al., 2010).

Health-related outcomes

Cognitive demands are related to poor mental health in terms of burnout. This association between high cognitive demands and an increased risk of burnout is found specifically among health care workers (Nahrgang et al., 2010). However, findings from other systematic research reviews suggest that there are no primary studies regarding cognitive demands and various health-related outcomes, thus making it difficult to draw any conclusions.

Summary and comparisons between different groups

In summary, the importance of cognitive demands for work-related and health-related outcomes is unclear. This seems mainly related to the limited number of systematic research reviews published during the past ten years. But it can also be related to difficulties distinguishing between cognitive demands and other demands, such as psychological demands. Some overlapping between these two concepts seems very likely, meaning that some systematic research reviews regarding psychological demands to some extent also include cognitive demands. Although no systematic reviews suggest that cognitive demands are associated with negative health-related outcomes among employees, it is difficult to draw any definitive conclusions for different occupations. The same holds for women and men, for different occupations, and sectors.

Emotional demands

Emotional demands refer to demands at work that include emotional aspects, for instance requiring that individuals need to hold back their own immediate emotional responses (see Table 6.1).

Work-related outcomes

Emotional demands are linked to work-related attitudes, such as job satisfaction and organizational commitment. Meta-analyses

that include employees in service, education, health care and social services show that emotional demands are related to lower job satisfaction (Hülshager & Schewe, 2011). When the emotional demands are categorized into different aspects, surface emotional demands and demands involving emotional dissonance are related to lower job satisfaction. For deep emotional demands, there are no statistically significant associations to job satisfaction among employees in service, education, health care and social services (Hülshager & Schewe, 2011). As for the associations between different aspects of emotional demands and organizational commitment among employees in service, education, health care and social services, surface emotional demands are associated with lower organizational commitment. Similarly demands involving emotional dissonance are related to lower organizational commitment. However, more deep emotional demands seem to be related to greater organizational commitment among employees in service, education, health care and social care (Hülshager & Schewe, 2011).

When it comes to emotional demands and work-related behaviour, a meta-analysis of employees in service, education, health care and social services shows that linkages vary between different types of performance. There is no link between deep emotional demands and performance at work. However, demands involving emotional dissonance are associated with poorer performance at work. Moreover, deep emotional demands are associated with emotional performance (Hülshager & Schewe, 2011). As for work-related behaviour in terms of customer satisfaction, deep demands for expressing emotions among employees in service, education, health care and social care are associated with increased customer satisfaction (Hülshager & Schewe, 2011). As for other work-related outcomes, such as sickness absenteeism, there is a lack of systematic research reviews.

Health-related outcomes

The relationships between emotional demands and poor mental health in terms of symptoms of depression are unclear. There is an insufficient number of primary studies, which makes it difficult to draw any conclusions (SBU, 2014a). Emotional demands are related to burnout in terms of emotional exhaustion. However, it is unclear how this applies to women and men in different occupations and sectors, because such detailed findings are usually not included in the primary studies included in the systematic research reviews (SBU, 2014a). However, other systematic reviews of burnout and its various dimensions, show that emotional demands are associated with, among other things, emotional exhaustion and

depersonalization/cynicism among employees in service, education, health care and social care. These findings apply to demands for surface emotions, demands for more deep emotions and demands involving emotional dissonance. But, there is no association between more deep emotional demands and depersonalization/cynicism (Hülshager & Schewe, 2011). A systematic literature review focusing specifically on healthcare staff in Europe shows that only a few studies have examined the importance of emotional demands for burnout in this sector. Existing primary studies seem, however, to show that emotional demands increase the risk of burnout (Bria et al., 2012). Moreover, high emotional demands are associated with a higher risk of burnout among nurses and doctors in palliative care (Pereira et al., 2011), but also among nurses who have been exposed to traumatic events (Adriaenssens et al., 2015). As for employees in service, education, health care and social care, demands involving surface emotions as well as emotional dissonance are linked to mental health problems. But there is no corresponding association for deep emotional demands (Hülshager & Schewe, 2011). High emotional demands are also linked to poor well-being among both women and men (Schütte et al., 2014).

When it comes to different aspects of physical health, meta-analyses of emotional demands among employees in service, education, health care and social care show that there is a relationship between surface demands and health complaints. The same associations to health complaints also exist for deep demands (Hülshager & Schewe, 2011). For other aspects of physical health, such as cardiovascular disease and musculoskeletal disorders, there is a lack of systematic research reviews, making it impossible to draw any conclusions.

Summary and comparisons between different groups

In summary, the importance of emotional demands for work-related and health related outcomes remains unclear. When it comes to work-related outcomes, emotional demands are associated with work-related attitudes and work-related behaviour. The characteristics of these relationships vary between different types of emotional demands. However, there are still no systematic research reviews investigating the many different aspects of work-related attitudes, work-related behaviour and other work-related outcomes. For health-related outcomes, emotional demands are associated with mental health in terms of both burnout and lower well-being. It is not possible to draw any conclusions regarding the relationships between emotional demands and other health-related outcomes, which may be due to the lack of systematic research reviews published during the past ten years. However, this may also be a result of difficulties of distinguishing clearly between emotional

demands and other types of demands, such as psychological demands. There are no systematic research reviews detailing the importance of emotional demands in different groups, which means that the importance of emotional demands for the different outcomes among women and men in various positions, and for various occupational groups and sectors, is unclear.

Hindrance demands

Hindrance demands include different hindering factors at work, which relate to various obstacles hindering an employee to carry out their work (see Table 6.1).

Work-related outcomes

As regards hindrance demands, systematic research reviews show linkages to work-related attitudes in terms of job satisfaction, work engagement and organizational commitment. More specifically, hindrance demands are associated with lower job satisfaction (Bedi & Schalt, 2013; Podsakoff, 2007) and with lower work engagement and organizational commitment (Bedi & Schalt, 2013; Crawford et al., 2010; Podsakoff, 2007). When it comes to the association between hindrance demands and work-related behaviour, systematic research reviews show a relationship between hindrances and an increased turnover intention (Podsakoff, 2007). As for specific occupational groups, hindrance demands in nurses' work are associated with work-related behaviour in terms of an increased intention to quit, but also in terms of actual turnover (Nei et al., 2015). However, another meta-analysis, focusing solely on social workers and only including a few studies, shows no association between different types of hindrance demands and the intention to quit (Kim & Kao, 2014). Systematic research reviews do not show any associations between hindrance demands and organizational citizenship behaviour (Eatough et al., 2011). However, one meta-analysis shows an association between hindrance demands and other work-related outcomes, such as high presenteeism (Miraglia & Johns, 2015).

Health-related outcomes

As regards importance of hindrance demands for mental health, systematic research reviews show an association between such obstacles and poor mental health in terms of burnout (Bedi & Schalt, 2013; Crawford et al., 2010). When it comes to the relationships between hindrance demands and different aspects of physical health there are no systematic research reviews published during the past ten years.

Summary and comparisons between different groups

Overall, the importance of hindrance demands for work-related and health-related outcomes is partly unclear. As for work-related outcomes, hindrance demands are linked to work-related attitudes. Similarly, there are linkages between hindrance demands and work-related behaviour, but the characteristics of these associations vary between different types of hindrance demands and types of work-related behaviour. As regards other work-related outcomes, there is an association to presenteeism, while there are no systematic research reviews for other work-related outcomes such as absenteeism.

As for the importance of hindrance demands for health-related outcomes, there seems to be an association to burnout. But there are no systematic research reviews of other health-related outcomes, such as health-related problems, symptoms of depression, cardiovascular disease and musculoskeletal disorders. This may be related to difficulties in clearly distinguishing and defining the hindrance demands in relation to other types of job demands.

Although some systematic research reviews focus on specific occupations, most of these reviews are, with the exception of health care occupations, typically based on a few studies from a specific cultural context. This means that the findings for specific occupations have to be considered as preliminary. In summary, the importance of hindrance demands for different work-related and health-related outcomes among women and men in different occupations and in different sectors is unclear.

Unclear goals

Demands of the work may also involve role ambiguity, which refers to unclear goals (see Table 6.1).

Work-related outcomes

Meta-analytic findings show associations between unclear goals and work-related attitudes in terms of low job satisfaction (Friedman et al., 2008). The same is found in a systematic literature review including nurses only (Saber, 2014). Also, meta-analyses show associations between unclear goals and work-related behaviour such as performance; here unclear goals are associated with low self-reported performance at work (Friedman et al., 2008). Additional meta-analyses show considerable variation in the importance of unclear goals for organizational citizenship behaviour. This means that some findings suggest that high levels of unclear goals are negatively associated with organizational citizenship behaviour,

while other studies show no clear association (Eatough et al., 2011). For other work-related outcomes, such as sickness presenteeism and absenteeism, there are no systematic research reviews published during the past ten years.

Health-related outcomes

When it comes to the importance of unclear goals for different health-related outcomes, systematic research reviews show that unclear goals are associated with burnout (Alarcon, 2011). Moreover, this finding holds for different dimensions of burnout, such as depersonalization/cynicism (Alarcon, 2011). As regards specific occupational groups, literature reviews of unclear goals among women and men working in prisons show that unclear goals are associated with burnout (Finney et al., 2013). For other health-related outcomes, there are no systematic research reviews.

Summary and comparisons between different groups

Overall, the importance of unclear goals at work for different work-related and health-related outcomes is quite unclear. As regards work-related outcomes, there are some associations between unclear goals and work-related attitudes. Similarly, unclear goals are linked to work-related behaviour. However, the characteristics of the relationships vary between different work-related behaviour. Moreover, there is a lack of systematic research reviews that set out to clarify the importance of unclear goals for other work-related outcomes, such as sickness absenteeism.

As for the importance of unclear goals for health-related outcomes, there seems to be an association to burnout. However, systematic research reviews including other health-related outcomes, such as health problems, symptoms of depression, cardiovascular disease and musculoskeletal disorders, are lacking. The fact that there have been no systematic research reviews published in the last ten years may be related to difficulties in clearly distinguishing and defining unclear goals in relation to other job demands, such as psychological demands.

Although individual systematic research reviews focus on specific occupational groups, these reviews include only a few primary studies from a specific cultural context. Thus, there are no associations for different occupational groups. Because the data regarding the importance of unclear goals is limited, it is unclear whether the associations of unclear goals with different work-related and health-related outcomes vary between women and men, between different occupations, and sectors.

Effort/reward imbalance

Demands at work can be described in terms of an imbalance between efforts and rewards. This means that individuals perceive an imbalance between the work they do and the rewards their efforts provide (see Table 6.1).

Work-related outcomes

When it comes to the importance of effort/reward imbalance for work-related attitudes and behaviour, as well as for other work-related outcomes, there are no systematic research reviews published in the last ten years.

Health-related outcomes

Systematic research reviews focusing on effort/reward imbalance and its linkages to poor mental health have shown associations to symptoms of depression (SBU, 2014a). For burnout, such reviews show that effort/reward imbalance is associated with an increased risk of burnout for healthcare occupations in Europe (Bria et al., 2012). Also, effort/reward imbalance is associated with mental health problems among both women and men (Nieuwenhuijsen et al., 2010).

When it comes to the importance of effort/reward imbalance for different aspects of physical health, a high imbalance has been linked to heart disease, but the association with stroke is unclear (SBU, 2015). For musculoskeletal disorders, one systematic research review, which mainly includes cross-sectional primary studies, shows that effort/reward imbalance is related to pain and particularly so among women working within the health care sector (Bernal et al., 2015).

Summary and comparisons between different groups

Overall, the knowledge of the importance of effort/reward imbalance for work-related and health-related outcomes is limited. As for work-related outcomes, no systematic research reviews have been published during the past ten years. As regards health-related outcomes, there is an association between effort/reward imbalance and different aspects of poor mental health. Specifically, effort/reward imbalance is associated with symptoms of depression, burnout and general mental health problems. The association with burnout is documented among employees within the health care sector, with this relationship seeming to apply to both women and men. Moreover, effort/reward imbalance is related to physical health, particularly in terms of cardiovascular disease and pain. The association with pain is specific to women working within in the

healthcare sector. Although the findings, on a general level, suggest that an effort/reward imbalance has negative effects on some health-related outcomes, there is a lack of systematic research reviews for most work-related and health-related outcomes, including various aspects of physical health.

Similarly, few systematic research reviews report findings for different groups. The systematic reviews involving both women and men suggest that the importance of an effort/reward imbalance exists for both women and men. However, it is unclear whether the importance of such an imbalance varies between various work-related and health-related outcomes, between occupations, and sectors dominated by women and men.

Job insecurity

Job insecurity may constitute a demand, because the experience of insecurity involves a risk of employees to lose their jobs against their will (see Table 6.1).

Work-related outcomes

Regarding the importance of job insecurity for work-related attitudes, one meta-analysis from the past decade (Cheng & Chan, 2008), focuses specifically on the potential consequences of job insecurity. The findings of this meta-analysis follow those of a previous one (Sverke et al., 2002) in showing that job insecurity is associated with work-related attitudes such as lower job satisfaction, job involvement and organizational commitment (Cheng & Chan, 2008). As for the relationships between job insecurity and work-related behaviour, job insecurity is associated with an increased intention to quit one's job (Cheng & Chan, 2008; Nei et al., 2015) and with poorer performance at work (Cheng & Chan, 2008). Throughout, the relationships between job insecurity and work-related attitudes and work-related behaviour are comparable in study groups including mainly women or men (Cheng & Chan, 2008). However, no systematic research review compares specifically women and men or different occupations. For other work-related outcomes, there is an association with job insecurity and an increased likelihood for presenteeism at work (Miraglia & Johns, 2015).

Health-related outcomes

As regards the importance of job insecurity for mental health outcomes, systematic research reviews show associations with symptoms of depression. However, separate analyses of women and men are considered impossible (SBU, 2014a). Moreover, job insecurity has been linked to emotional exhaustion, which is a

dimension of burnout (SBU, 2014a). In addition, meta-analyses show relationships between job insecurity and increased mental health problems. The relationships regarding mental health problems are comparable in study groups mainly including women and men respectively (Cheng & Chan, 2008). Job insecurity is also associated with poor well-being among both women and men. Here, women and men with a high position and high job insecurity have a greater risk of poor well-being (Schütte et al., 2014).

When it comes to different aspects of physical health, meta-analyses show an association between job insecurity and increased physical health complaints (Cheng & Chan, 2008). Systematic research reviews also show an association between job insecurity and heart disease. As for other types of cardiovascular disease, such as stroke, the number of primary studies is considered too small to draw any conclusions (SBU, 2015). For musculoskeletal disorders, job insecurity has been related to back problems (Lang et al., 2012).

Summary and comparisons between different groups

Overall, the knowledge regarding the importance of job insecurity for different work-related outcomes is relatively good. Specifically, meta-analyses show that job insecurity is related to both work-related attitudes and work-related behaviour, as well as to other work-related outcomes, such as presenteeism. However, there seems to be a lack of knowledge regarding the associations between job insecurity and sickness absenteeism.

For health-related outcomes in terms of mental health, systematic research reviews show that job insecurity is associated with various aspects of poor mental health. As for the linkages between job insecurity and physical health, there are relationships to physical health problems as well as heart disease and musculoskeletal disorders. The lack of studies on other health-related outcomes may be related to the lack of systematic research reviews published over the past decade.

When it comes to the importance of job insecurity for different outcomes in different groups, associations are assumed to be similar for work-related attitudes and work-related behaviour, as well as for mental health, regardless of any group including mainly women or men. Given that there are only a small number of primary studies of other work-related and health-related outcomes, possibilities for analyzing different subgroups are limited. With the exception of some work-related outcomes and for poor mental health, it is thus difficult to draw any overall and reliable conclusions regarding the importance of job insecurity for women and men in different

occupations, for individuals with varying positions and for various sectors.

Psychological contract breach

Psychological contract breach includes any perception of deviating from perceptions relating to any informal agreements between employee and employer, and this can constitute a demand (see Table 6.1).

Work-related outcomes

Systematic research reviews of the importance of psychological contract breach show associations with work-related attitudes. Specifically, psychological contract breach is related to lower job satisfaction (Bal et al., 2008; Cantisano et al., 2008; Zhao et al., 2007). As regards other work-related attitudes such as work engagement, some systematic reviews show that violating the psychological contract is associated with lower work engagement (Bal et al., 2008). However, recent reviews show that the association between psychological contract breach and work engagement is unclear (Bailey et al., 2015). As for work-related attitudes, systematic research reviews show that psychological contract breach is associated with lower organizational commitment (Cantisano et al., 2008; Zhao et al., 2007). For work-related behaviour, there is an association between psychological contract breach and an increased intention to quit (Cantisano et al., 2008; Zhao et al., 2007). There are no linkages between psychological contract breach and other work-related outcomes, such as absenteeism (Robbins et al., 2012).

Health-related outcomes

Systematic research reviews of the importance of psychological contract breach for health-related outcomes shows an association with burnout, with the association remaining also when taking into account the number of women included in the data set forming the basis for the findings (Robbins et al., 2012). Moreover, there is an association with mental health problems. This association is also independent of the proportion of women (Robbins et al., 2012). In addition, psychological contract breach is linked to various physical health complaints (Robbins et al., 2012). For other health-related outcomes, such as cardiovascular disease and musculoskeletal disorders, there seem to exist no systematic research reviews published over the past ten years.

Summary and comparisons between different groups

Overall, there is some knowledge regarding the importance of psychological contract breach for work-related and health-related

outcomes. When it comes to work-related outcomes, systematic research reviews show that psychological contract breach is related to both work-related attitudes and work-related behaviour. Variations between different systematic reviews may be related to the availability to more recent primary studies changing the overall conclusions of older systematic research reviews.

For health-related outcomes in terms of mental health, systematic research reviews show that psychological contract breach is associated with poor mental health in terms of burnout, but also in terms of mental health problems. These associations seem to apply to both women and men. For physical health outcomes, there is an association between psychological contract breach, and physical health complaints, whereas there seem to be no systematic research reviews of cardiovascular disease and musculoskeletal disorders from the past decade.

Some systematic research reviews include both women and men and show that the overall associations hold for both women and men. However, knowledge of the importance of psychological contract breach for most work-related and health-related outcomes for women and men – and for different occupations and sectors – is still lacking.

Work stress

Psychosocial demands may also manifest themselves in terms of an overall perception of work stress (see Table 6.1). This may involve perceiving the work as stressful and characterized by, among other things, time pressure as well as overloading and stressful events.

Work-related outcomes

When it comes to the relationship between work stress and various work-related outcomes, systematic research reviews show association with work-related attitudes. The linkages between work stress and lower job satisfaction are found both generally, and specifically among nurses (Lu et al., 2012; Khamisa et al., 2013; Saber, 2014; Zangero & Soeken, 2007) as well as for nurses working as managers (Shirey, 2006). As regards work stress and work-related behaviour in specific occupations, such as that of social workers, there is no association with intention to quit one's job (Kim & Kao, 2014). Also, meta-analyses involving various occupations show linkages between work stress and other work-related outcomes in terms of presenteeism (Miraglia & Johns, 2015). Moreover, one systematic research review shows that work stress is associated with increased short-term absence among nurses (Davey et al., 2009).

Health-related outcomes

Systematic research reviews on the importance of work stress show relationships with poor mental health. This association is particularly pronounced for work stress in terms of pressing work, which is associated with symptoms of depression. This association holds for both women and men (SBU, 2014a). The primary studies investigating this relationship have been carried out in Europe and North America, and include the general population, the public sector, and various companies. There is also an association between work stress and burnout. This association is found for burnout in general, but also for various dimensions of burnout, such as emotional exhaustion and depersonalization/cynicism (Lee et al., 2011; SBU, 2014a). However, as for the relationships between work stress and burnout it is not possible to draw any conclusions regarding the characteristics of the association for women and men respectively (SBU, 2014a). The importance of work-related stress for burnout has also been investigated in systematic literature reviews of healthcare personnel in Europe (Bria et al., 2012), and specifically among nurses (Khamisa et al., 2013), among nurses working as managers (Shirey, 2006) as well as among physicians in training (Prince et al., 2007). The findings show that work stress is associated with an increased risk of burnout. Also, systematic literature reviews show that work stress is associated with an increased risk of mental health problems (Khamisa et al., 2013) and with lower life satisfaction (Oyama & Fukahori, 2015) among nurses.

As regards the importance of work stress for physical health outcomes, systematic research reviews show linkages between work stress and various metabolic disorders. However, for type 2 diabetes, there is no association (Bergmann et al., 2014). For cardiovascular disease, work stress, referring specifically to stressful work, is associated with heart disease. For stroke, the number of primary studies is considered to small (SBU, 2015). However, work stress is associated with musculoskeletal disorders in terms of back pain. Separate analyses of women and men show a relationship between work stress and musculoskeletal disorders among men, while the association is less clear among women (SBU, 2014b). As for musculoskeletal disorders in other parts of the body, the number of primary studies is considered too small to allow any conclusions (SBU, 2014b).

Summary and comparisons between different groups

In summary, there is some knowledge about the importance of work stress in its broad sense for different work-related and health-related outcomes. When it comes to work-related outcomes, systematic research reviews show that work stress is important for work-related

attitudes and work-related behaviour. However, for work-related behaviour, findings of systematic research reviews vary, which may be associated with the specific work-related behaviour being studied, but also with the occupation investigated.

In terms of health-related outcomes, work stress is associated to poor mental health, both in terms of symptoms of depression and burnout. For physical health outcomes, work stress seems associated with metabolic disorders, heart disease, and musculoskeletal disorders. In contrast, there is no confirmed association between work stress and type 2 diabetes. For some work-related attitudes and work-related behaviour, overall linkages have been found, particularly among health care workers.

As regards the relationships between work stress and symptoms of depression, this association holds for both women and men. The relationship between work stress and musculoskeletal disorders in terms of back pain, however, mainly holds for men, with the characteristics of this association being less clear for women. Although the systematic research reviews show an overall relationship between work stress and various outcomes, the importance of work stress for different outcomes among different occupations and sectors remains unclear. With the exception of a few outcomes, it is also unclear whether the importance of work-related stress varies between women and men.

Role conflict

Work-related demands may include conflicts between different roles, or so-called role conflict (see Table 6.1).

Work-related outcomes

A meta-analysis based on a relatively large number of studies shows linkages between role conflict and work-related attitudes. More specifically, role conflict is associated with low job satisfaction (Fried et al., 2008). According to a systematic literature review, this relationship also applies specifically to nurses (Lu et al., 2012). Moreover, role conflict is associated with work-related behaviour. Here, role conflict is related to an increased intention to quit one's employment (Friedman et al., 2008). However, systematic research reviews focusing specifically on one occupation, namely social workers, show no such statistically significant association between role conflict and the intention to quit (Kim & Kao, 2014). In terms of other types of work-related behaviour, there is an association between role conflict and performance. Here, role conflict is associated with lower supervisor-rated employee performance

(Friedman et al., 2008). Similarly, there is an association between role conflict and low self-reported performance (Friedman et al., 2008). For organizational citizenship behaviour, systematic research reviews have failed to show any statistically significant association (Eatough et al., 2011). As for other work-related outcomes, such as presenteeism and absenteeism, no systematic review studies were identified.

Health-related outcomes

As regards the relationships between role conflict and various aspects of mental health, there are associations to burnout, including its various dimensions, such as emotional exhaustion and depersonalization/cynicism (Alarcon, 2011). When it comes to reviews of specific occupational groups, a systematic literature review, focusing specifically on women and men who work as IT professionals, shows that role conflict is associated with burnout (Maudgalya et al., 2006). Also, systematic literature reviews based on medical staff in Europe (Bria et al., 2012) and employees who work with individuals with intellectual disabilities (Thompson & Rose, 2011) show that role conflict is associated with an increased risk of burnout. One systematic research review, which primarily included cross-sectional studies, shows that role conflict is associated with symptoms of depression (Schmidt et al., 2014). As for the relationships between role conflict and well-being, role conflict is linked to lower well-being. This relationship is found for both women and men, and there are no statistically significant differences between occupational groups (Schütte et al., 2014). Moreover, there is also a link between role conflict and fatigue/sleep in terms of problems sleeping (Nixon et al., 2011).

Systematic research reviews of the relationships between role conflict and different aspects of physical health show linkages between role conflict and physical health complaints, such as back pain and gastrointestinal problems (Nixon et al., 2011). As for the overall relationships between role conflict and musculoskeletal disorders, no systematic research reviews were identified. The same seems to hold for other health-related outcomes, such as cardiovascular disease.

Summary and comparisons between different groups

Taken together, there is some knowledge about the importance of role conflict for different work-related and health-related outcomes. When it comes to work-related outcomes, systematic research reviews show that role conflict is important for work-related attitudes and behaviour. However, for work-related behaviour, the associations vary between different aspects of work-related behaviour. Such variations can also be found for specific occupations.

In terms of health-related outcomes, there seems to be a relationship between role conflict and poor mental health, primarily in terms of burnout but also for symptoms of depression, lower well-being, and sleep disorders. For various aspects of physical health, such as cardiovascular disease and musculoskeletal disorders, there is a lack of systematic research reviews from the past decade.

In systematic research reviews, there are difficulties delineating and defining clearly different types of role conflict in relation to other psychosocial demands, such as hindrances in the work. This means that, with a few exceptions, there is a lack of knowledge about the importance of role conflict for various work-related and health-related outcomes for women and men, and for different occupations and sectors.

Interpersonal conflicts

Work-related demands may also involve conflicts between different people in the workplace (see Table 6.1).

Work-related outcomes

When it comes to the importance of interpersonal conflicts for work-related outcomes, systematic research reviews show that interpersonal conflicts are associated with low job satisfaction (Chiaburu & Harrison, 2008). Similarly, there is a relationship between interpersonal conflicts and low organizational commitment (Chiaburu & Harrison, 2008). When it comes to work-related behaviour, interpersonal conflicts are associated with an increased intention to quit one's job (Chiaburu & Harrison, 2008). There is also an association to actually quitting an employment, but here there are few primary studies only. Regarding job performance, there is an association between interpersonal conflicts and lower job performance (Chiaburu & Harrison, 2008). Moreover, interpersonal conflicts are associated with more counterproductive behaviour (Chiaburu & Harrison, 2008). When it comes to interpersonal conflicts and other work-related outcomes, there is an association with increased absenteeism, but this association is based on few primary studies only (Chiaburu & Harrison, 2008).

Health-related outcomes

When it comes to the relationship between interpersonal conflicts and health-related outcomes, conflicts with superiors and colleagues respectively are associated with symptoms of depression (SBU, 2014a). As for the linkages between conflict and burnout, the relationship is unclear, which is related to there being too few primary studies to allow any conclusions (SBU, 2014a). However, one systematic literature review discusses conflicts within the care team

as a factor contributing to a higher risk of burnout among nurses and doctors in palliative care (Pereira et al., 2011). Moreover, there is an association between interpersonal conflicts and insomnia (Nixon et al., 2011). Systematic research reviews have also shown that interpersonal conflicts are associated with physical health problems such as back pain and gastrointestinal complaints (Nixon et al., 2011). For other aspects of physical health, including heart disease and stroke, the relationships are unclear since there are too few primary studies.

Summary and comparisons between different groups

In summary, there is some knowledge about the importance of interpersonal conflicts for work-related outcomes, both in terms of work-related attitudes and work-related behaviour. However, there are some variations relating to the work-related behaviour being studied.

When it comes to health-related outcomes, the relationships seem unclear. Systematic research reviews show linkages between interpersonal conflicts and poor mental health, mainly in terms of symptoms of depression. There are also linkages to various aspects of physical health, but for several aspects of mental and physical health, there is a lack of systematic research reviews. However, some systematic research reviews focusing on social support may also have come to include interpersonal conflicts. This relates to variations in the definition of interpersonal conflicts between review studies. The limited knowledge regarding the importance of interpersonal conflicts can also be related to the lack of publications from the last ten years.

The relationships regarding the importance of interpersonal conflicts for different work-related and health-related outcomes apply generally. This means that it is unclear how the relationships transfers to women and men, different occupations and sectors.

CONCLUSIONS: THE IMPORTANCE OF DEMANDS

Table 9.1 shows the psychosocial demands included in the present report. The table provides an overall summary of the importance of these psychosocial demands for the different categories of work-related and health-related outcomes. Thus, the table only includes the categories work-related attitudes, work-related behaviour, and other work-related outcomes, as well as mental and physical health respectively. This means that the table provides no details of the specific outcomes included in each of the categories. The table is based on the summaries of each demand. These summaries are, in turn, based on the text detailing how each demand is associated with the various work-related and health-related outcomes.

The table should be read so that the fields where the symbols G: +, S: +, ♀: +, or ♂: + are included denote that there is some link that has been identified in this report. A + means that there is a basis for concluding that there is an association (without going into whether this relationship is positive or negative), while 0 indicates that systematic research reviews have found no association. Some fields include both + and 0, with + meaning that an association is demonstrated for any of the outcomes within the category, while 0 indicates that there is no association for any outcome within the category. G refers to it being possible to draw conclusions on an overall, general level, while S refers to profession (e = professions within education, h = healthcare professions, c = social services professions) and shows that there are findings supporting a relationship for a specific occupation/sector. The "--" means that there are no available findings; this means that no systematic research review, published during the last decade, has studied the relationship between the current organizational factor, and this category of outcome. When both ♀: + and ♂: + are included in a field, there is a relationship for both women and men; when only one of the symbols is presented, there is a relationship for this group only.

Table 9.1 shows that there are a number of systematic research reviews reporting on the overall linkages between psychosocial demands and various work-related and health-related outcomes. When it comes to work-related attitudes, there is knowledge of how psychological demands, cognitive demands, hindrance demands, unclear goals, job insecurity, psychological contract breach, work stress, role conflict and interpersonal conflicts relate to the various work-related attitudes at a general level. For emotional demands, there are clear associations to work-related attitudes within education, health care and social services professions. For unclear goals, work stress and role conflict, it is also shown how these demands are linked to work-related attitudes among employees within health care occupations.

For *work-related behaviour*, there are overall associations specifying how psychological demands, quantitative demands, hindrance demands, unclear goals, job insecurity, psychological contract breach, role conflict and interpersonal conflicts are related to the various types of work-related behaviour. For demands in terms of job strain, emotional demands, hindrance demands and role conflict, there are also linkages to different work-related behaviours for one or more occupation within education, health care, and social services.

Regarding the importance of the different demands for other work-related outcomes, there is knowledge about general associations indicating how job strain, psychological demands, quantitative demands, cognitive demands, hindrance demands, job insecurity, psychological contract breach, role conflict and interpersonal conflicts are associated with different work-related outcomes. For cognitive demands and work stress, there are also associations to other work-related outcomes, specifically for health care occupations. Compared to the overall linkages, there are fewer details on how various demands relate to various work-related outcomes for different occupations. Although education, health care, and social services occupations typically are dominated by women, and may provide some indirect indication of what that might mean for women, overall specific findings showing how various demands are associated with different work-related outcomes among women and men are lacking.

When it comes to health-related outcomes, there are overall linkages clarifying how all 13 demands are related to *mental health outcomes*. For most of the demands, there are also specific findings clarifying the characteristics of the relationships between the different demands and mental health outcomes for one or more occupations within education, health care, and social services. For several demands there are also specific associations describing how different demands, such as job strain, psychological demands, quantitative demands, emotional demands, effort/reward imbalance, work stress and role conflict, are related to different aspects of mental health for women and men respectively. When it comes to *physical health*, there are overall findings clarifying how job strain, psychological demands, effort/reward imbalance, job insecurity, work stress, role conflict and interpersonal conflicts are related to some aspect of physical health. For job strain, emotional demands and effort/reward imbalance, there are also linkages to specific occupational groups within education, health care and social services. For job strain and work stress there are also specific associations for women and men respectively for some aspects of physical health.

Overall, there is a great deal of knowledge about overall linkages, which allows drawing conclusions regarding the importance of psychosocial demands for work-related and health-related outcomes. There is also knowledge showing that some associations also apply to specific occupations mainly employing women. It is also possible to note that some associations, but only for health-related outcomes (and primarily for mental health outcomes) hold for both women and men.

Table 9.1. Summary of results regarding the importance of psychosocial factors in terms of job demands for work-related and health-related outcomes.

Job demand	Work-related outcomes			Health-related outcomes	
	Attitudes	Behaviour	Other	Mental	Physical
Job strain	--	Sh: +	G: +	G: +, ♀/♂: +	G: +, 0, ♀/♂: +, Sh: +
Psychological demands	G: +, 0	G: +, Sc: 0	G: +	G: +, ♀/♂: +, Sh: +	G: +, 0
Quantitative demands	--	G: 0, Sc: 0	G: +	G: +, ♀/♂: +, Se: +	--
Cognitive demands	G: +	--	G: +, Sh: +	G: +, Sh: +	--
Emotional demands	Sh,e,c: +, 0	Sh,e,c: +, 0	--	G: +, ♀/♂: +, Sh,e,c: +	Sh,e,c: +
Hindrance demands	G: +	G: +, 0, Sh: +, Sc: 0	G: +	G: +	--
Unclear goals	G: +, Sh: +	G: +, 0	--	G: +, Sc: +	--
Effort/reward imbalance	--	--	--	G: +, ♀/♂: +, Sh: +	G: +, Sh: +
Job insecurity	G: +	G: +	G: +	G: +, ♀/♂: +	G: +
Psychological contract breach	G: +, 0	G: +	G: 0	G: +	--
Work stress	G: +, Sh: +	Sc: 0	G: +, Sh: +	G: +, ♀/♂: +, Sh: +	G: +, 0, ♂: +
Role conflict	G: +, Sh: +	G: +, 0, Sc: 0	--	G: +, ♀/♂: +, Sh,c: +	G: +
Interpersonal conflicts	G: +	G: +	G: +	G: +, Sh: +	G: +

-- = no data from systematic research reviews published during the last 10 years

G = general result (irrespective of gender, occupation, or sector)

♀: = women

♂: = men

S = results for sector/occupation

Sh = healthcare sector/profession

Sc = social services sector/profession

Se = professions within education

0 = no association for any outcome within the category

+ = association confirmed for one or more outcomes within the category

THE IMPORTANCE OF RESOURCES

In addition to psychosocial demands, different jobs and tasks include different types of psychosocial resources (see chapter 3 and 6). Several models describing different psychosocial resources relate these job resources to the job demands (Demerouti et al., 2001; Karasek & Theorell, 1990; Siegrist, 1996). Psychosocial resources are usually assumed to make it easier for individuals to manage various psychosocial demands. At the same time, psychosocial resources are considered to be associated with, for example, health, well-being and work-related outcomes. Low levels of different resources are sometimes described in terms of demands. To clarify the distinction between job demands and job resources in this report, however, low levels of resources are treated as low levels of the specific resources considered rather than as demands. This choice was made based on the fact that most models describe a linear relationship between how different resources are related to various work-related and health-related outcomes. This linear relationship means that the more resources there are, the better the situation. However, some models show a decreasing benefit of resources, which means that the relationship between psychosocial demands and resources is central (Warr, 1987). This section describes how the various resources identified in the research reviews from the past decade that form the basis of this report, are associated with various work-related and health-related outcomes.

Control

Control, sometimes referred to as influence or autonomy, includes the extent to which workers can influence how, when and with whom their work is to be performed. Opportunities to use and develop skills as well as the degree of influence in the organization is included in this definition of control at work (see Table 6.3).

Work-related outcomes

Several systematic research reviews have investigated the relationships between control and work-related attitudes. The findings show that a higher degree of control is associated with increased job satisfaction (Nahrgang et al., 2010) and higher work engagement (Bailey et al., 2015; Nahrgang et al., 2010). As for specific occupations, findings of nurses show that a greater degree of control is associated with higher job satisfaction (Saber, 2014; Zangaro & Soeken, 2007). When it comes to work-related behaviour, a higher degree of control and influence is associated with lower staff turnover (Heavey et al., 2013). The same association is reported in a meta-analysis of nurses, which mainly included primary studies from North America but also from Scandinavia

(Nei et al., 2015). Among nurses there is a high association between control and a decreased intention to quit one's employment (Nei et al., 2015). Similarly, among social workers in the United States, increased control is associated with a decreased intention to quit (Kim & Kao, 2014). As for the relationship between control and other work-related outcomes, such as occupational injury and sick-leave, there is an association between high control and lower levels of absenteeism (White et al., 2013), occupational injuries/accidents (Nahrgang et al., 2010), sick-leave (Duijts et al., 2007) and presenteeism (Miraglia & Johns, 2015). For these outcomes, the systematic research reviews typically include few primary studies, thus making it difficult to draw any conclusions regarding the characteristics of these associations. Other aspects of psychosocial resources that are strongly related to control, such as autonomy and participation, have been linked to presenteeism, but here, too, the number of primary studies is small, thus making it difficult to draw any conclusions (Miraglia & Johns, 2015).

Health-related outcomes

When it comes to the relationship between control and mental health outcomes, systematic research reviews show that low control increases the risk of symptoms of depression and burnout (SBU, 2014a). The association between low control and symptoms of depression holds for both women and men (SBU, 2014a). As for burnout, there is, in addition to the association between control and a low incidence of burnout, an association to the burnout dimension of emotional exhaustion. However, it is unclear to what extent these overall associations hold for both women and men (SBU, 2014a). Additional meta-analyses show that a high degree of control is associated with a lower level of burnout (Nahrgang et al., 2010). As regards the different dimensions of burnout, other systematic research reviews show that a high degree of control is linked to a lower risk of emotional exhaustion (Alarcon, 2011; Lee et al., 2011), less distancing from work and/or from patients (Alarcon, 2011; Lee et al., 2013), and higher levels of personal accomplishment (Alarcon, 2011). Systematic research reviews of different occupational groups show that control is associated with a lower risk of burnout among healthcare workers in Europe (Bria et al., 2012), among nurses in general (Adriaenssens et al., 2015), and among employees working within prisons (Dickinson & Wright, 2008). As regards the relationship between control and burnout in terms of emotional exhaustion, the findings are not entirely consistent, but vary between different occupations. One systematic literature review, which only includes longitudinal studies (Seidler et al., 2014), reports that two of the primary studies find that control is associated with lower emotional exhaustion, while a primary study

only including men working as physicians shows a relationship between higher control, in terms of autonomy, and higher emotional exhaustion (Seidler et al., 2014).

As for other aspects of mental health, meta-analyses show linkages between a high degree of control and better mental health (Häusser et al., 2010; Nahrgang et al., 2010; Stansfeld & Candy, 2006). Results from meta-analyses show that, using existing primary studies, it is difficult to draw any conclusions about overall associations for different groups, such as women and men (Nieuwenhuijsen et al., 2010). In a large-scale primary study of the relationships between work environment factors and well-being in 34 European countries (Schütte et al., 2014), a low degree of control along with social position are related to the well-being of women. More specifically, women experiencing low control combined with a high or a low social status have an increased risk of poor well-being, as compared to women with an intermediate social position. There is no such corresponding association for men. When it comes to stress-related outcomes, a meta-analysis including nurses as the largest occupational group, did not show any association between control and perceived stress, in terms of irritation (Rauschenbach et al., 2013).

When it comes to the importance of control in relation to various aspects of physical health, systematic research reviews show that control is associated with a reduced risk of cardiovascular disease. This holds for both women and men (SBU, 2015). Low control has also been associated with stroke (SBU, 2015). As for other aspects of physical health, such as musculoskeletal disorders, systematic research reviews show an association between control and a lower degree of musculoskeletal disorders in terms of back pain. This association is found among both women and men (SBU, 2014b). Similarly, there are linkages between low control and pain in the neck/shoulder area (SBU, 2014b) as well as upper extremity disorders, including pain in the arms (Lang et al., 2012). Low levels of control have also been associated with back pain as well as other physical health complaints (Nixon et al., 2011). However, there is no statistically significant association between control and type 2 diabetes (Cosgrove et al., 2012).

Summary and comparisons between different groups

Overall, there is relatively good knowledge about the overall importance of control at work for various work-related and health-related outcomes. There are several meta-analyses and systematic literature reviews showing that control is relevant to various work-related attitudes and behaviour. Similarly, such systematic research

reviews show that control and influence are important for different health-related outcomes, including poor mental and physical health. The findings are based on a number of primary studies that predominantly include working individuals living in Europe and the United States. Most systematic research reviews include datasets derived from various occupational groups. Some focus exclusively on certain occupations, such as psychotherapists (Lee et al., 2011) or physicians (Lee et al., 2013).

When specific occupations are studied, the number of primary studies is obviously smaller than in studies mixing occupational groups. Overall, however, the associations found for specific occupations align with those of systematic research reviews that include individuals from various occupations. However, it is unclear whether the importance of control and influence for work-related and health-related outcomes, respectively, differ between women and men. In systematic research reviews allowing separate analyses for women and men, the results show that these associations are similar for both groups. Such findings are reported for symptoms of depression and heart disease. For other outcomes, it is difficult to draw any conclusions for different subgroups, which may relate to the lack of data on the proportion of women and men respectively, as well as on the distribution between different occupations in various primary studies. Thus, for some work-related and health-related outcomes, the characteristics of the relationship for women and men, for different occupations, and sectors remain unclear.

Social support

Social support is a psychosocial resource that includes emotional and instrumental support from colleagues and managers (see Table 6.3).

Work-related outcomes

When it comes to the importance of social support for work-related attitudes, systematic research reviews show that social support from managers and colleagues has a positive association with job satisfaction (Ahmed & Nawaz, 2015; Chiaburu & Harrison, 2008; Nahrgang et al, 2010; Ng & Sorensen, 2008; Riggall et al., 2009; Zangaro & Soeken, 2007). This relationship is also found in one meta-analysis (Saber, 2014) and in a systematic literature review focusing specifically on nurses (Utriainen & Kynga, 2009). The relationships between social support from managers and colleagues, respectively, and job satisfaction have been shown to persist also when taking into account the proportion of women and men (Ng & Sorensen, 2008). Social support, both from the management and from colleagues, is also associated with organizational commitment

(Ahmed & Nawaz, 2015; Bailey et al., 2015; Chiaburu & Harrison, 2008; Nahrgang et al., 2010; Ng & Sorensen, 2008; Riggall et al., 2009) and with work engagement (Bailey et al., 2015; Chiaburu & Harrison, 2008). Meta-analytic findings show that support from colleagues is more important in jobs where social interaction between colleagues is a key part of the work (Chiaburu & Harrison, 2008). Perhaps this means that social support from colleagues can be of particular importance in many human services occupations, such as within different health care and social services professions.

Meta-analyses focusing on the linkages between social support and work-related behaviour show that support from managers and colleagues are associated with a lower intention to quit (Ahmed & Nawaz, 2015; Bailey et al., 2015; Chiaburu & Harrison, 2008; Nei et al., 2015; Kim & Kao, 2014; Ng & Sorensen, 2008; Riggall et al., 2009). Also, this relationship holds specifically for nurses (Chan et al., 2013; Twigg & McCullough, 2014). Support from managers and colleagues also reduce the degree of actually quitting an employment (Chiaburu & Harrison, 2008). Social support from managers and colleagues is also related to organizational citizenship behaviour in terms of the willingness to make an effort beyond what is expected (Ahmed & Nawaz, 2015; Chiaburu & Harrison, 2008) as well as to job performance in general (Chiaburu & Harrison, 2008). Social support has also been found to be associated with a reduced risk of counterproductive behaviour (Chiaburu & Harrison, 2008). As for other work-related outcomes, more social support seems to be linked to lower levels of absenteeism (Chiaburu & Harrison, 2008; White et al., 2013), and to lower levels of presenteeism (Miraglia & Johns, 2015).

Health-related outcomes

When it comes to the importance of social support from managers and colleagues for mental health outcomes, systematic research reviews show that low social support is associated with poor mental health in terms of symptoms of depression (SBU, 2014a). This overall relationship holds specifically for women as well as for men (SBU, 2014a). Also, the relationship between social support and symptoms of depression applies regardless of whether the findings are based on a diverse group of various occupations (Halbesleben, 2006; Nahrgang et al., 2010; Nieuwenhuijsen et al., 2010; SBU, 2014a) or on specific occupational groups such as physicians (Lee et al., 2013), or psychotherapists (Lee et al., 2011). Similar to symptoms of depression, there is an association between social support from managers and colleagues, and burnout (Halbesleben, 2006; Lee et al., 2013; Nahrgang et al., 2010; SBU, 2014a), which also holds when including longitudinal studies only (Seidler et al., 2014).

Specifically, there is an association between low social support and an increased risk of burnout, both for burnout in its broad sense but also for the different dimensions such as emotional exhaustion and depersonalization/cynicism (SBU, 2014a). The relationships between social support from managers and colleagues, and a lower risk of burnout are found among nurses (Adriaenssens et al., 2015), and physicians in training (Prince et al., 2007). For burnout, it is not possible to conclude whether the overall linkages are similar for women and men respectively (SBU, 2014a). This relates to a the lack of information in the primary studies; for instance, one meta-analysis of burnout includes 68 primary studies from 15 countries (Halbesleben, 2006), but only one of these primary studies provides information enabling separate analyses of women and men. As for the relationship between social support and mental health problems, low social support appears to increase the likelihood of such problems (Nieuwenhuijsen et al., 2010; Schütte et al., 2014). Regarding the relationship between social support and mental health problems in various subgroups, the importance of low social support in relation to well-being is similar for women and men. Moreover, low social support has similar importance for well-being, regardless of social position (Schütte et al. 2014).

As regards the relationships between social support and physical health in terms of musculoskeletal disorders, systematic research reviews show associations between support from managers and colleagues, and lower levels of back pain (SBU, 2014b). When it comes to back pain, the relationships to support from managers and colleagues are similar for women and men (SBU, 2014b). Other systematic research reviews show associations between social support and neck pain (McLean et al., 2010), back pain (Bernal et al., 2015) as well as pain in the lower extremities (Lang et al., 2012). The relationship between social support from managers and musculoskeletal disorders (such as back pain and pain in the shoulders, neck and lower extremities) persists also when including prospective studies only (Lang et al., 2012). However, with the number of primary studies being too small, no conclusions can be drawn regarding the importance of social support from colleagues on musculoskeletal disorders in terms of back pain and pain in the neck, shoulders and upper extremities (Lang et al., 2012). Also the number of primary studies is considered too small to draw any conclusions regarding the relationships between social support and musculoskeletal disorders in terms of neck pain and pain in the shoulders, elbows, forearms, wrists and hands (SBU, 2014b). As for other types of health problems and diseases, there is an association between low social support and more gastrointestinal problems (Nixon et al., 2011), while there is no association for type 2

diabetes (Cosgrove et al., 2012). For cardiovascular disease, there is an association between low social support and heart disease. For stroke, however, there are no primary studies, thus making it difficult to draw any conclusions about the characteristics of the association (SBU, 2015). For social climate, which is a concept closely related to social support, there are too few primary studies, also making it impossible to draw any conclusions regarding the relationship (SBU, 2015).

Summary and comparisons between different groups

In summary, there is relatively good knowledge about the overall importance of social support from managers and colleagues for various work-related outcomes. Several meta-analyses and systematic literature reviews show that social support from managers and colleagues is important for various work-related attitudes and behaviours. Similarly, such systematic research reviews show that support from managers and colleagues, respectively, are important for different health-related outcomes, including mental and physical health. These findings are based on a variety of primary studies that mainly include professionals from different geographic areas, such as Europe, including the Nordic countries, the USA, Australia, Brazil, Egypt, Iran and China.

Most systematic research reviews include data sets covering different occupations. Some meta-analyses focus on specific occupations, such as psychotherapists (Lee et al., 2011) or physicians (Lee et al., 2013), while others almost only include women who work as nurses (Bernal et al., 2015). However, the findings are consistent and similar across different occupational groups and, overall, the systematic research reviews include individuals from various occupations. With the exception of a few outcomes, including job satisfaction, back pain, and symptoms of depression, it is unclear whether the overall linkages hold for both women and men. For other outcomes, it is difficult to draw any conclusions for different subgroups. This may be related to the lack of data reporting on the proportion of women and men, as well as on the distribution between different professions. This means that for some outcomes, the importance of various aspects of social support remains unclear when it comes to women and men and different occupations, but particularly in relation to the position and for various sectors.

Organizational justice

Organizational justice is a resource that is sometimes studied as a global phenomenon and sometimes categorized into different dimensions, such as distributive justice, procedural justice, interpersonal justice and informational justice (see Table 6.3).

Work-related outcomes

When it comes to the importance of organizational justice for work-related attitudes there is one meta-analysis that includes nurses only. The findings show that distributive justice is associated with higher job satisfaction among nurses (Saber, 2014). For work-related behaviour, another meta-analysis of a specific profession, namely social workers, shows that organizational justice is associated with a lower intention to quit one's employment (Kim & Kao, 2014). As regards other work-related outcomes, perceptions of injustice may be associated with increased absenteeism (Duijts et al., 2007; Ndjaboué et al., 2012; Robbins et al., 2012; White et al., 2013). Analyses that take into account whether the proportion of women included in the data set plays any role for the associations between different dimensions of justice and freedom show no effect of the proportion of women (Robbins et al., 2012). However, as for geographic variations, the importance of injustice for absenteeism is typically stronger in studies from the United States, than in studies from Europe and other parts of the world (Robbins et al., 2012).

Health-related outcomes

As regards the importance of organizational justice for mental health, the relationships vary slightly for different dimensions of justice. When it comes to poor mental health, there is an association between organizational justice and symptoms of depression. However, it is only possible to conclude that overall associations exist. This means that the characteristics of the association remain unclear for women and men respectively (SBU, 2014a). Also, organizational justice is linked to burnout, with low organizational justice being associated with burnout (Finney et al., 2013; Robbins et al., 2012; SBU, 2014a). Moreover, a specific association for emotional exhaustion has been reported (see for example, SBU, 2014a). These types of relationships exist for specific occupations, such as medical staff in Europe (Bria et al., 2012). Beyond these overall relationships and findings pertaining specifically to medical staff, it is not possible to draw any conclusions regarding women and men respectively. As for the different dimensions of organizational justice and their linkages to mental health problems, systematic research reviews generally show that a lower degree of organizational justice is associated with higher levels of mental health problems (Elovainio et al., 2010; Nieuwenhuijsen et al., 2010; Ndjaboué et al., 2012; Robbins et al., 2012) as well as with perceived stress (Robbins et al., 2012). Analyses examining whether the proportion of women plays any role in the relationship between organizational justice and mental health problems show that the proportion of women has no significant effect (Robbins et al., 2014). However, the linkages between organizational justice and various mental health outcomes

are stronger in the USA than in Europe and the rest of the world (Robbins et al., 2014).

Unlike the relationships between different dimensions of organizational justice and mental health outcomes, the associations between organizational justice and physical health outcomes vary more between different dimensions of justice. For example, unfair procedures (i.e., low levels of procedural justice) are associated with various physical health problems, while there are no statistically significant associations between distributive and interpersonal justice and physical health complaints. But, at times, these associations are considered weak (Robbins et al., 2012). However, higher organizational justice has been associated with a lower prevalence of metabolic syndrome among men (Bergmann et al., 2014). When it comes to cardiovascular disease, there is a relationship between organizational injustice and heart disease. For stroke, no conclusions can be drawn (SBU, 2015).

Summary and comparisons between different groups

In summary, the importance of organizational justice for various work-related and health-related outcomes is unclear. When it comes to work-related outcomes such as work-related attitudes, with the exception of nurses, there is a lack of systematic research reviews published during the past ten years. For work-related behaviour, the systematic review studies only include certain aspects of work-related behavior. For other work-related outcomes findings show an association between organizational justice and sickness absenteeism. As for health-related outcomes, organizational injustice is associated with various aspects of poor mental health. With the exception of metabolic syndrome and heart disease, no systematic research reviews on various aspects of physical health seem to exist.

Although some meta-analyses take into account the distribution of women and men, knowledge about the importance of organizational justice for different outcomes for various groups is limited. Thus, it is unclear whether the importance of the different dimensions of organizational justice for work-related and health-related outcomes differs between women and men or between positions, occupations, and sectors.

Learning opportunities

Learning opportunities at work is a psychosocial resource which represents the extent to which employees have the opportunity to learn new skills at work and are able develop in their professional capacity, and their abilities to make a career (see Table 6.3).

Work-related outcomes

When it comes to the importance of learning opportunities at work in relation to work-related outcomes, systematic research reviews show that learning opportunities in terms of making a career are related to a lower intention to quit one's employment. This relationship is found in specific occupational groups, such as social workers in the USA (Kim & Kao, 2014) and nurses (Chan et al., 2013; Saber, 2014; Twigg & McCullough, 2014). Otherwise, no systematic research reviews from the past decade including work-related attitudes, other aspects of work-related behaviour, and other work-related outcomes were identified.

Health-related outcomes

Regarding the importance of learning opportunities at work for health-related outcomes, systematic research reviews show linkages between learning opportunities and a reduced risk for symptoms of depression. This relationship applies in general but also specifically for women and men. For poor mental health, in terms of burnout, the number of primary studies is small, which makes it difficult to draw any conclusions (SBU, 2014a). One meta-analysis, which focuses on physicians from the USA and Europe, shows that learning opportunities are associated with lower levels of emotional exhaustion (Lee et al., 2013). This relationship seems to be stronger for physicians in the United States than for physicians in Europe. Also, learning opportunities are associated to well-being, with these associations applying to both women and men (Schütte et al., 2014). However, there are no differences regarding the importance of learning opportunities at work when it comes to social position (Schütte et al., 2014). Lack of career opportunities is associated with a greater risk of poor well-being among men with a higher social position, as compared to men with a lower social position (Schütte et al., 2014). As for the relationship between learning opportunities and physical health, limited learning opportunities are associated with an increased risk of heart disease. For stroke, the number of studies is insufficient to allow any conclusions (SBU, 2015). Lower levels of learning opportunities are linked to musculoskeletal disorders such as back pain (SBU, 2014b).

Summary and comparisons between different groups

Overall, there is relatively little knowledge about the importance of learning opportunities for various work-related and health-related outcomes. There are no overall systematic research reviews that include work-related outcomes published over the past decade. When it comes to health-related outcomes, there are a few systematic reviews that have been published during the past ten years. With the exception of symptoms of depression and well-

being, where the associations hold for both women and men, the importance of learning opportunities for different work-related and health-related outcomes remains unclear. This applies in general but also for women and men, for different positions and for various occupations and sectors.

Rewards

Rewards at work involve acknowledgement and social status, but also monetary rewards (see Table 6.3).

Work-related outcomes

There are no overall systematic research reviews of the relationships between rewards at work and work-related attitudes. Systematic research reviews focusing specifically on nurses show that most nurses are unsatisfied with the rewards involving their salary. The poorer satisfaction seems greater among younger nurses (Chan et al., 2013). In addition, higher salaries are related to job satisfaction among nurses (Saber, 2014). The findings for work-related behaviour show that perceptions of rewards, in terms of recognition, are associated with a lower intention to quit one's employment among nurses in the United States, Canada and Europe (Nei et al., 2015). For other work-related outcomes, no systematic research reviews seem to exist.

Health-related outcomes

In terms of health-related outcomes, systematic research reviews show that there is an association between small rewards at work and an increased risk of burnout in terms of emotional exhaustion (SBU, 2014a). However, review studies of the relationships between rewards at work and other aspects of mental health, as well as different aspects of physical health seem to be lacking.

Summary and comparisons between different groups

In summary, knowledge regarding the importance of rewards at work for various work-related and health-related outcomes is limited. There are some systematic research reviews, which include work-related behaviour and aspects of poor mental health. In general, however, there is a lack of systematic reviews relating rewards to work-related attitudes, work-related outcomes such as presenteeism and absenteeism, as well as to various aspects of physical health. Another explanation, at least for some outcomes, may relate to the fact that different research traditions have focused on psychosocial resources, such as a rewards at work, and work-related outcomes. However, it is more likely that the lack of systematic research reviews may reflect that rewards at work

is usually being included as a component of the effort/reward imbalance model. Thus, findings are sometimes being reported among the psychosocial demands in this report (as an expression of effort/reward imbalance). This makes the role of rewards at work for various work-related and health-related outcomes unclear. This applies in general as well as for women and men, in relation to position, and for different occupations in different sectors.

Feedback

Feedback at work refers to the extent to which workers receive direct and clear information regarding the effectiveness and qualities of their own performance (see Table 6.3).

Work-related outcomes

Feedback at work is as a resource that is linked to work-related attitudes, such as increased work engagement (Bailey et al., 2015). However, systematic research reviews for the remaining categories of work-related outcomes during the past decade seem to be lacking.

Health-related outcomes

Systematic research reviews relating feedback at work to different health-related outcomes during the past decade seem to be lacking.

Summary and comparisons between different groups

In summary, knowledge about the importance of feedback for various work-related and health-related outcomes is very limited, at least on the basis of the findings of systematic research reviews published during the past decade. There are a few systematic research reviews focusing on work-related attitudes, while there is a lack of research including work-related behaviour, and other work-related outcomes such as presenteeism and absenteeism as well as on different health-related outcomes. This may be related to the number of primary studies being too few to enable any systematic research reviews. Overall, this means that the knowledge of the importance of feedback at work for work-related and health-related outcomes remains unclear. With such a lack of overall findings, there is no possibility to conclude, based on the systematic research reviews, whether the importance of feedback varies between women and men, between positions, between occupations, or between sectors.

CONCLUSIONS: THE IMPORTANCE OF RESOURCES

Table 9.2 shows the psychosocial resources contained in the report. The table provides an overall summary of the importance of the various psychosocial resources for the different categories of

work-related and health-related outcomes. Thus, the table only describes findings for the categories work-related attitudes, work-related behaviour and other work-related outcomes, as well as mental and physical health, respectively, without providing any details regarding the specific outcomes included in each and every category. The table is based on the summaries available for each of the resources. These summaries are, in turn, based on the above text detailing how each of the resources is associated with various work-related and health-related outcomes.

The table is to be read so that, in the fields where the symbols G: +, S: +, ♀: + or ♂: + are included, there is some link that has been identified in this report. A + means that there is a basis to conclude that there is an association (without detailing whether this relationship is positive or negative), while 0 indicates that systematic research reviews, such as meta-analyses and systematic literature reviews, find no association. Some fields include both + and 0, with + meaning that an association is demonstrated for any of the outcomes within the category, while 0 indicates that there is no association for any other outcome. G refers to the basis upon which it is possible to draw conclusions on an overall, general level. S refers to sector/profession (e = education, h = healthcare professions, c = social services professions) and shows that there are findings supporting a relationship for a specific profession. The "--" means that there are no findings available from systematic research reviews; this means that we have found no systematic research review, published during the last decade, which includes the relationships between the current organizational factor, and this overall category of outcomes. When both ♀: + and ♂: + are included in a field there is an association for both women and men; when only one of the symbols is shown, there is an association for this group only.

Table 9.2 shows that there are a number of systematic research reviews reporting on the overall linkages between psychosocial resources and various work-related and health-related outcomes (see the shadowed fields). When it comes to work-related attitudes, there is knowledge of how control, social support and feedback relate to various work-related attitudes on an overall level. For control, social support, organizational justice and rewards, it is also clear how these factors are associated with work-related attitudes, particularly for individuals within health care occupations.

For *work-related behaviour* there is knowledge of how control and social support are related to various work-related attitudes on an overall – or general – level. For control, social support,

organizational justice, learning opportunities at work and rewards at work, it is also clear that these factors are associated with work-related behaviour, particularly for individuals with health care or social services professions.

As for other *work-related outcomes*, there are only overall linkages. These overall linkages show that control, social support and organizational justice are associated with other work-related outcomes. Throughout, there is a consistent lack of specific information detailing how different resources are related to various work-related outcomes among women and men respectively.

Table 9.2. Summary of results regarding the importance of psychosocial factors in terms of job resources for work-related and health-related outcomes.

Job resource	Work-related outcomes			Health-related outcomes	
	Attitudes	Behaviour	Other	Mental	Physical
Control	G: +, Sh: +	G: +, Sh,c: +	G: +	G: +, ♀/♂: +, Sh,c: +, Sh: 0	G: +, 0, ♀/♂: +
Social support	G: +, Sh: +	G: +, Sh: +	G: +	G: +, ♀/♂: +, Sh,c: +	G: +, 0, ♀/♂: +
Organizational justice	Sh: +	Sc: +	G: +	G: +, Sh: +	G: +, 0, ♂: +
Learning opportunities	--	Sh,c: +	--	G: +, ♀/♂: +, Sh: +	G: +
Rewards	Sh: +	Sh: +	--	G: +	--
Feedback	G: +	--	--	--	--

-- = no data from systematic research reviews published during the last 10 years

G = general result (irrespective of gender, occupation, or sector)

♀: = women

♂: = men

S = results for sector/occupation

Sh = healthcare sector/profession

Sc = social services sector/profession

Se = professions within education

0 = no association for any outcome within the category

+ = association confirmed for one or more outcomes within the category

When it comes to health-related outcomes, there are overall relationships specifying how different types of job resources (with the exception of feedback at work) are associated with *mental health*. There are also findings of how control, social support, organizational justice and learning opportunities at work are associated with mental health in health care and/or social services professions. For control, social support and learning opportunities, these resources have been linked specifically to mental health in both women and men.

When it comes to *physical health*, there are overall linkages clarifying how control, social support, organizational justice and learning opportunities at work are related to physical health. However, there are no specific findings for education, health care and social services professions, or for women and men in general.

Overall, there is a great deal of knowledge about the overall relationships, which makes it possible to draw conclusions about the importance of psychosocial resources for various work-related and health-related outcomes. There is also knowledge describing the characteristics of the relationships for occupations mainly including women. It is also possible to conclude that a number of the associations, but only for health-related outcomes and particularly for mental health outcomes, hold for both women and men.

10. Discussion and conclusions

This report is the result of a commission from the Swedish Work Environment Authority within the framework of the government mandate on specific preventive interventions for the work environment of women. Specifically, this report, that was based in existing systematic research reviews, set out to clarify the relationships between different work environment factors and various work-related and health-related outcomes among working women and men. In addition to clarifying whether there are differences between women and men, we also, where possible, analyzed the situation specifically for sectors that mainly employ women, namely, education, health care and social services. Another aim was to describe the prevalence of different factors of organizational and psychosocial work environment factors among working women and men in Sweden.

METHODOLOGICAL APPROACH

To manage such an extensive task within a clearly defined period of time, while building on existing research, requires a structured approach. This means that we set out to build a systematic research-based approach to provide as rich and broad knowledge as possible. Consequently, we focused on systematic research reviews, i.e., meta-analyses and systematic literature reviews, published during the last ten years. To answer the question whether there are linkages between different factors of the work environment and various work-related and health-related outcomes among working women and men, we first performed a number of systematic literature searches in international and national databases compiling research literature (for details, see Chapter 2). Based on the identified systematic research reviews, while also making use of scientific theories and models, it was possible to detail and define the various work environment factors and relate these to different outcomes.

IDENTIFIED ENVIRONMENTAL FACTORS AND OUTCOMES

The systematic research reviews identified through the literature search form the basis of this report. Based on these systematic research reviews, 27 different work environment factors were identified and defined. Drawing on established scientific theories and models, the different work environment factors were divided into two broad categories, namely, organizational factors and psychosocial work environment factors. The psychosocial work environment factors were then categorized into job demands and job

resources, respectively. This categorization is based on established research perspectives. In total, eight organizational factors and 19 psychosocial factors were identified. Of the psychosocial factors, 13 were categorized as job demands and six as job resources. These 27 factors have been studied in relation to various work-related and health-related outcomes.

Overall, we report on 23 different outcomes, which were distinguished through the systematic research reviews identified in the literature search. These outcomes include two general categories, which, in the present report, are referred to as work-related and health-related outcomes, respectively. These broad categories are then divided into further subcategories (see Chapter 7). Work-related outcomes include work-related attitudes (e.g., job satisfaction and organizational commitment), work-related behaviour (e.g., turnover and job performance), and other work-related outcomes (i.e., sickness presenteeism, sickness absenteeism and accidents). Health-related outcomes include various aspects of mental health (e.g., burnout and symptoms of depression) and physical health (e.g., physical health complaints and cardiovascular disease).

THE PREVALENCE OF VARIOUS ORGANIZATIONAL AND PSYCHOSOCIAL FACTORS AMONG WORKING WOMEN AND MEN

The organizational and psychosocial factors included in this report obviously reflect the factors included in the systematic research reviews. In addition to describing the organizational and psychosocial factors, this report also aimed to clarify the prevalence of these factors among working women and men in Sweden (see Chapters 5 and 6).

Overall, the data show that certain organizational factors, such as part-time work, shift work and temporary employment, are more common among women than among men. Long working hours and working in an expanding organization is more common for men. Thus, there are clear differences between women and men. For other organizational factors, such as distance work, organizational change and leadership, the levels between women and men are comparable.

As for psychosocial work environment factors, the statistics show that several types of job demands are more common among women than among men. This includes, among other things, job strain as well as psychological and emotional demands. These types of demands are common in occupations and areas dominated by women such as education, health care and social services. Regarding other job demands, including cognitive demands, job insecurity and

interpersonal conflicts, the levels are comparable between women and men. When it comes to job resources, the statistics also indicate variations between women and men. This applies in particular to control and social support. A somewhat higher proportion of women than men have low control. Low control is common in occupations and areas dominated by women such as education, health care and social services. As for social support, a slightly higher percentage of men than women indicate a lack of support at work. For other job resources, the proportions of women and men are comparable.

When we report how common different organizational and psychosocial factors are, we have used the data available to us, which has reported statistics separately for women and men. However, these statistics are based on specific individual questions. As a consequence, we only could develop a basis that, on an overall level, reflects the different organizational and psychosocial work environment factors included in this report. This means that we primarily show how common something is among women and men in Sweden. Such summaries at group level do not indicate specific levels for different occupations, positions or sectors. Yet, on an overall level, there is a higher prevalence of certain negative organizational factors, high job demands and poor job resources among women rather than among men. At the same time, however, the prevalence statistics of other factors are comparable for groups of women and men.

When it comes to the psychosocial work environment, certain job demands and the lack of certain job resources, characterize occupations and fields within education, health care and social services that mostly employ women. This suggests that, at least for some aspects of the organizational and psychosocial work environment, there are systematic variations. These variations may be linked to labour market segregation, where different occupations and sectors are characterized by somewhat different conditions. However, the variations may also relate to the horizontal and vertical aspects of the gender-segregated labour market. To clarify the prevalence of various factors of the work environment in more detail, further processing of official statistics is needed. This includes, within the framework of, for example, work environment surveys, systematically analysing and reporting results for different organizational and psychosocial factors for women and men in different occupations, positions and sectors. Performing such analyses systematically and repeatedly over time, would help further clarifying the working conditions that women and men in different occupations, positions and sectors are to manage, and how they vary over time.

THE IMPORTANCE OF DIFFERENT FACTORS AT WORK

Chapters 8 and 9 provide detailed accounts of the importance of organizational and psychosocial factors respectively for various work-related and health-related outcomes. Tables 8.1 (organizational factors), 9.1 (psychosocial job demands) and 9.2 (psychosocial job resources) give an overview of the relationships identified based on the systematic research reviews that form the basis of this report. In total, 27 organizational and psychosocial factors are linked to 23 different work-related and health-related outcomes. This means that there are 621 potential associations. However, the systematic research reviews included in this report did not include all these associations.

Overall linkages

Overall, this report shows that various organizational and psychosocial factors at work play a role for different work-related and health-related outcomes. Thus, there is an overall relationship between how things are at work and how satisfied and healthy working individuals are. Generally, psychosocial stress in terms of high job demands and poor job resources is associated with, for example, lower job satisfaction and a higher risk of poor mental and physical health. Examples of organizational factors, where the current knowledge points to overall associations, include shift work and night work (which are clearly linked to more adverse health outcomes), leadership (with an adequate leadership being linked to positive work-related outcomes and mental health), and organizational change (primarily linked to negative health-related outcomes). An example of psychosocial job demands, where the overall associations to outcomes are well documented, is job strain, which is associated with more negative health outcomes. Other examples include psychological demands, job insecurity and interpersonal conflicts, which can be linked to both work-related and health-related outcomes, and unclear goals, which entail several aspects of work-related outcomes and poor mental health. Examples of psychosocial job resources, where the current knowledge is extensive, primarily include control and social support, which are associated with more favourable work-related and health-related outcomes.

These overall associations derive from systematic research reviews including several primary studies. The advantage of focusing on, and including, systematic research reviews is that it reduces the risk of drawing inadequate conclusions from any single primary study, which may report results that contradict the bulk of other primary studies. It should also be pointed out that the general and overall associations presented in Chapters 8 and 9 follow many previous

primary studies. This relates to the systematic research reviews including and summarizing results reported in such primary studies. The overall associations also align with scientific theories and models that have guided the work of this report.

Associations for women and men

As regards the importance of organizational and psychosocial factors for various work-related and health-related outcomes for women and men, it seems that the overall relationships between different working conditions and different outcomes are comparable for women and men. This means that, for example, control at work is associated with a lower prevalence of symptoms of depression in general, but also specifically for women and men. Overall, the general associations documented conform with associations applying specifically to women or men. This suggests that women and men react in similar ways if they encounter the same kinds of demands at work or have access to the same types of job resources.

Given that there are some variations in the prevalence statistics of various organizational and psychosocial factors between women and men (see Chapters 5 and 6), the finding, which shows that the importance of organizational and psychosocial factors for different outcomes is similar for both women and men, may seem somewhat contradictory. It is important to note that variations in the prevalence of organizational and psychosocial factors between women and men only provide part of a complex picture. Here, it is central to note that the statistics reported in chapters 5 and 6 are point estimates. This means that the statistics report on the presence of, for example, job demands at a specific point in time for women and men respectively. Although the variations over time are small, in so that the percentage of women reporting high demands is comparable over time, there is no link to the various work-related and health-related outcomes. Since such a link is missing, it is impossible to draw any conclusions regarding the importance of any specific level, for example, of job demands for health-related outcomes. It is also important to emphasize that variations between women and men can be a rough way of trying to understand how work is associated with such factors as job satisfaction, organizational commitment, health, and well-being. However, the associations documented in this report show that excessive job demands and limited job resources are generally linked to lower job satisfaction, increased turnover, and poorer mental and physical health. It also shows the importance of promoting a generally good work environment for women as well as men, for different occupations and for different sectors of the labour market.

The importance of different levels of job demands and job resources is a recurring issue when it comes to how organizational and psychosocial factors are linked to different outcomes – there are no clear limits or cut-off values which makes it difficult to detail exactly when, for instance, levels of psychosocial demands are too high for a group of individuals, in a workplace or in a specific sector. Similarly, there is no established consensus on how organizational and psychosocial factors are to be studied. Self-reports collected through standardized questionnaires are still commonly used. However, there are different measures to systematically identify or examine the different factors at work. For example, there are several different questionnaires that can be used to investigate demands and control at work. In addition to the questions varying between different questionnaires, there are also variations in the response alternatives that are being used. Based on Chapters 8 and 9, it is clear that there are several systematic research reviews that include aspects of the psychosocial work environment that are included in the demand–control–support model. This is related to the model having dominated much of the research field, although its relevance to the modern, flexible working life has been questioned, along with its relevance for occupations mainly employing women. Despite these disadvantages, many find the relatively simple and transparent model easy to understand and use. However, there are more recent models, such as the effort/reward imbalance model, although they have not had the same impact as the older models. The job demands–resources model, which builds upon the demand–control–support model, was used as a meta-model to guide the structuring of the present report. The job demands–resources model allows for taking into account several job demands and job resources but also suffers from the problems associated with measuring the same phenomenon using various instruments.

As stated in chapters 8 and 9, far from all systematic research reviews report specific associations for women and men respectively. This may result from various factors. It may, for instance, be related to a systematic research review not clearly showing whether there are differences between women and men. Based on the systematic research reviews included in this report, the most common reason, however, seems related to the primary studies of a systematic research review not including specific details regarding the relationships between work environment factors and outcomes for women and men respectively. Without such details being unavailable in primary studies, it is obviously difficult to draw any conclusions in a systematic research review regarding whether any association varies between women and men. This means that it is impossible to clarify whether the importance of a certain factor for

a specific outcome is comparable or different for women and men respectively.

Associations for women and men working in different occupations and sectors

When taken together, factors of the organizational and psychosocial work environment show similar linkages to various outcomes for both women and men. However, considerably fewer systematic research reviews have included various occupations, positions and sectors. This means that systematic research reviews that compare working conditions in different occupations are needed to clarify whether there are variations in the importance of working conditions for different outcomes between different occupations. This also applies to different positions and sectors. However, there are systematic research reviews focusing on a specific occupation or sector. These provide some detail. But then, the results for specific occupations and sectors need to be related to overall associations in the population. On a general level, linkages found for a specific occupation also seem to reflect overall associations. However, there are a few exceptions, which may relate to the number of primary studies focusing on a specific occupational group being very small, or the primary studies involving a specific context, not necessarily corresponding to the overall conditions on the labour market. From the systematic research reviews included in this report, no conclusions can be drawn regarding the variation in the importance of organizational and psychosocial factors for work-related and health-related outcomes between the different occupations, different positions, and different sectors employing women and men.

In addition to meta-analyses and literature reviews investigating the importance of different organizational and psychosocial factors in relation to various work-related and health-related outcomes, there are also prevalence statistics for both organizational and psychosocial work environment factors. Such statistics typically include the prevalence statistics of various factors, separately for women and men. Sometimes such statistics are also available separately for different occupations and sectors. However, these prevalence statistics provide little insight into the importance of different organizational and psychosocial factors for various work-related and health-related outcomes among women and men working in different occupations and sectors. Again, it is worth emphasizing that the overall linkages presented in this report are limited to being general and only to be applied in general. This means that there can be variations within and between different groups. Thus, the key question relates to the exposure to different

organizational and psychosocial factors and its variation between occupations and sectors, which potentially involves a higher workload and greater risk of poor health in occupations and sectors with a less favourable work environment.

As for the relatively scant reporting on various factors of the organizational and psychosocial work environment as related to work-related and health-related outcomes in different groups, there are several systematic research reviews that note that primary studies often lack systematic reporting for different groups. This can apply to women and men but also to different occupational groups, individuals working in different sectors, in different positions, or to those born abroad and or in the country where a primary study was conducted. However, some studies report separate associations for women and men for some of the associations between explanatory variables and outcomes. However, from the different systematic research reviews included in this report, it is unclear to what extent such variations between women and men were studied systematically, or whether only one or a few primary studies form the basis for an association. This makes it difficult to draw any solid conclusions regarding variations between women and men. The same argument applies to various industries and sectors of the labour market, as well as for various positions (e.g., managers/subordinates). These types of systematic shortcomings of the primary studies that form the basis of the systematic research reviews obviously constitute a problem. This problem relates to the systematic research reviews being unable to draw any conclusions regarding the different groups or sectors of relevance for understanding and clarifying any variations in the importance of different organizational and psychosocial factors relative to occupational health and well-being.

FUTURE AVENUES

With the starting point being that the weaknesses identified in several systematic research reviews relate to the level of detail in the the primary studies included, there is an important conclusion of this report. This conclusion is that it is vital to go beyond existing systematic research reviews and supplement these with an overview of the primary studies. Given the amount of research literature available, such an overview of primary studies needs to focus specifically on how a limited number of organizational and psychosocial factors are related to a limited number of outcomes. Such an approach would clarify whether individual primary studies at all include and analyze associations in specific groups such as working women and men in different sectors. In addition to focusing on quantitative studies, such an approach that makes use

of primary studies would also make it possible to include qualitative studies. This relates to qualitative studies, providing an opportunity to problematize individuals' perceptions of different psychosocial and organizational factors.

Another important conclusion of this report is that existing official statistics can, and should, be used to understand the working conditions of women and men by more frequently taking into consideration in which sectors and occupations women and men work. Prevalence statistics of various organizational and psychosocial factors for women and men in different sectors and in different occupations would increase the understanding of how work is organized in sectors and occupations dominated by women and men respectively. Such descriptions would also provide valuable knowledge regarding risk factors at work, particularly if supplemented by corresponding descriptions of various work-related and health-related outcomes. This would also add to the knowledge of the organizational factors and psychosocial factors that are associated with more positive work-related and health-related outcomes. Such a systematic approach using existing data is necessary to provide a clearer basis for efficiently targeting different occupational factors including management and supervision to improve working conditions for large groups. At the same time, such systematic analyses are also needed to provide a better basis for prevention and intervention at work focusing on vulnerable groups.

RESEARCH IMPLICATIONS

The results of this report have implications for research on organizational factors, psychosocial work environment and occupational health in the broadest sense. One such clear implication is a recommendation to report separately the prevalence of different factors and outcomes for women and men, as well as reporting the associations between exposures and outcomes separately for women and men. This needs to be more of a rule than the exception; currently many studies add gender as a control variable in the statistical analyses, an approach that may obscure important variations and similarities. Studies that report different estimates for women and men are important in themselves, but they also provide better opportunities for systematic research reviews to compile systematic details regarding the working conditions of women and men in relation to different outcomes.

Another implication involves the need of additional longitudinal studies with shorter periods of time between measurement occasions. This would contribute to a better understanding of

how organizational factors and factors of the psychosocial work environment relate to work-related and health-related outcomes over time. In addition, more research is needed to detail the relative importance of various work environment factors, including, for instance, how job demands and job resources are linked to a variety of outcomes. Further research investigating potential combined effects is also needed. For instance, such studies can describe how any combinations of different demands at work may result in a greater risk for poor work-related health. Moreover, such studies can provide information on how different organizational and psychosocial job resources can mitigate any negative effects of job demands. Since the work environment is formed through activities relevant for the work, it is also vital that future research focuses on how work is organized, and how organizations change and improve the work environment, to clarify the strategies that are effective. There is also a need for research to delineate successful preventive and intervention strategies and programs for improving the work environment. To contribute to increased knowledge about the working conditions of women and men, and how work environment factors relate to various work-related and health-related outcomes, research also needs to take into account the interplay between working life and other parts of life.

METHODOLOGICAL ISSUES

In this report, we chose to focus on systematic research reviews published over the past decade. One advantage of this approach is that the analysis is based on extensive and systematic meta-analyses and literature reviews. These, in turn, are based on large numbers of primary studies. This approach also made it possible to include a variety of organizational factors and psychosocial job demands and job resources. In addition, the strategy made it possible to detail how such factors relate to a variety of work-related and health-related outcomes. A possible disadvantage of the chosen method is that the various systematic research reviews seldom report prevalence statistics and effects of various work environment factors separately for women and men. It is possible that an alternative approach, only using primary studies, would have provided a somewhat better opportunity to describe the prevalence and importance of different organizational and psychosocial factors for women and men respectively, as well as for occupations and sectors dominated by women and men respectively. Such an approach, however, would have risked descriptions of prevalence statistics and associations between factors of the work environment and different outcomes to become arbitrary to a certain extent, partly because only few primary studies report results separately for women and men,

and partly because it would have been unfeasible to include all primary studies to cover all potential associations between work environment factors and outcomes.

We have described how we performed literature searches in international and national databases. In addition to the publications included in this report, there may be publications that could potentially have been identified by using other search terms or other combinations of search terms and/or that publications are not indexed in the databases that we used. Thus, there may be relevant publications not included in this report. However, given the number of primary studies that are summarized in the systematic research reviews included in this report, it would be surprising if any further publications would alter the conclusions in any significant way.

CONCLUSIONS

Using systematic research reviews as a starting point made it possible to study a large variety of organizational and psychosocial factors and relate these to a variety of work-related and health-related outcomes. The results of this report add to the understanding of how different aspects of the work environment relate to work-related attitudes and behaviour of working individuals, as well as to their mental and physical health, but mainly on a general level. The knowledge basis means that it is seldom possible to draw any conclusions regarding variations in the importance of organizational factors and psychosocial factors for work-related and health-related outcomes between women and men or between occupations and sectors mainly including women. Thus, there is a great need for future research to further the understanding of the working conditions of women and men, also taking into account in which occupation and sector they operate.

There is also a great need to convert the lessons learned from this report into practices of healthy work and its management on different levels. The results presented in this report show that the way work is organized – as it is manifested in organizational factors and psychosocial factors – is important for worker health and well-being. To a large extent, such linkages seem general and thus apply to both women and men. However the ways of organizing work vary, and so do the overall working conditions of different sectors. Because the number of women and men vary between sectors, women and men are exposed to somewhat different work environments. Thus, the key challenge in managing the work environment is to monitor systematically the working conditions for different sectors, occupations and positions.

This report shows that there is a solid understanding of the organizational and psychosocial factors that contribute to positive work-related attitudes and behaviour and to good health. The next step is to make use of this knowledge in developing a sustainable work environment for both women and men, as well as for occupations and sectors employing mainly women or men. Even if such efforts involve costs, especially when it comes to specific measures targeting vulnerable groups, they are also associated with profits. Such profits apply not only to individuals in terms of better working conditions and health, but also to organizations and the society at large, in providing opportunities for engagement at work, improved job performance, lower turnover rates, and sustainable occupational health.

References

References marked with an asterisk (*) are included in the empirical basis for this report.

*Adriaenssens, J., De Gucht, V., & Maes, S. (2015). Determinants and prevalence of burnout in emergency nurses: A systematic review of 25 years of research. *International Journal of Nursing Studies*, 52(2), 649–661.

*Ahmed, I. & Nawaz, M.M. (2015). Antecedents and outcomes of perceived organizational support: A literature survey approach. *Journal of Management Development*, 34(7), 867–880.

*Alarcon, G.M. (2011). A meta-analysis of burnout with job demands, resources, and attitudes. *Journal of Vocational Behavior*, 79(2), 549–562.

Angelov, N., Johansson, P., Lindahl, E., & Lindström, E-A. (2011). *Kvinnors och mäns sjukfrånvaro* [Women's and men's absenteeism]. Uppsala: Institute for Evaluation of Labour Market and Education Policy (IFAU), IFAU report 2011:2.

*Bailey, C., Madden, A., Alfes, K., & Fletcher, L. (2015). The meaning, antecedents and outcomes of employee engagement: A narrative synthesis. *International Journal of Management Reviews*, 1–23. Online first. DOI: 10.1111/ijmr.12077.

*Bal, P.M., De Lange, A.H., Jansen, P.G.W., & Van Der Velde, M.E.G. (2008). Psychological contract breach and job attitudes: A meta-analysis of age as a moderator. *Journal of Vocational Behavior* 72(1), 143–158.

*Bamberger, S.G, Vinding, A.L, Larsen, A., Nielsen, P. Fonager, K. Nielsen, R.N., Ryom, P., & Omland, Ø. (2012). Impact of organisational change on mental health: A systematic review. *Journal of Occupational & Environmental Medicine*, 69(8), 592–598.

*Bedi, A. & Schat, A.C.H. (2013). Perceptions of organizational politics: A meta-analysis of its attitudinal, health, and behavioural consequences. *Canadian Psychology*, 54(4), 246–259.

*Bergmann, N., Gyntelber, F., & Faber, J. (2014). The appraisal of chronic stress and the development of the metabolic syndrome: A systematic review of prospective cohort studies. *Endocrine Connections*, 3, R55–R80.

- *Bernal, D., Campos-Serna, J., Tobias, A., Vargas-Prada, S., Benavides, F.G., & Serra, C. (2015). Work-related psychosocial risk factors and musculoskeletal disorders in hospital nurses and nursing aides: A systematic review and meta-analysis. *International Journal of Nursing Studies*, 52(2), 635–648.
- *Bowling, N.A., Alarcon, G.M., Bragg, C.B., & Hartman, M.J. (2015). A meta-analytic examination of the potential correlates and consequences of workload. *Work & Stress*, 29(2), 95–113.
- *Bria, M., Baban, A., & Dumitrascu, D.L. (2012). Systematic review of burnout risk factors among European healthcare professionals. *Cognition, Brain, Behavior*, 10(3), 423–452.
- Campos-Serna, J., Ronda-Pérez, E., Artazcoz, L., Moen, B., & Benavides, F. (2013). Gender inequalities in occupational health related to the unequal distribution of working and employment conditions: a systematic review. *International Journal for Equity in Health*, 12(57), 1–18.
- *Cantisano, G.T., Domínguez, F.M., & Depolo, M. (2008). Psychological contract breach and outcomes: Combining meta-analysis and structural equation models. *Psicothema*, 20(3), 487–496.
- *Chan, Z.C.Y., Tam, W.S., Lung, M.K.Y., Wong, W.Y., & Chau, C.W. (2013). A systematic literature review of nurse shortage and the intention to leave. *Journal of Nursing Management*, 21(4), 605–613.
- *Cheng, G.H.-L. & Chan, D.K.-S. (2008). Who suffers more from job insecurity? A meta-analytic review. *Applied Psychology: An International Review*, 57(2), 272–303.
- *Chiaburu, D.S. & Harrison, D.A. (2008). Do peers make the place? Conceptual synthesis and meta-analysis of coworker effects on perceptions, attitudes, OCBs, and performance. *Journal of Applied Psychology*, 93(5), 1082–1103.
- *Cicolini, G., Comparcini, D., & Simonetti V. (2014). Workplace empowerment and nurses' job satisfaction: A systematic literature review. *Journal of Nursing Management* 22(7), 855–871.
- *Cosgrove, M.P., Sargeant, L.A., Caleyachetty, R., & Griffin, S.J. (2012). Work-related stress and Type 2 diabetes: Systematic review and meta-analysis. *Occupational Medicine*, 62(3), 167–173.
- *Cowden, T., Cummings, G., & Profetto-McGrath, J. (2011). Leadership practices and staff nurses' intent to stay: A systematic review. *Journal of Nursing Management*, 19(4), 461–477.

- *Cummings, G.G., MacGregor, T., Davey, M., Lee, H., Wong, C.A., Lo, E., Muise, M., & Stafford, E. (2010). Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review. *International Journal of Nursing Studies*, 47(3), 363–385.
- *Darr, W. & Johns, G. (2008). Work strain, health, and absenteeism: A meta-analysis. *Journal of Occupational Health Psychology*, 13(4), 293–318.
- *Davey, M.M., Cummings, G. Newburn-Cook, C.V., & Lo, E.A. (2009). Predictors of nurse absenteeism in hospitals: A systematic review. *Journal of Nursing Management*, 17(3), 312–330.
- de Jonge, J. & Dormann, C. (2006). Stressors, resources, and strain at work: A longitudinal test of the triple-match principle. *Journal of Applied Psychology*, 91(6), 1359–1374.
- de los Reyes, P., & Yazdanpanah, S. (2011). *Våld och genus i arbetslivet: Kunskapsöversikt* [Violence and gender in working life: Knowledge compilation]. Stockholm: Swedish Work Environment Authority, Report 2011:3.
- Demerouti, E., Bakker, A., Nachreiner, F., & Schaufeli, W. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512.
- *Dickinson, T. & Wright, K.M. (2008). Stress and burnout in forensic mental health nursing: a literature review. *British Journal of Nursing*, 2008, 17(2), 82–88.
- *Duijts, S.F.A., Kant, I., Swaen, G.M.H., van den Brandt, P.A., & Zeegers, M.P.A. (2007). A meta-analysis of observational studies identifies predictors of sickness absence. *Journal of Clinical Epidemiology*, 60(11), 1105–1115.
- *Dulebohn, J.H., Bommer, W.H., Liden, R.C., & Brouer, R.L. (2012). A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future. *Journal of Management*, 38(6), 1715–1759.
- Ellingsæter, A.L. (2014). Skandinavia: De mest kjønnsdelte arbeidsmarkedene? [Scandinavia: The most gender-segregated labour market?]. In *Jämställt arbete? Organisatoriska ramar och villkor i arbetslivet* [Gender equal work? Organizational frameworks and conditions in working life] (pp. 9–22). Forskningsrapport till Delegationen för jämställdhet i arbetslivet [Research report for the Delegation for gender equality in working life]. SOU 2014:30.

*Eatough, E.M., Chang, C-H., Miloslavic, S.A., & Johnson, R.E. (2011). Relationships of role stressors with organizational citizenship behavior: A meta-analysis. *Journal of Applied Psychology*, 96(3), 619–632.

*Elovainio, M., Heponiemi, T., Sinervo, T., & Magnavita, N. (2010). Organizational justice and health: Review of evidence. *Giornale Italiano di Medicina del Lavoro ed Ergonomia, Supplemento B, Psicologia*, 32(3), 5–9.

*Finney, C., Stergiopoulos, E., Hensel, J., Bonato, S., & Dewa, C.S. (2013). Organizational stressors associated with job stress and burnout in correctional officers: a systematic review. *BioMedCentral Public Health*, 13(82), 1–13.

Frankenhaeuser, M. & Johansson, G. (1981). Stress at work: Psychobiological and psychosocial aspects. *Journal of Applied Psychology*, 35(3), 287–299.

*Fransson, E.I., Nyberg, S.T., Heikkilä, K. et al. (2015). Job strain and the risk of stroke: An individual-participant data meta-analysis. *Stroke*, 46(2), 557–559.

Fristedt, S. & Fransson, E. (2015). *Fysisk aktivitet och träning: Möjlig prevention av arbetsrelaterade belastningsbesvär* [Physical activity and exercise: Possible prevention of work-related musculoskeletal disorders]. Stockholm: Swedish Work Environment Authority, Knowledge Compilation 2015:11.

*Fried, Y., Shirom, A., Gilboa, S., & Cooper, C.L. (2008). The mediating effects of job satisfaction and propensity to leave on role stress–job performance relationships: Combining meta-analysis and structural equation modeling. *International Journal of Stress Management*, 15(4), 305–328.

French, J.R.P., Jr., & Caplan, R.D. (1972). Organizational stress and individual strain. In A.J. Marrow (Eds.), *The failure of success* (pp. 30–66). New York: Amazon.

*Gajendran, R.S. & Harrison, D.A. (2007). The good, the bad, and the unknown about telecommuting: Meta-analysis of psychological mediators and individual consequences. *Journal of Applied Psychology*, 92(6), 1524–1541.

Göransson, S., Näswall, K., & Sverke, M. (2011). *Psykologiska perspektiv på hot och våld i arbetslivet: Kunskapsöversikt* [Psychological perspectives on threats and violence in working life: Knowledge compilation]. Stockholm: Swedish Work Environment Authority, Report 2011:7.

- *Halbesleben, J.R.B. (2006). Sources of social support and burnout: A meta-analytic test of the conservation of resources model. *Journal of Applied Psychology*, 91(5), 1134–1145.
- *Heavey, A.L., Holwerda, J.A., & Hausknecht, J.P. (2013). Causes and consequences of collective turnover: A meta-analytic review. *Journal of Applied Psychology*, 98(3), 412–453.
- *Heikkilä, K., Madsen, I.E.H., Nyberg, S.T., et al. (2014). Job strain and the risk of severe asthma exacerbations: A meta-analysis of individual-participant data from 100 000 European men and women. *Allergy*, 69(6), 775–783.
- Hobfoll, S.E. (1989). Conservation of resources: A new attempt to conceptualizing stress. *American Psychologist*, 44(3), 513–524.
- *Hülsheger, U.R. & Schewe, A.F. (2011). On the costs and benefits of emotional labor: A meta-analysis of three decades of research. *Journal of Occupational Health Psychology*, 16(3), 361–389.
- Hägglund, P. & Johansson, P. (2016). *Sjukskrivningarnas anatomi: En ESO-rapport om drivkrafterna i sjukförsäkringssystemet* [The anatomy of sick leave: An ESO report about the driving forces in the sickness insurance system]. Rapport till Expertgruppen för studier i offentlig ekonomi [Report to the expert group for studies in public economics] 2016:2. ISBN 978-91-38-24409-8.
- *Häusser J.A., Mojzisch, A., Niesel, M., & Schulz-Hardt, S. (2010). Ten years on: A review of recent research on the Job Demand Control (-Support) model and psychological well-being. *Work & Stress*, 24(1), 1–35.
- James, L.R. & Sells, S.B. (1981). Psychological climate: Theoretical perspectives and empirical research. In D. Magnusson (Ed.), *Toward a psychology of situations: An interactional perspective* (pp. 275–295). Hillsdale, NJ: Lawrence Erlbaum.
- Karasek, R. & Theorell, T. (1990). *Healthy work: Stress productivity, and the reconstruction of working life*. New York: Basic Books
- Katz, D. & Kahn, R.L. (1978). *The social psychology of organizations*. New York: Wiley.
- Kawachi, I., Colditz, G.A., Stampfer, M.J., et al. (1995). Prospective study of shift work and risk of coronary heart disease in women. *Circulation*, 92, 3178–3182.

*Khamisa, N., Peltzer, K., & Oldenburg, B. (2013). Burnout in relation to specific contributing factors and health outcomes among nurses: A systematic review. *International Journal of Environmental Research and Public Health*, 10(6), 2214–2240.

*Kim, H. & Kao, D. (2014). A meta-analysis of turnover intention predictors among U.S. child welfare workers. *Children and Youth Services Review* 47(3), 214–223.

*Kim, I-H., Muntaner, C., Shahidi, F.V., Vives, A., Vanroelen, C., & Benach, J. (2012). Welfare states, flexible employment, and health: A critical review. *Health Policy* 104(2), 99– 127.

*Kinsten, A., Magnusson Hanson, L.L., Hyde, M., Oxenstierna, G., Westerlund, H., & Theorell, T. (2007). *SLOSH 2006: En riksförrepresentativ studie av arbetsmiljö och hälsa* [SLOSH 2006: a nationally representative study of work environment and health]. Stockholm: Institute for Psychosocial Medicine.

*Kivimäki, M., Jokela, M., Nyberg, S. T., et al. (2015a). Long working hours and risk of coronary heart disease and stroke: A systematic review and meta-analysis of published and unpublished data for 603 838 individuals. *Lancet*, 386, 1739–1746.

*Kivimäki, M., Virtanen, M., Kawachi, I., et al. (2015b). Long working hours, socioeconomic status, and risk of incident type 2 diabetes: A meta-analysis of published and unpublished data from 222 120 individuals. *Lancet Diabetes Endocrinology*, 3(1), 27–34.

Kjellsson, S., Magnusson, C., & Tåhlin, M. (2014). Arbete, hälsa och genus: Betydelsen av yrkets könssammansättning för kvinnors och mäns villkor i arbetslivet [Work, health and gender: The importance of gender composition for women's and men's conditions in working life]. In *Jämställt arbete? Organisatoriska ramar och villkor i arbetslivet* [Gender equal work? Organizational frameworks and conditions in working life]. Stockholm: Forskningsrapport till Delegationen för jämställdhet i arbetslivet [Research report for Delegation for gender equality in working life] (pp. 151–194). SOU 2014:30.

*Knutsson, A. & Kempe, A. (2014). Shift work and diabetes: A systematic review. *Chronobiology International*, 31(10), 1146–1151.

*Kuoppala, J., Lamminpää, A., Liira, J., & Vainio, H. (2008). Leadership, job well-being and health effects: A systematic review and meta-analysis. *Journal of Occupational and Environmental Medicine*, 50(8), 904–15.

- *Landsbergis, P.A., Grzywacz, J.G., & LaMontagne, A.D. (2014). Work organization, job insecurity, and occupational health disparities. *American Journal of Industrial Medicine*, 57(5), 495–515.
- *Lang, J., Ochsmann, E., Kraus, T., & Lang, J.W.B. (2012). Psychosocial work stressors as antecedents of musculoskeletal problems: A systematic review and meta-analysis of stability-adjusted longitudinal studies. *Social Science & Medicine*, 75(7), 1163–1174.
- *Lee, J., Lim, N., Yang, E., & Lee, S.M. (2011). Antecedents and consequences of three dimensions of burnout in psychotherapists: A meta-analysis. *Professional Psychology: Research and Practice*, 42(3), 252–258.
- *Lee, R.T., Seo, B., Hladkyj, S., Lovell, B.L., & Schwartzmann, L. (2013). Correlates of physician burnout across regions and specialties: A meta-analysis. *Human Resources for Health*, 11(48), 1–16.
- Lewis, C. & Mathiassen, S.-E. (2013). *Belastning, genus och hälsa i arbetslivet: Kunskapssammanställning* [Loads, gender and health in working life: Knowledge compilation]. Stockholm: Swedish Work Environment Authority, Report 2013:9. ISSN 1650-3171.
- LO (2015). *Tid, makt och pengar: Sveriges jämställdhetsbarometer 2015* [Time, power and money: Sweden's gender equality barometer 2015]. Stockholm: Swedish Trade Union Confederation.
- *Lu, H., Barriball, K.L., Zhang, X., & While, A.E. (2012). Job satisfaction among hospital nurses revisited: A systematic review. *International Journal of Nursing Studies* 49(8), 1017–1038.
- *Maudgalya, T., Wallace, S., Daraiseh, N., & Salem, S. (2006). Workplace stress factors and 'burnout' among information technology professionals: A systematic review. *Theoretical Issues in Ergonomics Science*, 7(3), 285–297.
- *McLean, S.M., May, S., Klaber-Moffett, J., Sharp, D.M., & Gardiner, E. (2010). Risk factors for the onset of non-specific neck pain: A systematic review. *Journal of Epidemiology & Community Health*, 64(7), 565–572.
- *Miraglia, M. & Johns, G. (2015). Going to work ill: A meta-analysis of the correlates of presenteeism and a dual-path model. *Journal of Occupational Health Psychology*. Online first: <http://dx.doi.org/10.1037/ocp0000015>

- *Nahrgang, J.D., Morgeson, F.P., & Hofmann, D.A. (2010). Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology*, 96(1), 71–94.
- *Ndjaboué, R., Brisson, C., & Vézina, M. (2012). Organisational justice and mental health: A systematic review of prospective studies. *Occupational and Environmental Medicine*, 69(10), 694–700.
- *Nei, D., Snyder, L.A., & Litwiller, B.J. (2015). Promoting retention of nurses: A meta-analytic examination of causes of nurse turnover. *Health Care Management Review*, 40(3), 237–253.
- *Ng, T.W.H. & Sörensen, K.L. (2008). Toward a further understanding of the relationships between perceptions of support and work attitudes: A meta-analysis. *Group & Organization Management*, 33(3), 246–268.
- *Nieuwenhuijsen, K., Bruinvels, D., & Frings-Dresen, M. (2010). Psychosocial work environment and stress-related disorders: A systematic review. *Occupational Medicine*, 60, 277–286.
- *Nixon, A.E., Mazzola, J.J. Bauer, J. Krueger, J.R. & Spector, P.E. (2011). Can work make you sick? A meta-analysis of the relationships between job stressors and physical symptoms. *Work & Stress*, 25(1), 1–22.
- Nyberg, A., Leineweber, C., & Magnusson Hanson, L. (2015). Gender differences in psychosocial work factors, work–personal life interface, and well-being among Swedish managers and non-managers. *International Archives of Occupational and Environmental Health*, 88(8), 1149–1164.
- *Nyberg, S.T., Fransson, E.I., Heikkilä, K., et al., (2014). Job strain as a risk factor for type 2 diabetes: A pooled analysis of 124,808 men and women. *Diabetes Care*, 37(8), 2268–2275.
- *Oyama, Y. & Fukahori, H. (2015). A literature review of factors related to hospital nurses' health related quality of life. *Journal of Nursing Management*, 23(5), 661–673.
- Pan, A., Schernhammer, E.S., Sun, Q., & Hu, F.B. (2011). Rotating night shift work and risk of type 2 diabetes: Two prospective cohort studies in women. *PLOS Medicine*, 8(12): e1001141.

- *Pearson, A., Laschinger, H., Porritt, K., Jordan, Z., Tucker, D., & Long, L. (2007). Comprehensive systematic review of evidence on developing and sustaining nursing leadership that fosters a healthy work environment in healthcare. *International Journal of Evidence-Based Healthcare*, 5(2), 208–253.
- *Pereira, S.M., Fonseca, A.M., Carvalho, A.S. (2011). Burnout in palliative care: A systematic review. *Nursing Ethics*, 18(3), 317–326.
- *Podsakoff, N.P., LePine, J.A., & LePine, M.A. (2007). Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover, and withdrawal behavior: A meta-analysis. *Journal of Applied Psychology*, 92(2), 438–454.
- *Prins, J.T., Gazendam-Donofrio, S.M., Tubben, B.J., van der Heijden, F.M.M.A, van de Wiel, H.B.M., & Hoekstra-Weebers, J.E.H.M. (2007). Burnout in medical residents: A review. *Medical Education*, 41(8), 788–800.
- *Rauschenbach, C., Krumm, S., Thielgen, M., & Hertel, G. (2013). Age and work-related stress: A review and meta-analysis. *Journal of Managerial Psychology*, 28(7/8), 781–804.
- *Riggle, R.J., Edmondson, D.R., & Hansen, J.D. (2009). A meta-analysis of the relationship between perceived organizational support and job outcomes: 20 years of research. *Journal of Business Research* 62(10), 1027–1030.
- *Robbins, J.M., Ford, M.T., & Tetrick, L.E. (2012). Perceived unfairness and employee health: A meta-analytic integration. *Journal of Applied Psychology*, 97(2), 235–272.
- *Rockstuhl, T., Dulebohn, J.H., Ang, S., & Shore, L.M. (2012). Leader-member exchange (LMX) and culture: A meta-analysis of correlates of LMX across 23 countries. *Journal of Applied Psychology*, 97(6), 1097–1130.
- *Saber, D.A. (2014). Frontline registered nurse job satisfaction and predictors over three decades: A meta-analysis from 1980 to 2009. *Nursing Outlook*, 62(6), 402–414.
- *Schmidt, S., Roesler, U., Kusserow, T. & Rau, R. (2014). Uncertainty in the workplace: Examining role ambiguity and role conflict, and their link to depression – a meta-analysis. *European Journal of Work and Organizational Psychology*, 23(1), 91–106.

*Schütte, S., Chastang, J-F., Malard, L., Parent-Thirion, A., Vermeylen, G., & Niedhammer, I. (2014). Psychosocial working conditions and psychosocial well-being among employees in 34 European countries. *International Archives of Occupational and Environmental Health*, 87(8), 897–907.

*Seidler, A., Thinschmidt, M., Deckert, S., Then, F., Hegewald, J., Nieuwenhuijsen, K. & Riedel-Heller, S.G. (2014). The role of psychosocial working conditions on burnout and its core component emotional exhaustion: A systematic review. *Journal of Occupational Medicine and Toxicology*, 9(10), 1–13.

*Shirey, M.R. (2006). Stress and coping in nurse managers: Two decades of research. *Nursing Economic\$,* 24(4), 193–212.

*SBU (2013). *Arbetsmiljöns betydelse för sömnstörningar: En systematisk litteraturöversikt* [The significance of the work environment for sleep disorders: A systematic literature review]. Stockholm: Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU), SBU-report nr 216. ISBN 978-91-85413-57-7.

*SBU (2014a). *Arbetsmiljöns betydelse för symtom på depression och utmattningssyndrom: En systematisk litteraturöversikt* [The significance of the work environment for symptoms of depression and exhaustion: A systematic literature review]. Stockholm: Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU), SBU-report nr 223. ISBN 978-91-85413-64-5.

*SBU (2014b). *Arbetsmiljöns betydelse för ryggproblem: En systematisk litteraturöversikt* [The significance of the work environment for back problems: A systematic literature review]. Stockholm: Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU). SBU-report nr 227. ISBN 978-91-85413-68-3.

*SBU (2015). *Arbetsmiljöns betydelse för hjärt-kärlsjukdom. En systematisk litteraturöversikt* [The significance of the work environment for cardiovascular disease. A systematic literature review]. Stockholm: Swedish Agency for Health Technology Assessment and Assessment of Social Services (SBU), SBU-report nr 240. ISBN 978-91-85413-84-3.

Siegrist, J. (1996). Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology*, 1(1), 27–41.

Siegrist, J. & Marmot, M. (2004). Health inequalities and the psychosocial environment: Two scientific challenges. *Social Science & Medicine*, 58(8), 1463–1473.

*Sixth European Working Conditions Survey 2015 <http://www.eurofound.europa.eu/surveys/data-visualisation/sixth-european-working-conditions-survey-2015> accessed 2015-12-20.

SOU (2004). *Den könsuppdelade arbetsmarknaden* [The gender segregated labour market]. SOU: 2004:43.

SOU (2015). *Hela lönen, hela tiden: Utmaningar för ett jämställt arbetsliv* [The whole salary, all the time: Challenges for a gender equal working life]. Slutbetänkande av Delegationen för jämställdhet i arbetslivet [Final report of the Delegation for Gender Equality in Working Life]. SOU: 2015:50. ISSN 0375-250X.

*Stansfeld, S. & Candy, B. (2006). Psychosocial work environment and mental health: A meta-analytic review. *Scandinavian Journal of Work Environmental Health*, 32(6), 443-462.

Statistics Sweden (2014). *På tal om kvinnor och män: Lathund om jämställdhet 2014* [Speaking of women and men: Checklist on gender equality]. Örebro: SCB-Tryck.

Stevens, R.G., Hansen, J., Costa, G., et al. (2011). Considerations of circadian impact for defining 'shift work' in cancer studies: IARC Working Group Report. *Occupational and Environmental Medicine*, 68(2), 154-162.

Sverke, M., Hellgren, J., & Näswall, K. (2002). No security: A meta-analysis of job insecurity and its consequences. *Journal of Occupational Health Psychology*, 7(3), 242-264.

*Swedish Work Environment Authority (2014a). *Arbetsmiljön 2013* [Work environment 2013]. Stockholm: Arbetsmiljöverket. Work environment statistics report nr 2014:3.

Swedish Work Environment Authority (2014b). *Projektrapport: Inspektioner av kvinno- och mansdominerad kommunal verksamhet, hemtjänst och teknisk förvaltning* [Project report: Inspections of female and male dominated municipal activities, home care services and technical administration]. Stockholm: Arbetsmiljöverket. Report: 2014:3. ISSN 1650-3171.

Swedish Work Environment Authority (2015). *Organisatorisk och social arbetsmiljö: Arbetsmiljöverkets föreskrifter om organisatorisk och social arbetsmiljö samt allmänna råd om tillämpningen av föreskrifterna* [Organizational and social work environment: Swedish Work Environment Authority provisions about organizational and social work environment and general recommendations about the

application of the provisions]. Stockholm: Arbetsmiljöverket. AFS 2015:4. ISBN 978-91-7930-625-0.

*Thompson, L. & Rose, J. (2011). Does organizational climate impact upon burnout in staff who work with people with intellectual disabilities? A systematic review of the literature. *Journal of Intellectual Disabilities*, 15(3), 177–193.

Tucker, P., Bejerot, E., Kecklund, G., Aronsson, G., Åkerstedt, T. (2013). *Doctors' work hours in Sweden: Their impact on sleep, health, work-family balance, patient care, and thoughts about work*. Stress research report nr 325, Stress Research Institute, Stockholm University.

*Twig, D. & McCullough, K. (2014). Nurse retention: A review of strategies to create and enhance positive practice environments in clinical settings. *International Journal of Nursing Studies* 51(1), 85–92.

*Utriainen, K. & Kyngäs, H. (2009). Hospital nurses' job satisfaction: A literature review. *Journal of Nursing Management*, 17(8), 1002–1010.

*Wagstaff, A.S. & Sigstad Lie, J.-A. (2011). Shift and night work and long working hours: A systematic review of safety. *Scandinavian Journal of Work, Environment & Health*, 37(3), 173–185.

Warr, P. (1987). *Psychology at work*. London: Penguin Books.

*Watts, J. & Robertson, N. (2011). Burnout in university teaching staff: A systematic literature review. *Educational Research*, 53(1), 33–50

*White, M., Wagner, S., Schultz, I., Murray, E., Bradley, S.M., Hsu, V., McGuire, L., & Schulz, W. (2013). Modifiable workplace risk factors contributing to workplace absence across health conditions: A stakeholder-centered best-evidence synthesis of systematic reviews. *Work*, 45(4), 475–492.

*Zangaro, G.A. & Soeken, K.L. (2007). A meta-analysis of studies of nurses' job satisfaction. *Research in Nursing & Health*, 30(4), 445–458.

*Zhao, H & Wayne, S.J. (2007). The impact of psychological contract breach on work-related outcomes: A meta-analysis. *Personnel Psychology*, 60(3), 647–680.

*Åkerstedt, T., Ingre, M., & Kecklund, G. (2012). *Vad kännetecknar bra och dåliga skiftscheman?* [What characterizes good and bad shift schedules?] Stress research report nr 324, Stress Research Institute, Stockholm University.

www.av.se

Vår vision: Alla vill och kan skapa en bra arbetsmiljö

