

Work-related stress in women

Assessment, prevalence and return to work

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Abstract

Aim

The overall aim of this thesis was to learn about work-related stress in women and the return to work possibilities, and to develop a questionnaire for assessing work-related stress in women.

Method

The thesis is based on two qualitative studies and two quantitative studies. The qualitative studies used the focus group methodology to collect data. The development of items and scales in the questionnaire was based on the categories found in the first qualitative study. To improve the items and scales, and confirm face validity, a pilot group study was conducted. Furthermore, a test-retest study was accomplished to confirm the reliability of the questionnaire. The fourth study had an epidemiological cross-sectional design and used questionnaires in collecting data.

Result

In the first study, women sick-listed because of work-related stress described how personal as well as work-environmental factors had an impact on the return to work possibilities. Having an interactive and supportive communication with the supervisor and the work-place was decisive.

In the second study, supervisors with a rehabilitation responsibility saw themselves as being key persons. Furthermore, they described the rehabilitation work as a part of a greater whole influenced by society, demands and resources of the workplace and the interplay between all parties involved.

The Work Stress Questionnaire was developed and contains questions on *low influence at work, indistinct organisation and conflicts, individual demands and commitment* and *work to leisure time interference*. An appended question about

perceived stress was also designed. Face validity was confirmed and the reliability satisfactory.

In the cross-sectional study ten percent of the study group reported high *perceived stress owing to indistinct organisation and conflicts*, and 25 % reported high *perceived stress owing to individual demands and commitment*. Twenty-two percent reported low *influence at work* and 33 % work to leisure time interference. Overall work-related stress was significantly associated with increased odds of high level of self-reported symptoms. High *perceived stress owing to indistinct organisation and conflicts* and low *influence at work* were significantly associated with sick-leave.

Conclusion

Work-related stress in women should be understood in a societal context with special focus on the interaction between the individual and the environment. Society should work together with employers trying to find policies promoting modified workplaces and suitable tasks. Organisations should improve co-operation between the parties involved, i.e. the supervisors, the social insurance case managers, the health professionals and the sick-listed persons. The sick-listed women themselves should engage in meaningful activities not only for recreation but also to obtain routines of daily life.

The knowledge gained in this thesis could be used to develop a rehabilitation programme in the return to work process. The Work Stress Questionnaire could be a useful tool for health professionals when identifying persons who risk being placed on sick-leave.

Keywords

Work-related stress, gender, return to work, person-environment interaction, sick-leave, supervisor perspective, questionnaire, prevalence, focus groups, cross-sectional study

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Svensk sammanfattning

Syfte

Det övergripande syftet med denna avhandling var att få veta mer om arbetsrelaterad stress hos kvinnor och om deras möjligheter och hinder för att återgå till arbete. I syftet ingick också att utveckla ett frågeformulär som mäter arbetsrelaterad stress hos kvinnor.

Metod

Avhandlingen baseras på två kvalitativa och två kvantitativa studier. I de kvalitativa studierna användes fokusgruppmetoden för att samla in data. Formulärets frågor och skalor baserades på de kategorier som framkom i den första kvalitativa studien. För att förbättra dessa och bekräfta validiteten gjordes en pilotstudie. För att kontrollera formulärets reliabilitet genomfördes också en test-reteststudie. Den fjärde studien var en epidemiologisk tvärsnittundersökning som använde frågeformulär för att samla in data.

Resultat

I den första studien beskrev kvinnor sjukskrivna för arbetsrelaterad stress hur personliga likväl som arbetsrelaterade faktorer påverkade deras möjligheter att gå tillbaka till arbetet. Att ha en interaktiv och stödjande kommunikation med arbetsledare och arbetsplats var avgörande.

I den andra studien beskrev chefer med ett rehabiliteringsansvar sig själva som nyckelpersoner i rehabiliteringen av de sjukskrivna. Vidare beskrev de rehabiliteringsarbetet som en del i ett större sammanhang, påverkat av samhället, av arbetsplatsens krav och resurser, och av samspelet mellan alla inblandade parter.

Frågeformuläret Work Stress Questionnaire utvecklades. Det innehåller frågor om *lågt inflytande på arbetet, otydlig organisation och konflikter, höga egna krav och engagemang, och arbetets påverkan på fritiden*. En fråga om *upplevd stress*

konstruerades och lades till. Validiteten bekräftades och reliabiliteten var tillfredsställande.

I tvärsnittstudien rapporterade tio procent av undersökningsgruppen hög upplevd stress på grund av *otydlig organisation och konflikter*, och 25 procent rapporterade hög upplevd stress på grund av *höga egna krav och engagemang*. Tjugotvå procent rapporterade *låg inflytande på arbetet* och 33 procent att *arbetet påverkade fritiden* negativt. Arbetsrelaterad stress var signifikant sammankopplat med ökad sannolikhet för en hög nivå av självrapporterade besvär. *Hög upplevd stress på grund av otydlig organisation och konflikter* och *låg inflytande på arbetet* var signifikant sammankopplat med sjukskrivning.

Slutsats

Arbetsrelaterad stress hos kvinnor måste sättas in i ett samhälleligt sammanhang med speciellt fokus på samspelet mellan individ och omgivning. Samhället borde samarbeta med arbetsgivarna för att skapa riktlinjer för anpassning av arbetsplatser och arbetsuppgifter. På organisationsnivå borde samarbetet förbättras mellan cheferna, de ansvariga på Försäkringskassan och inom hälso- och sjukvården och de sjukskrivna. De sjukskrivna kvinnorna själva skulle kunna engagera sig i meningsfulla aktiviteter, inte bara för rekreation utan också för att skapa rutiner i det dagliga livet.

Den kunskap som kommit fram i denna avhandling kan användas till att utveckla ett program för återgång till arbete. Frågeformuläret – the Work Stress Questionnaire – kan vara ett användbart redskap för hälso- och sjukvårdspersonal för att identifiera personer som riskerar sjukskrivning.

Original papers

This thesis is based on the following papers, which will be referred to in the text by their Roman numerals:

- I. Holmgren K, Dahlin Ivanoff S. Women on sickness absence – views of possibilities and obstacles for returning to work. A focus group study. *Disability and Rehabilitation* 2004;26(4):213-222
- II. Holmgren K, Dahlin Ivanoff S. Supervisors' view on employer responsibility in the return to work process. A focus group study. *Journal of Occupational Rehabilitation* 2007;17:93-106
- III. Holmgren K, Hensing G, Dahlin-Ivanoff S. Development of a questionnaire assessing work-related stress in women – identifying individuals who risk being put on sick leave. Accepted in *Disability and Rehabilitation*, January 2008
- IV. Holmgren K, Dahlin Ivanoff S, Björkelund C, Hensing G. The prevalence of work-related stress, and its association with self-perceived health and sick-leave, in a cohort of employed Swedish women (submitted)

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Abbreviations

CI	Confidence Interval
OR	Odds Ratio
PA	Percentage Agreement
RC	Relative Concentration
ROC	Relative Operating Characteristic
RP	Relative Position
RV	Relative Rank Variance

Introduction

Deteriorated health, anxiety, fatigue and musculoskeletal pain are some of the risks that women in Sweden are facing to a greater extent than men (1-3). Women also account for the majority of sick-leave in Sweden (3, 4). Work-related stress caused by work characteristics such as poor organisational and psychosocial factors results in sickness absence in both sexes (5-8), but increased workload with high psychological and physical demands has been particularly connected to symptoms of illness, as well as to sick-leave, among women (9-11). Not only does low social support from co-workers and supervisors increase the risk for sickness absence, but it also delays the return to work (12-14). Despite a majority of those affected being women, little research from a gender perspective has been carried out (15).

The phenomena of sickness absence and the return to work process are complicated and need to be understood in their connection to society, as well as to organisation and individual (15, 16). In order to acquire more knowledge it is essential to understand the perspective of the individual and to explore the views of the parties involved. In this, one has to consider both personal and environmental factors, with a special concern for the interaction between them (17-19). It is therefore important to obtain the sick-listed women's own perspective of the work-related personal and environmental impact on the process of sickness absence and return to work.

According to sick-listed employees, the return to work process is greatly influenced by employers' attitudes and measures, and the supervisors' role has been described as significant. Positive interactive communication between the individual and the supervisor has been described as essential (20, 21). Consequently, discovering the point of view of supervisors regarding possibilities for returning to work is of great interest.

Being under pressure, such as perceiving stress from work, affects the individual negatively and may result in a variety of symptoms of illness and psychological distress before sick-listing becomes a fact (10, 22-24). In order to put forward measures for reducing the development of sickness absence it is

valuable to find ways to identify individuals at risk for sick-leave in good time (25). In Sweden, women and men are concentrated in separate occupations; women are mainly in public employment, while men work mostly in the private sector. Given this, women's and men's working conditions may differ. Consequently, it can be of value to design a questionnaire assessing work-related stress from a gender perspective. Even though we know that different work-related factors influence sick-leave outcomes and return to work possibilities, little is known concerning how common this is among Swedish women. Therefore, research focusing on the prevalence of work-related stress in a general working population of middle-aged women can be of interest.

Gender perspectives on health and sick-leave

Gender differences in health are explained from at least two perspectives, the biological and the socio-cultural (26, 27). The biological perspective stresses genetics, physiological and anatomical features as explanatory factors while the socio-cultural perspective accentuates women's and men's diverse circumstances in social, working and family life. The biological perspective is often viewed as uncomplicated. Women and men are seen as separated and unchangeable units, universally applied. The socio-cultural perspective is more complex and has to consider the individual in a context influenced by family, work and society. This perspective has to understand the construction of femininity and masculinity and how these are influenced by society and culture. As opposed to the biological perspective the socio-cultural also has to recognise the constructions' changeability. However, it is essential to integrate these two perspectives, since neither can be sufficient on its own. The construction of gender is influenced by biology and the biological and physical features of the sexes are not static, but are influenced by environment (26, 27).

Consequently, the negative development of health among women requires reflection from a variety of angles. Although women live longer than men, it can be seen as a paradox that they report lower perceived health, consume more health care and are more often on sick-leave than men (1, 2, 28). Surveys have, however, pointed out a more complex picture where gender differences depend on many different factors (29-31). Of these, it is important to consider diagnosis and age. Macintyre et al. (29) found gender differences in reporting symptoms and conditions, where women showed more psychological distress than men. However, no gender differences were found in reporting physical symptoms and conditions. In a study of self-reported headache and musculoskeletal pain, women reported a greater number of, and more severe

symptoms than men. However, the differences were reversed when it came to the physical dimensions of health-related quality of life. In these men were more affected by headache than women (30). A large diversity was also found in the different age groups with gender differences in the younger groups and no differences in the middle-aged ones (30). Correspondingly, Macintyre et al. found it valuable to take age in to account when analysing gender health differences (29). As previously mentioned women are more sick-listed than men. Hensing et al., however found in a study concerning sick-leave owing to psychiatric disorders that men turned out to have longer periods of sickness absence while women had a higher incidence of sick-leave (31). Conclusively, this complexity of gender, health and sick-leave requires further research that will shed light upon the issue from a variety of perspectives (15, 32).

An aspect when considering women's health and sick-leave is that in Sweden women are proportionately part of the paid work force approximately to the same extent as men; women's participation rate is 80 % compared to men's 86 % (33, 34). At the same time, unpaid work, such as household work and domestic childcare, has not diminished and women contribute more to these chores than men (34, 35). In a study of employed Swedish women, high domestic strain was associated with low self-rated health (36). Women in white-collar professions report a higher total workload, including paid and unpaid work, more stress and higher severity of symptoms than men (37, 38). A high total workload was associated with sick-leave among women in a study based on employees of the Swedish Mail (39). The work-family conflict has been found to constitute a risk for sickness absence in both women and men, most pronounced in women however, and with poorer health outcome among women (40, 41). Even though this thesis is focusing on work-related stress in women it is vital to keep in mind the influences of stress from other domains of life.

Consequences of sickness absence

In Sweden, during the nineteen-nineties the rate of sick-leave increased dramatically, but has somewhat declined in the last few years. Still, the costs in terms of early retirement pensions have increased, and over a half of million people are living on disability pensions. In just a few years, psychiatric diagnoses have risen from 18 % to over 30 % of the sickness certifications. Within the psychiatric diagnoses depression, stress reactions and angst syndrome have increased the most (3, 4). Long-term sickness absence is a strong predictor for mortality and low self-rated health in both women and

men. The odds for overall mortality were at least more than three times higher for sick-listed persons (42, 43). Sick-leave is also a predictor for future disability pension (44). The consequences of sickness absence also affect several other domains of life. People who have been on sick-leave for a long period perceive a reduced satisfaction in leisure activities, financial situation and life as a whole (45, 46). Initially women on long-term sick-leave described, in a qualitative study, a relief in being on sick-leave but eventually found themselves isolated and inactive (47). In a study of middle-aged women, those who were sick-listed perceived lower well-being than the working women (48). In a Swedish survey, women's wages, as opposed to men's, were significantly reduced owing to work absence because of their own sickness (49). Self-efficacy has been found to be lower in the group of sick-listed people compared to the general working population (50). However, low self-efficacy was not associated with future sick-leave. This may indicate that low self-efficacy is a result of the sickness absence itself rather than a reason for it (50). The societal and individual costs and consequences of sickness absence are high, thus more research enlightening different aspects of this matter is required. As women are most affected it is essential to obtain the sick-listed women's perspective of sickness absence and return to work possibilities.

Occupational gender segregation

The fact that the labour market is gender segregated both horizontally and vertically can also have an impact on health development and sickness absence in women. The horizontal segregation concentrates women and men in separate occupations; women are mainly in public employment, providing education, social service, health and child-care, while men work mostly in the private sector. The vertical gender segregation refers to women not being in higher positions, either in female or in male dominated occupations, and to the possibility for women to achieve career or wage improvement as being low (27, 51). For example, in Sweden, three out of four managers are men. In the private sector, four managers out of five are men (34). Although, it is true that women in general run a higher risk for sickness absence the issue is more multifaceted. It has been shown that men working in female-dominated occupations run an increased risk for sick-leave, as are women working in male-dominated occupations (52, 53). In the nineteen-nineties there were large reductions in public services resulting in an increasing workload for the remaining workforce. In the same period the psychosocial work environment deteriorated, i.e. stressful work, work demands and work pace have increased, and this is especially pronounced for women (3, 4). The occupational gender

segregation may have an impact on health development, sick-leave and return to work possibilities in women.

Work characteristics and work-related stress

Work-related characteristics, such as injustice at work, i.e. low ability to influence the decision-making procedures and not being listened to, has been connected to low health perceptions as well as to sick-leave (5, 7). Poor organisational climate, including low role-clarity, bad social relations at work and insufficient management, have also been related to ill-health, sickness absence and disability pension claims (6, 8, 54-56). Furthermore, organisational factors such as re-organisations, expansions and downsizings have also been studied and proven to cause adverse health outcomes and to raise the rate of sickness absence (57-60). A larger proportion of women report more physically demanding and stressful work, a higher workload and more sleeping difficulties owing to work than men (4, 61). High workload, with both perceived high psychological and physical demands has also been connected to symptoms of illness, as well as to sick-leave, predominantly among women (9-11, 22). Physical and mental demands exceeding the individual's own capacity has constituted a risk for long-term sick-leave among women (9), and not having control over working time has been related to a higher level of self-reported stress and to a high risk for sick-leave, particularly for women (62, 63). Person-related characteristics, such as over-commitment, high effort at work and low self-efficacy, have been associated with low health perception as well as with sick-leave (64, 65). Work-related stress caused by poor work characteristics can be seen as an imbalance between on the one hand physical and psychological work demands, and on the other hand personal resources such as knowledge, skills or abilities. If both work and person-related characteristics are taken into consideration, valuable new knowledge could be added and be useful in future research assessing work-related stress in women.

Two different theoretical models, the Demand Control Model (66) and the Effort-Reward Imbalance Model (67) assessing stressful work-related characteristics have been frequently used in studies aiming to predict risk for illness and sickness absence among workers. The model of demand-control, developed by Karasek and Theorell (66), suggests that the combination of high psychological demands and low decision latitude render high strain jobs with symptoms of illness as a result. Studies have also found that high demand and low control at work increase the risk of being sick-listed (11, 12, 68-70).

Women seem to report higher demand and lower control than men (71). Also, the combination of *high* demand and *high* control – characteristics for so-called active jobs – seems to constitute a risk for sick-leave in women (11, 22), as opposed to in men (66). The social support from supervisors and co-workers dimension has been added to the demand-control model (72), and low social support from supervisors and co-workers has been found to be connected with a higher risk for sickness absence as well (12, 13, 69). The Effort-Reward Imbalance Model developed by Siegrist (67) suggests that an imbalance between high effort spent and low reward in terms of money, esteem and career causes work-related stress. The effort-reward imbalance and over-commitment have been found to constitute a risk for adverse health outcomes and sickness absence (7, 64, 67, 73-75).

The job demand-control model was developed during the 1970s among industrial workers and the Effort-Reward Imbalance Model has its origin in explaining the relationship between work stress and cardiovascular-related outcomes (66, 67, 76). Although the models have been successfully used in many different sectors and diagnoses, they have not been developed with a gender perspective, but mainly through studies made among male workers (75, 76). As research has shown gender differences in the responses, especially so when it comes to active jobs (11, 22, 71, 74, 77), it is of value to take a gender perspective and find new ways to assess work-related stress in women.

Developing a questionnaire for identifying women at risk for sick-leave

Several studies have shown that being under work-related stress affects the individual negatively and results in a variety of illness symptoms and psychological distress, and increases the risk for sickness absence (10-12, 22-24). In a Swedish study, Krantz et al. found that women, experiencing a high level of common symptoms because of stressful work-related characteristics, were at risk of being sick-listed (22), and in a Dutch study, psychological distress was also associated with long-term sick-leave (78). Additionally, earlier burnout symptoms were shown to predict future risk for sick-leave (23). Individuals with such physical and mental symptoms as a result of work-related stress may possibly consult primary or occupational health care long before they need to go on sick-leave. In order to prevent the need for sick-leave it is of immense value to find measures that will identify at-risk individuals in a timely manner (25). A simple self-administered questionnaire

could therefore be a helpful tool for health professionals when identifying individuals at risk for sickness absence.

When developing a questionnaire, it is important to ensure both validity and reliability. Validity ensures that the questionnaire assesses what it is supposed to, while reliability refers to consistency and stability over time, and provides that the questionnaire generates the same results regardless of occasion, respondent or observer (79-81). It is essential to take the framework of the target group into account and to be aware of how cultural and historical circumstances influence the validity of a questionnaire (82). It is both common practice and recommendable to use qualitative studies in order to explore and understand the concept of a phenomenon and to use a specific qualitative study when constructing items and scales (79, 81, 83). Questionnaires designed to identify a specific group are suitable for clinical applications (79).

Return to work

In the early nineteen-nineties, legislation in Sweden increased employers' responsibility regarding rehabilitation back to work for employees on sick-leave. The employers were required, within four weeks, to initiate an investigation to facilitate rehabilitation back to work for employees on long-term sick-leave. The employee's immediate supervisor was generally responsible for initiating the investigation and, together with the employee, had to assess the required measures for promoting rehabilitation. The investigation had to be sent to the local social insurance office within eight weeks (84). Employees on sick-leave who had received such a rehabilitation investigation by their employer received access to vocational training and rehabilitation to a greater extent than others (85, 86). Early intervention at the workplace, with early collaboration between all the parties involved, significantly reduced days of sick-leave, promoted a return to work, and thus lessened public expenditures (85).

Employers' attitudes and measures have been pointed out by employees as influential in the return to work process, and the role of the supervisors has been described as significant (20, 21, 87). Creating a positive attitude and a 'welcome back' atmosphere provides the employees with a sense of being valued and facilitates a return to work. Adequate information given by the employer to workmates can prevent hostility and harassment in the workplace (20, 21). Supervisor actions, such as frequent communication between the

supervisor and the sick-listed persons, were shown to quicken a return to work (88). Additionally, a high level of supervisor support was the main predictive factor for returning to work in a study of long-term sick-listed employees (14). These findings are all from the employees' perspective, so discovering the supervisors' point of view regarding possibilities and obstacles for returning to work is of great interest.

The interaction between person, environment and occupation

This thesis is focusing on both the personal and the environmental factors, with special concern for the interaction between them. Law (89) defines environment as the contexts and situations that arise externally to the individual and that will require some kind of responses from her. Often the environmental factors are defined as either physical or social, but a more contextual environment with cultural, economical, legal, political, physical and social factors influencing at various levels has to be acknowledged (17-19, 90). To have a contextual approach also indicates that personal and environmental factors cannot be separated and studied independently from each other. The interaction between the person and the environment results in the person's engagement in occupation and the person's occupational performance (17-19, 90). In occupational therapy occupational performance is central and can be described as the dynamic relationship between the person, with her occupations and roles, and the environment (17, 91). The word occupation, from the Latin word 'occupatio', originally means 'to seize' or 'to take possession' (92). Thus, to be engaged in occupation is a way to take control. Occupation, in this perspective, is defined as tasks and activities engaging a person's time and can be organised into categories, for example maintenance, work or leisure (17, 93, 94). The individual and the environment are interdependent on each other, and changes in either one influence the possibilities for occupational performance. The context of a person is continually changing, and therefore the possibilities to be engaged in occupation and to perform activities are constantly shifting (17-19).

The ability for a person to perform occupations is essential for the development of health (95-97). Several theorists have argued for the importance of engagement in occupation where occupational performance helps people to achieve vital goals, organise their daily life and makes it possible to fulfil occupational roles that connect them to their culture (97-99).

Although total workload has been shown to be higher among women than men (38), maintaining multiple roles seems to be favourable to women's health (48). Entering the labour force, embracing a worker's role, has increased women's self-esteem and financial independence (27). However, in a study of working cohabitating mothers, low self-mastery in terms of controlling the matters that affect their life has been related to low self-rated health (100). In order to stay healthy it is desirable to obtain a balance between the environmental challenges and demands on the one hand and the person's capacity and self-perceived skills on the other hand (97-99). The ability to actually be in an occupational performance situation or in a doing process is dependent upon the interaction of personal and environmental factors as well as upon the activity itself (17, 18, 101). The ability to work is also described by Ilmarinen (102) as balancing on the one hand the human resources, i.e. the individual's health, functions and capacities as well as attitudes, values and the social context out of work, and on the other hand the work environment – which includes the content and demands of work, together with physical, ergonomic and psychosocial factors as well as management and leadership (102). The degree of satisfaction in occupational performance is dependent on the interaction between the three dimensions – person, environment and activity (17, 18, 101).

The rationales of the studies

Sickness absence remains a great problem, resulting in negative societal and individual consequences. Several work characteristics have been shown to cause work-related stress, which also have been found to increase the risk for ill health perception and sick-listing, and this is especially true in women. Therefore, gaining more knowledge of women's work-related stress is valuable.

In order to find successful measures for increasing women's possibilities to return to work, it is of great concern to investigate the interaction between the individual and the environment and to capture the perspectives of the parties involved. In this thesis these are represented by, on the one hand women on sick-leave owing to work-related strain, and on the other hand intermediate supervisors with a rehabilitation responsibility. It is of great importance to comprehend the women's own point of view, and in doing so it is necessary to investigate and consider how they see their possibilities and obstacles for returning to work. Evidently, earlier studies conducted from the viewpoint of individuals on sick-leave point out the significance of employers' attitude and

measures and the role of supervisors. It is therefore interesting to explore matters such as how supervisors look upon their rehabilitation responsibility and the resources available in the return to work process, as well as their demands on employees and other parties involved.

Being under the pressure of stressful work-related factors affects the individual negatively, and results in a variety of symptoms of illness and psychological distress before sick-listing becomes a fact (10, 24, 64, 103, 104). Persons with such physical and mental symptoms, resulting from work-related stress run the risk of being placed on sick-leave (22, 23, 78). Consequently, it is valuable to have instruments by which to identify the individuals at risk in good time (25). Since women are more affected, the development of a questionnaire assessing work-related stress in women seems to be essential. In order to determine the need for preventive steps towards reducing the development of sick-leave in women, it is important to find out how common work-related stress is in a general population of women, and to obtain more knowledge of the relationship between women's work-related stress and their health perception and sick-leave.

Aims of the thesis

The overall aim of the thesis was to learn about work-related stress in women and their possibilities for return to work, and to develop a questionnaire for assessing work-related stress in women.

The specific aims were

- The aim of Paper I was to learn how women on sickness absence owing to work-related stress perceive and describe their possibilities and obstacles for returning to work.

- The aim of Paper II was to explore the supervisors' views on employer responsibility in the return to work process and their views on the possibilities for and obstacles to supporting employees on sick-leave.

- The aim of Paper III was to develop a self-administered questionnaire which assesses work-related stress in women, and to evaluate the reliability of the questionnaire.

- The aim of Paper IV was to investigate the prevalence of work-related stress and its association with self-perceived health and sick-leave in a general population of employed, working women aged thirty-eight and fifty.

Methods

This thesis is based on two qualitative studies (Papers I and II) and two quantitative studies (Papers III and IV). The qualitative studies used focus group methodology to collect data. To develop the questionnaire assessing work-related stress (Paper III), a pilot group study improving items and scales, and confirming face validity, was conducted. Furthermore, a test-retest study was accomplished to confirm the reliability of the questionnaire. The fourth study (Paper IV) had a cross-sectional design and used questionnaires in collecting data. An overview of aims, study design, study population, data collection and data analysis of the papers is presented in Table 1.

Table 1 Overview of the studies including aim, study design, data collection, data analysis and study population.

	Aim	Study design	Study population	Data collection	Data analysis
Paper I	To learn of sick-listed women's perception of possibilities to return to work	Focus group study	Women sick-listed owing to work related stress n=20	Focus group methodology	Qualitative analysis
Paper II	To learn of supervisors' views on employer responsibility in the return to work process	Focus group study	Supervisors experienced in managing sick-listed employees n=23	Focus group methodology	Qualitative analysis
Paper III	To develop a questionnaire assessing work related stress in women	Pilot group Test and retest study	Women representing target group; employed working women Pilot group n=10 Test-retest 1 n=26 Test-retest 2 n=52	Questionnaire development Test-retest occasion 1 and 2	Face validity evaluation Reliability evaluation by using a non-parametric statistical method for the evaluation of paired data to measure occasional and systematic disagreement
Paper IV	To investigate prevalence of work-related stress and its association with self-perceived health and sick-leave in a general population of employed, working women	Cross-sectional population study	38- and 50-years-old employed women participating in 'The Population Study of Women in Gothenburg, Sweden' n=424	Questionnaires	The chi squared and Fisher's two-tailed exact test to test differences in proportions, the odds ratio (OR) with 95 % CI to analyse associations and The logistic regression models to adjust for confounders

Study population and procedure

The general characteristics of the study population in three of the studies (Papers I, III, IV) were those of being an employed or self-employed, working woman. In Paper I the added inclusion criteria was being on sick-leave owing to work-related stress. In Paper II the target group addressed was female and male supervisors and staff responsible for and experienced in managing employees on sick-leave. Demographic, employment and educational data of the participants in the different papers is presented in Table 2.

Table 2 Demographic, employment and educational data of the participants in the different studies.

	Paper I n=20		Paper II n=23		Paper III n=10 & 26 & 52		Paper IV n=424	
Age							n=172	n=252
Mean	45		48		46		38	50
Range	27–62		31–65		20–64		-	-
	n	%	n	%	n	%	n	%
Women	20	100	17	74	88	100	424	100
Employer								
Public	9	45	20	87	84		227	53
Private	11	55	3	13	4		197	47
Profession								
Intermediate/White-collar	12	60	17	74	⌘	⌘	255	60
Low white-collar	8	40	6	26	⌘	⌘	130	31
Blue-collar	0	0	0	0	⌘	⌘	20	5
Missing data	0	0	0	0	⌘	⌘	19	4
Educational level					⌘	⌘		
>12 years	9	45	17	74	⌘	⌘	233	55
10 – 12 years	9	45	5	22	⌘	⌘	149	35
<=9 years	2	10	1	4	⌘	⌘	42	10

⌘ Data not available

Study population in Paper I

The study took place at the rehabilitation centre in one of the primary health care district in Gothenburg, Sweden, during the autumn of 2001. People attending a co-operation project between the centre and the social insurance office were asked to participate. Included in the study were women sick-listed because of work-related stress, with diagnoses such as burnout, psychological distress or exhaustion. In order to obtain a broad representation of the target group and at the same time create an atmosphere that facilitates discussion it was necessary to have to regard the heterogeneity and the homogeneity within the groups (105-108). The groups were homogeneous concerning gender and diagnosis by reason of the women being on sick-leave owing to work-related stress. Sharing a health problem or having something in common appears to

be sufficient to stimulate discussion (106, 108, 109). Heterogeneity was achieved owing to the differences in civil status, profession, education and age among the participants as well as duration and degree of sickness absence. Twenty-nine women were asked, 24 accepted and 20 finally attended the study (Table 2). The main reason given for not participating in the group discussion was not having sufficient time or energy. While attending the study the participants had been on sick-leave for a mean of 93 days, the shortest for 44 days and the longest for 180 days. Fifteen were on full-time sick-leave and five on half-time.

Study population in Paper II

The second focus group took place at Sahlgrenska Academy, University of Gothenburg, Sweden, during the autumn of 2004. The target group of the study was immediate supervisors and staff with rehabilitation responsibility for employees on sick-leave and with experience of conducting rehabilitation investigations. Homogeneity was primarily represented by the participants' shared experience in managing employees on sick-leave. To obtain a broad representation of the target group between and within the focus groups, the heterogeneity concerning age, professional and supervisor experience, size of represented companies and workplaces in the participant selection was considered. A total of 30 persons were asked to participate, of which three declined on the grounds of lack of time. Of the 27 who accepted, four found the time of the focus groups unsuitable. The final number of participants was 23 (Table 2). The study group consisted of both women and men, with women in the majority. The mean sick-leave rate of their workplaces was 6 %. The rate varied between the workplaces and at the time of the study ranged from 0 to 14 %. The employees of the workplaces were predominantly female. The focus group session consisting solely of male supervisors, however, represented male-dominated workplaces.

Procedure in Paper I and Paper II

In both studies (Paper I and II), the project leader (author) met the participants individually on one occasion before the group session. The participants were given an opportunity to introduce themselves and to ask further about the study. The project leader received the opportunity to establish contact with the participants and was accordingly able to compose the groups with respect to the homogeneity of the participants. At this first meeting demographic data was collected.

Five focus groups were conducted in the first study (Paper I) and six in the second study (Paper II). Each group met on one occasion. The whole session lasted for one and a half hours and was audio taped. The participants introduced themselves briefly and the moderator introduced the topic by asking some general questions about the participants' experiences of the subject matter. The moderator guided the discussion and encouraged all group members to participate and to express their own view on the topic as freely as possible.

Study population and procedure in Paper III

The development of a self-administered questionnaire was carried out in two phases: the initial phase was to design the questionnaire and to confirm its face validity, and the second phase was to test the reliability of the questionnaire. The study took place in Gothenburg, Sweden, from 2004 to 2006, and the target group was working women.

The initial phase in designing the questionnaire was the establishing of items and scales based on the themes and categories found in Paper I. A pilot study with the purpose of improving these, as well as for confirming face validity was conducted. Ten women chosen to represent the questionnaire's target group – employed, working women – recruited from private and public, small as well as large workplaces, answered the questionnaire and made notes concerning the items and the scales. These ten women were also encouraged to offer oral comments on the questionnaire to the researcher (author).

In the second phase, a test-retest study was performed for evaluating the reliability of the questionnaire. Women representing the questionnaire's target group working in different positions at varied workplaces in and around Gothenburg were recruited in a procedure similar to snowball sampling. A first version of the questionnaire was tested in a first test-retest analysis. Thirty-three women answered the questionnaire. To ensure that the test and retest occasions were as similar as possible, the question 'Has anything deviating happened at work between now and the first time you answered the questionnaire that could influence your present answers?' was added to the retest questionnaire. Having answered 'yes' to this question seven of the thirty-three women were excluded. Twenty-six participants remained for the first test-retest analysis. The test-retest interval was approximately two weeks, as recommended by Nunnally (110). Indistinct items were clarified and the questionnaire was improved. The revised version was tested in a second test-

retest analysis. Fifty-six women answered the questionnaire, but four of these were excluded, having answered 'yes' to the question that something important had happened at work that could influence the answers. Fifty-two participants remained for the second test-retest (n=52) analysis of the revised version (Table 2).

Study population and procedure in Paper IV

This cross-sectional population study of women aged thirty-eight and fifty was part of 'The Population Study of Women in Gothenburg, Sweden', a longitudinal study with several re-examinations (111). From October 2004 to April 2005 a random sample of 38-year-old and 50-year-old women registered for census purposes in Gothenburg was identified and invited to participate in a free health examination. In total, 500 women accepted and participated in the study (112). Inclusion criteria for the present cross-sectional study were employed or self-employed women. Four hundred and thirty-three women of the sample fulfilled these criteria. Nine of the 433 dropped out since they did not complete the work stress questionnaire. In all, 424 women participated in the present study. Frequency distribution of the 9 drop-outs was almost equal between the two age groups (table 3).

Table 3 Population procedure of 'The Population Study of Women in Gothenburg, Sweden, and the present cross-sectional study in 2004 to 2005.

	Invited n	Ex- cluded n	External drop- outs n	Partici- pants n	Partici- pation rate (%)	Eligible for present study n	Internal drop-outs n	Partici- pants in present study n
Total cohort	846	7	339	500	59	433	9	424
38-years-old	343	5	131	207 (41%)	60	177	5	172 (41%)
50-years-old	503	2	208	293 (59%)	58	256	4	252 (59%)

The participants went through a half-day health examination which included an interview, questionnaires, physical examinations, measurements and blood tests (112). At the end of the health examination all participants received a questionnaire designed for the present study and a stamped addressed envelope in which to return the completed questionnaire. Two reminders were given by telephone at two-week intervals.

Data Collection and analyses

Focus group methodology (Paper I and Paper II)

The focus group method was used, which has the form of group discussion and distinctively utilises the interaction between the research participants in order to collect data on a topic selected by the researcher (105, 107, 113, 114). This method is distinguished from other qualitative group interviews by the explicit use of group interaction (113, 114). Communication between the participants is decisive for the outcome and the group process encourages the participants to clarify not only what they think, but also how and why they think in a certain way. This group process makes it possible to obtain different viewpoints on a chosen topic, and the data collection will be broad (105, 106, 113, 114). The participants help the researcher to achieve new knowledge by sharing experiences and asking each other questions. During the discussion, participants sometimes change their views, which then lead to a greater depth of data. The co-participants can help to clarify contradictions and the discussion by questioning each other's opinions (105, 114, 115). Opposing and confirming each other's views throughout the discussions provide high face validity (107, 115). Through the group discussions the researcher also achieves the opportunity to grasp the participants' everyday forms of communication and their framework of understanding of the research topic (105, 106, 113, 115). The focus group method is suitable for obtaining views, experiences and attitudes of a selected group and will generate a broad knowledge and understanding of the researched phenomena (105-107, 113-115).

The role of the group leader

To ensure that the selected topic will be thoroughly dealt with, a group leader will guide the discussion. The role is important and the group leader's method of action is essential to the results. The group leader does not have to be an expert in the research topic. It is of great importance, however, to have experience of leading groups. The group leader has to keep in mind that the participants are the experts in the research topic and that the aim of the study is to learn from the participants' experiences. Thus, the principal assignment is to persuade the participants to talk to each other and to encourage them to take part freely in the discussion (106-108, 113). To be a good listener and to be able to convey the importance of the participants sharing their experiences and opinions with the others in the group has been pointed out by Dahlin Ivanoff as being an essential skill for the group leader (106).

Group settings

In traditional marketing research, focus groups are recommended to consist of eight to twelve participants. When dealing with complex and sensitive topics, however, a smaller group, of five to six participants seems to be preferable. This size provides for a more dynamic discussion, with enough room for each of the members to express their opinion (106, 107, 113). In Papers I and II, each group was planned for six participants but ended up consisting of one group with two and the remainder with three to six. The number of group sessions could be varied, and is dependent on the purpose of the study. According to several authors, four to five groups can be sufficient when working with a particular population (113, 114, 116). Data collection continues until no new data concerning the research question emerges, which usually occurs after four to six sessions (113, 114, 116). In Paper I five groups, and in paper II six groups were carried through. Each session lasted for one and a half hour up to two hours, which is what is recommended in the literature (107, 108, 113, 115).

Group interaction

When planning a study, in relation to the research questions one must carefully decide how to compose a group and why. It has been found that having something in common and sharing experiences or problems can be enough to create group identity and stimulate discussion. When composing the groups in Papers I and II, both homogeneity and heterogeneity was considered. Homogeneity is necessary to make the participants comfortable communicating with each other, while heterogeneity is necessary in order to challenge the participants to a dynamic discussion. It is essential, however, to avoid hierarchy within the groups, since this has been found to hamper interaction and prevent the development of an open climate for discussion (105, 107, 113, 114).

Qualitative analysis (Paper I and Paper II)

In the analyses of the focus group studies (Paper I and II) the audio taped group sessions were transcribed verbatim, and the transcripts from the groups were analysed by the first author with the assistance of the second author of the studies. The method used to analyse the material is described by Krueger (107). To become familiar with and to understand the content of the material in its context the first step in the analysis procedure was to listen through the tapes several times. All the transcripts were then read and analysed. Focus groups usually generate a large amount of data, which can be difficult to

overview. The key to success in analysing was to allow the purpose of the study to guide the process. Sections relevant to the research topic were identified and sorted according to the research questions. The next step was to create themes and categories that corresponded to the meaning of the material. In order to comprehend the contextual meaning of the material, the working material was still in the form of raw data at this stage. Based on the raw data, descriptive statements were made and illustrative quotations were selected. Finally, the descriptive statements constituted the foundation of synthesizing, abstracting and conceptualising the data (106, 107, 113).

Questionnaire development and face validity

In the development of a questionnaire, it is possible to take both a theoretical and an empirical standpoint (79, 80). In Paper III the questionnaire was developed from the latter standpoint, i.e. from the result in the first qualitative study of this thesis (Paper I). To use qualitative studies in order to explore and understand the concept of a phenomena and to use a specific qualitative study when constructing items and scales are both common and recommended (79, 81, 83). The first step in Paper III was to create questions based on the themes and categories found in Paper I. The method used in Paper I was focus group discussions, noting that in the literature (81, 83, 117, 118), focus group methodology has been found to be useful in the initial stage of questionnaire development.

When constructing assessments it is essential to evaluate the validity of the questionnaire (79-81). There are different forms of validity and face validity is an important aspect in this development. Face validity refers to the target group's recognition and acceptance of the questionnaire (80, 82). Cultural and historical circumstances influence the validity of a questionnaire and to achieve face validity it is important to take into account the framework of the target group (82). The focus group discussions in Paper I gave an opportunity to gain knowledge of the target group's everyday forms of communication. To improve the items and scales, and confirm face validity, the participants of the pilot group (Paper III) answered the questionnaire and provided written and oral notes concerning the items and the scales. The notes were evaluated and the items and the scales were accordingly reformulated and clarified.

Reliability

To test the reliability of the questionnaire assessing *Work characteristics and work-related stress* (Paper III), a test-retest evaluation was performed for each item by using a rank-transformable statistical approach developed by Svensson (119, 120). The method, a non-parametric statistical method for evaluation of paired data, makes it possible to identify and separately assess the occasional and systematic disagreement of each item. The following steps were accomplished:

- The first step was to get an idea of the distribution of the paired assessments. Each item was plotted in a contingency table. For illustration, see figure 1. The percentage agreement (PA) for all items in the test-retest assessments was calculated. Dispersed observations in the contingency table are a sign of occasional changes in the responses. Relative Rank Variance (RV) assesses individual occasional disagreement between test and retest and ranges from 0 to 1. The lower the RV is the smaller the individual occasional disagreement. For the items indicating dispersed observations RV was calculated.

- The next step was to get a picture of the systematic disagreements between test and retest. For each item the cumulative proportions for the marginal distributions were plotted against each other. The curve in this plot is called the Relative Operating Characteristic, (ROC). A concave and a convex curve indicate a systematic disagreement. For illustration see figure 2. Relative Position (RP) identifies systematic disagreement between test and retest assessments. An S-shaped ROC curve indicates a systematic disagreement in the concentration of the categories. In other words, some individuals use a limited part of the scale on the first test occasion compared to the second. This type of systematic disagreement is assessed by Relative Concentration (RC). RP and RC are ranged from -1 to 1 where values close to zero stand for lack of systematic disagreements, i.e. there are no changes between the test and retest assessments (119, 120). For the items indicating systematic disagreements RP and RC were calculated. An RP and RC value close to zero and a low RV value represent a high level of reliability of the analyzed item.

- The last step was to calculate the confidence interval (CI) of RV, RP and RC values by using the bootstrap method which is based on the jack-knife standard error. When the CI does not include the zero value, there is strong evidence for statistically significant change between the test and retest occasion.

Questionnaires in Paper IV

The central instrument used in the cross-sectional study (Paper IV) was the Work Stress Questionnaire, as developed in Paper III. Work Stress Questionnaire assesses *Work characteristics and perceived work-related stress* in women and was used as exposure variable and questions about *Symptoms of ill-health, Self-rated health and Self-reported sick-leave* was used as outcome variables.

Exposure variables

The Work Stress Questionnaire developed in Paper III consists of 21 main questions grouped into four categories of work characteristics: *indistinct organisation and conflicts* and *individual demands and commitment* contain 7 questions respectively and answers to these questions are Yes, Partly and No; *influence at work* and *work to leisure time interference* contain 4 and 3 questions respectively and answers are given on a four-point ordinal scale – Yes, always, Yes, rather often, No, seldom and No, never. Each of the questions in the categories *indistinct organisation and conflicts* and *individual demands and commitment* has an appended question ‘Do you perceive it as stressful?’ Answers to this question are given on a four-point ordinal scale – Not at all stressful, Less stressful, Stressful and Very stressful. These were grouped into two categories of perceived stress owing to work characteristics: *perceived stress owing to indistinct organisation and conflicts* (7 questions) and *perceived stress owing to individual demands and commitment* (7 questions). All items are presented in table 5 and 6. In Paper III, the reliability of the instrument was tested and found to be satisfactory, and the face validity was confirmed.

Overall work-related stress was defined as follows: Confirmatory answers of the items within each category were counted for every participant and dichotomised at the upper quartile. For *indistinct organisation and conflicts* (7 questions), high level of exposure was defined as confirmatory answers to 4-7 items and low level of exposure was defined as confirmatory answers to 0-3 items. For *individual demands and commitment* (7 questions), the cut-off for high level was 7 items and low level 0-6 items. Each participant’s median label of the four questions in *influence at work* was calculated and then dichotomised into high influence (always or often) and low (never or seldom). Median label of the three questions in *work to leisure time interference* for each participant was calculated and then dichotomised into low (never or seldom) and high (always or often). Further, each participant’s median label of the seven questions respectively in *perceived stress owing to indistinct organisation and conflicts* and in

perceived stress owing to individual demands and commitment was calculated and then dichotomised into low stress perception (defined as no confirmation of perceived stress, not stressful or less stressful), and high stress perception (confirmatory answers to stressful or very stressful). The exposure to overall work-related stress is presented in the first column of table 7.

Outcome variables

Self-rated symptoms were assessed by one question: 'Have you, during the last 3 months, been troubled by any of the symptoms listed?' Thirty different mental and physical symptoms were listed and two possible statements were given: Yes or No. Each participant's number of stated symptoms was counted and dichotomised according to median cut: high level of self-rated symptoms was defined as 8 or more stated symptoms. This question has been used in the longitudinal survey of 'The Population Study of Women in Gothenburg, Sweden' (111, 121).

Self-rated health was assessed by the statement: 'In general, would you state your health as being ...'. Answers were given on a five-point ordinal scale – Excellent, Very good, Good, Fair and Bad. The reliability and validity of the question has been found to be good (122). Low self-rated health was dichotomised into low (Fair/Bad) and high (Excellent/Very good/Good). Since only a small group (n=48) assessed low self-rated health, we chose to include a salutogenic perspective and assessed the associations with high self-rated health, which was defined and dichotomised into high (Excellent/Very good) and low (Good/Fair/Bad).

Self-reported sick-leave was assessed by the questions: 'Are you on sick-leave at the moment?', 'To what degree?' and 'For how long have you been sick-listed? State the number of weeks'. These questions were not validated. Voss et al. (123) found, however, the agreement between self-reported and registered data on sick-leave good.

Statistics in Paper IV

Descriptive statistics of work-related stress were calculated. The chi-squared and Fisher's two-tailed exact test were used to test differences in the proportions between groups; age-group (38-year-old/50-year-old), educational level (>12 years/10–12 years, ≤9 years), occupational class (manager, high and middle level non-manual/low level non-manual, manual), employer (private,

self-employed, combined/public) and sick-leave/no sick-leave. The odds ratio (OR) with 95 % confidence intervals (CI) was calculated in order to analyse the association between the exposure variables of work-related stress and outcome variables of sick-leave, self-rated health and symptoms of illness. The OR was also used to validate the exposure variable against the question about general experienced stress. The logistic regression models were used to adjust for age-group, educational level, occupational class and employer.

The OR was also used to validate the exposure variables of the Work Stress Questionnaire against a question about general experienced stress. This was the only question about stress in the study of 'The Population Study of Women in Gothenburg, Sweden' and had earlier been used in these longitudinal surveys (111). The question was: 'Have you experienced any period of stress during a longer period of time, i.e. a month or more? The word stress implies that you have been irritable, tense, nervous, anxious or sleepless in relation to work, health, family or in relation to conflicts in these areas or in relation to something else'. Six possible statements were given on an ordinal scale: have never experienced any period of stress, have experienced period of stress but not the last five years, have experienced period of stress the last five years, have experienced several periods of stress the last five years, lived with constant stress the last year, lived with constant stress the last five years. The answers were dichotomised into low stress experience ('have never experienced stress' to 'have experienced a period of stress in the last five years) and high stress experience ('have experienced several periods of stress' to 'lived with constant stress for the last five years').

The six categories of work-related stress were all significantly associated with the question about general experienced of stress. The highest OR were high *perceived stress owing to indistinct organisation and conflicts* and high *perceived stress owing to individual demands and commitment* with an OR of 4.16 (1.92–9.00) and 3.98 (2.42–6.54), respectively – not presented in any table.

Ethical considerations

Written and oral information concerning the aims and procedures of the studies was provided. This information stressed that participation was voluntary and that the participants could withdraw at any time without explanation. The participants in the two focus group studies gave written consent to participate. Because the group leader encouraged the participants to share their experiences as freely as possible an important ethical issue has to

be considered, i.e. how to ensure the participants' integrity. One measure taken was that the group leader introduced each group session by talking with the participants about the importance of confidentiality and to keep the discussion within the group. The other measure taken was that all questions by the group leader were put forward to the group as a whole, not to single participants. This made it possible for the participants to choose whether or not they wanted to share their views with the others in the group.

The participants in the two quantitative studies gave their consent for participation by answering the questionnaires. The snowballing method was used in the test-retest study, with neither researchers nor contact persons having access to the identity of the participants. The answers to the questionnaire were handled with strict confidentiality. The cross-sectional study was part of the longitudinal 'The Population Study of Women in Gothenburg, Sweden', whose principals of confidentiality were applied.

The studies were approved by the Ethics Committee of the Faculty of Medicine, University of Gothenburg, Sweden.

Results

Sick-listed women's views of possibilities and obstacles for returning to work

In Paper I, three different themes stood out in the material. In *'The process of losing control'* the participants described the impact of the different factors on the process from controlling everyday life, to chaos and total loss of control of private and working life. The second theme, *'Not finding alternatives'*, dealt with the difficulties of finding an alternative way back to work. The third, *'Mastering life as a whole'*, contained strategies for regaining control over daily activities and life as a whole. These strategies were described as essential for returning to work. The three themes with belonging categories are presented in Figure 1.

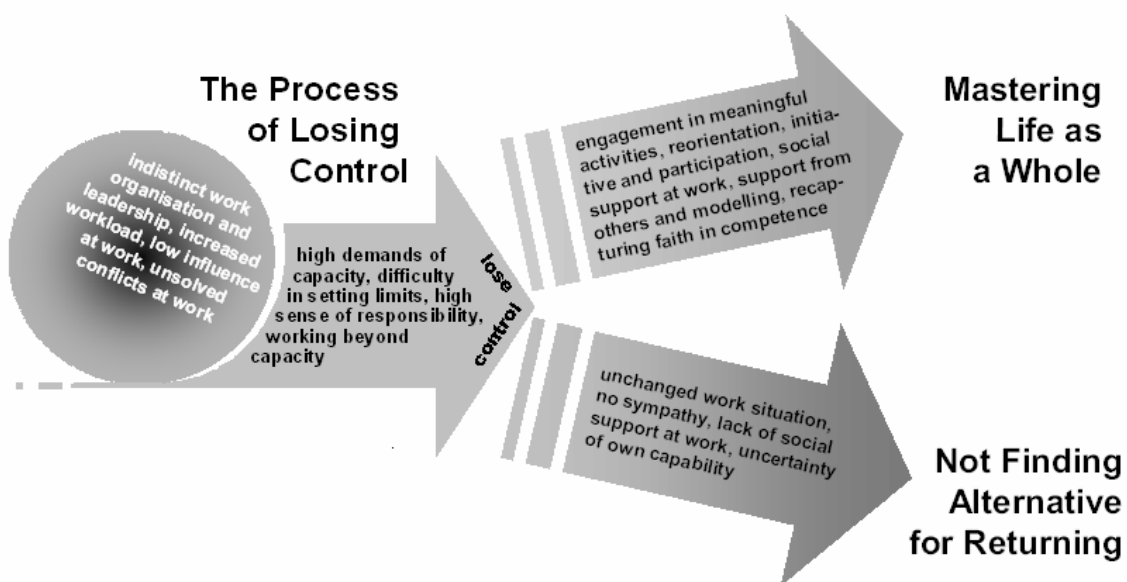


Figure 1 The process of losing control of everyday life, to mastering life as a whole or not finding alternatives for returning to work. Themes with corresponding categories found when analysing the focus groups.

In the first theme, *'The process of losing control'*, the participants described the route to sickness absence as a process going from controlling every day living, to total loss of control of working and private life. Factors related to the workplace as well as to the person herself were contributory to the process. Low influence at work, increased workload, indistinct work organisation and leadership, and unsolved conflicts at work were described as negative factors in the process of losing control. The women described themselves as persons with high demands of capacity, high sense of responsibility and difficulties in setting limits. Thus, they tried to solve the work situation by speeding up the pace and working overtime, as well as by reducing rest, recreation and leisure time. They continued to work, and worked beyond their capacity, despite bodily signals and symptoms of illness. Eventually they lost control over their working and private life and became sick.

The second theme, *'Not finding alternatives'*, contains the participants' difficulties in finding alternatives to returning to their previous work situation. The participants worried about their work situation not having changed and that the negative factors within the organisation would still remain. They were uncertain about the expected work tasks and they feared ending up in the same situation once again. They experienced lack of sympathy and understanding from both employers and work-mates. The participants mistrusted their own capability to change themselves so as to handle the demands of the workplace, as well as their own expectations of performance. Not finding alternatives constituted an obstacle for the orientation back to work.

In the third theme, *'Mastering life as a whole'*, the participants' strategies to recapture control emerged, as well as interacting factors between the person and the environment. One strategy for mastering daily life was to find meaningful activities in domains other than work. They stressed the importance of activities being self-chosen out of own interests, and, as opposed to work, these activities should be self-rewarding, recreating and enjoyable. Daily routines such as being able to sleep, to exercise, to eat properly and to perform leisure activities formed a foundation for orientation back to work. One step in mastering the situation was to formulate future goals, and deciding the strategies needed to reach these goals was described as a necessity. Another strategy was to take the initiative and be an active participant in the return to work planning. Support from work-mates and having an employer listening and providing support resulted in increased self-

esteem and faith in own competence. Encouragement and sympathy from employers for the alterations suggested by the participants facilitated the return to work. Support from family and friends as well as professional support was expressed as essential. Regaining faith in one self and recapturing faith in own competence was decisive for returning to working life. Through positive feedback from the environment concerning their own activities, confidence in their own capacity and competence increased and facilitated a rehabilitation back to work. The participants perceived that they regained control and became able to master not only daily activities and rehabilitation back to work but also life as a whole.

Supervisors' views on employer responsibility in the return to work process

In Paper II, two different themes emerged. The first theme, *'The Supervisor is the Key Person'*, includes the categories describing the meaning of the participants' views of their role as supervisors. The second theme, *'Influential Factors in Rehabilitation Work'*, contains the participants' views on which factors influence rehabilitation work and return to work possibilities for the sick-listed employees.

The theme, *'The Supervisor is the Key Person'*, seizes the participants' view of themselves as key persons in preventive and rehabilitation work concerning sick-listed employees. The participants described how they carry the main rehabilitation responsibility and how they see themselves as tools in the rehabilitation work. One important issue that came into view was that of creating confidence between the supervisor and the sick-listed employee. In order to create confidence, regular contact between the sick-listed employee and the supervisor was described as essential, as was contact with the workplace. At the same time as being supportive, it was important to have a straightforward communication with the sick-listed person and to request them to follow regulations, as well as taking responsibility for their own rehabilitation. Further on, the participants described a responsibility to create a good working environment, thus preventing ill-health and sick-listing among the employees.

The theme, *'Influential Factors in Rehabilitation Work'*, contains the participants' views on the factors that influenced rehabilitation work and the return to work possibilities for those on sick-leave. The participants described how these

factors influence positively or negatively and some even both ways. The factors were found on an individual, organisational and social level. The sick-listed employee's own motivation for returning to work was described as essential. Co-workers engaging themselves in supporting the sick-listed person was described as facilitating a return to work. At the organisational level, factors such as employer policies and practices were found to be well-structured and solution-orientated. However, the participants experienced that, both physically and mentally, work demands have been raised in recent years and that economic factors controls the work conditions to a very high extent. The participants described a conflict between keeping the budget balanced and finding suitable tasks for a sick-listed person who gradually increases her work capacity in order to return to work. Collaboration and communication was considered important. The participants found that the societal norms have changed in recent years and that the prevailing standpoint makes greater demands on people on sick-leave to take responsibility for, and an active role, in their rehabilitation.

In the summary of the focus group discussions it emerged that the supervisors see themselves as key persons, carrying the main responsibility for the rehabilitation of the sick-listed employees and continuously interacting with both the sick-listed person and her workmates. The supervisor's interplay with the parties involved, inside and outside the workplace, was described as essential to the rehabilitation work, as was the interplay between the sick-listed persons and their workmates. The rehabilitation work by employers and supervisors was seen as a part of a greater whole that is influenced by the prevailing social climate and the demands and resources of the workplace. This is illustrated in Figure 2.

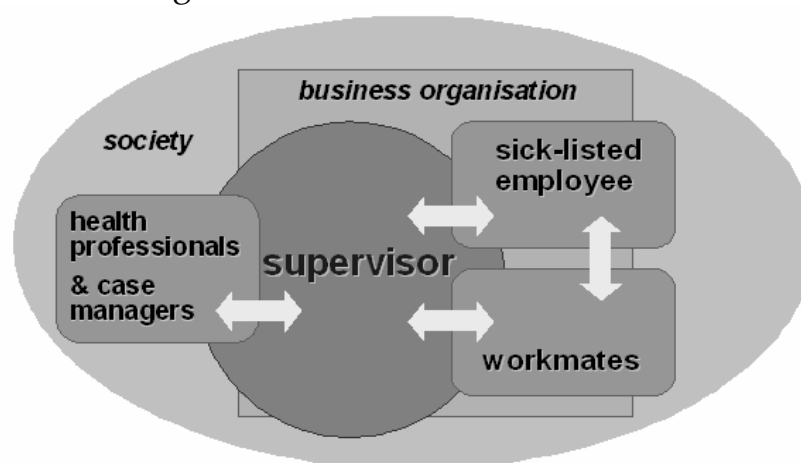


Figure 2 The supervisor is described as the key person in the rehabilitation work, interacting in a greater whole influenced by the prevailing social climate and the demands and resources of the workplace.

The development of the Work Stress Questionnaire

The initial phase in Paper III was to create the questionnaire. This development was based on the first qualitative study (Paper I). Two main themes were identified: one was related to factors at work and one to the person herself. Eight categories were recognised from these themes and questions were constructed. The categories related to work were: *Low influence at work, increased workload, indistinct work organisation and leadership and unsolved conflicts at work*. Categories related to the person were: *high demands on her capacity, difficulty setting limits, high sense of responsibility and working beyond capacity*. In addition to this, a dimension of stress was identified. This dimension emerged in all categories and in order to catch it a question about perceived stress was constructed and appended to some of the items. A Swedish version of the questionnaire is presented in appendix 1.

In the pilot study, face validity of the main themes, categories and the appended question was confirmed. Based on the views of the participants in the pilot study, the items and scales were rephrased and the questionnaire was reconstructed. This resulted in a questionnaire consisting of 21 items, of which 14 questions have the appended question: Do you perceive that as stressful? Possible answers are given on a four-point ordinal scale: not at all stressful, less stressful, stressful, and very stressful. The seven questions without the appended question have possible answers on a four-point ordinal scale: Yes, always; yes, rather often; no, seldom; no, never.

Test-retest reliability

In the first version of the questionnaire, the PA, the contingency table and the ROC curves were evaluated for all items. Six items were shown to be indistinct and these items were clarified. The scales remained untouched. In the revised version of the questionnaire, the PA of the items ranged from 48 % to 98 % with a median value of 73 %. The contingency table and the ROC curves were analyzed for all items and those indicating dispersed observations or systematic instability were calculated for the occasional (RV) and the systematic (RP, RC) disagreement. All but two items showed stability over time. The item 'Do you perceive it as stressful being involved in conflicts at work' showed a significant systematic change (RP) from a higher-rated perceived stress towards a lower, as seen in table 1 and figure 2. The item 'Do you perceive it as stressful getting engaged in your work?' showed a significant occasional disagreement (RV) implying random changes in the

responses. All the values of RV, RP and RC in the other items were negligible. The large CI in some of the items indicates that a few observations contributed to disagreement over time.

The prevalence of work-related stress, and its association with self-perceived health and sick-leave

In Paper IV thirty participants were on sick-leave and sick-leave spells had a range from less than 1 month to over 4 years. Of those on full-time sick-leave all but one had been on sick-leave <2 months. A significantly larger proportion of those on sick-leave belonged to the age group of 50-year-olds ($p < 0.006$) (table 4).

Table 4 Employment and educational data, sick-leave and partial disability pension of the participants. The two age-groups are presented separately and statistical significance levels of differences between the groups are given ($n=424$).

	Entire group n=424		38-years-old n=172		50-years-old n=252		p
	n	%	n	%	n	%	
Employment							0.186
Permanent	364	86	143	83	221	88	
Temporary (deputy)	60	14	29	17	31	12	
Hours worked/week							0.228
Full-time (>32)	314	74	132	77	182	72	
Part-time (<32)	102	24	36	21	66	26	
Missing data	8	2	4	2	4	2	
Employer							0.001
Public	227	53	69	40	158	63	
Private	138	33	78	45	60	24	
Self-employed	32	8	15	9	17	7	
Combined	27	6	10	6	17	7	
Occupational class							0.538
Manager	26	6	12	7	14	5	
High level non-manual	131	31	46	27	85	34	
Middle level non-manual	98	23	45	26	53	21	
Low level non-manual	130	31	53	30	77	31	
Manual	20	5	8	5	12	5	
Missing data	19	4	8	5	11	4	
Educational level							0.073
>12 years	233	55	93	54	140	57	
10–12 years	149	35	68	40	81	32	
<=9 years	42	10	11	6	31	11	
Sick-leave	30	7	5	3	25	10	0.006
Partial disability pension	18	4	5	3	13	5	0.814

Prevalence of work characteristics and perceived stress

The prevalence of work characteristics was highest in the category of *individual demands and commitment* with 94 % for 'being engaged in one's work'. In *indistinct organisation and conflicts* the most prevalent characteristic was 'increased workload' with 66 % (table 5).

Table 5 Prevalence of work characteristics in the cohort of 38 and 50-year-old Swedish women (n=424).

Indistinct organisation and conflicts	% (95 % CI)	n
Increased work-load	66 (62–71)	281
Unclear goals at workplace	34 (29–38)	143
Unclear work assignments	14 (10–17)	56
Unclear leadership	14 (11–18)	60
Conflicts at work	65 (60–69)	275
Involved in conflicts at work	35 (41–60)	97 α
Supervisor not solving conflicts	63 (57–69)	173 α
Individual demands and commitment		
High demands on oneself at work	93 (90–95)	395
Engaged in one's work	94 (91–96)	397
Think about work after working-day	92 (88–94)	388
Hard to set limits	87 (84–90)	371
High responsibility for one's work	59 (54–63)	249
Work over-time	71 (66–75)	301
Sleep disturbance on account of work	43 (38–48)	181
Influence at work		
Time to finish assignments	90 (86–92)	380
Influence decisions at work	71 (66–75)	300
Supervisor consider your views	84 (81–88)	348*
Deciding on working pace	75 (71–79)	318
Work to leisure time interference		
Hard to find time to see the nearest	28 (24–32)	118
Hard to find time to see friends	34 (29–39)	144
Hard to find time for recreational activities	36 (32–41)	154

α 149 persons did not have any conflicts at work

* 12 persons did not answer because of not having a supervisor

The highest prevalence of high perceived stress owing to items in the category of *indistinct organisation and conflicts* was 'stress owing to increased workload' with 38 %, and in the category of *individual demands and commitment* was 'stress owing to hard to set limits' with 44 % (table 6).

Table 6 Prevalence of perceived stress owing to the items in indistinct organisation and conflicts and in individual demands and commitment in the cohort of 38 and 50-year-old Swedish women (n=424).

Perceived stress (PS) owing to the following items in indistinct organisation and conflicts	High stress perception		No/Low stress perception	
	% (95 % CI)	n	% (95 % CI)	n
PS owing to increased work-load	38 (33–43)	160	62 (57–67)	264
PS owing to unclear goals at workplace	14 (11–18)	60	86 (82–89)	364
PS owing to unclear work assignments	7 (4–9)	28	93 (91–95)	396
PS owing to unclear leadership	3 (1–5)	12	97 (95–99)	412
PS owing to conflicts at work	23 (19–27)	98	77 (73–81)	326
PS owing to involved in conflicts at work	12 (9–15)	49	88 (85–91)	375
PS owing to supervisor not solved the conflicts	17 (13–21)	71	83 (79–87)	353
Perceived stress (PS) owing to the following items in individual demands and commitment				
PS owing to high demands on oneself at work	29 (25–34)	125	71 (66–75)	299
PS owing to engaged in one's work	17 (14–21)	72	83 (79–86)	352
PS owing to think about work after working-day	25 (21–29)	106	75 (71–79)	318
PS owing to hard to set limits	44 (39–49)	187	56 (51–61)	237
PS owing to high responsibility for one's work	29 (25–34)	123	71 (66–75)	301
PS owing to work over-time/stress	24 (20–28)	102	76 (72–80)	322
PS owing to sleep disturbance on account of work	26 (22–31)	112	74 (69–78)	312

Prevalence of overall work-related stress

The overall work-related stress was, as described in the method section, grouped into four categories of work characteristics and two categories of perceived stress owing to work characteristics. Twenty-nine percent reported a high level of exposure caused by *indistinct organisation and conflicts* and 26 % a high level caused by *individual demands and commitment*. Ten percent of the entire group reported high *perceived stress owing to indistinct organisation and conflicts* and 25 % high *perceived stress owing to individual demands and commitment*. Twenty-two percent stated low *Influence at work* and 33 % *work to leisure time interference* (table 7).

Associations between overall work-related stress and outcome variables

All categories of work-related stress were significantly associated with increased odds of high level ill-health symptoms, with the highest OR for high *perceived stress owing to indistinct organisation and conflicts* and *perceived stress owing to individual demands and commitment* with an OR of 3.17 (1.51–6.62) and 4.53 (2.71–7.56), respectively. High *individual demands and commitment* and *perceived stress owing to individual demands and commitment* were significantly

associated with low self-rated health with an OR of 2.50 (1.34–4.62) and 2.64 (1.42–4.91), respectively. The OR for high levels of exposure was low for those with a high self-rated health. High *perceived stress owing to indistinct organisation and conflicts* and low *influence at work* was significantly associated with sick-leave with an OR of 3.85 (CI=1.59–9.30) and 2.54 (CI=1.17–5.48), respectively. After adjustments for age, education, occupation and employer, OR remained significant in all categories (table 7).

Table 7 The association between overall work-related stress and self-rated symptoms, low and high self-rated health and sick-leave, unadjusted and adjusted odds ratio# (indicated in bold) with 95% CI (n=424).

Overall work-related stress	High level of self-rated symptoms (n=224)	Low (Fair/Bad) self-rated health (n=48)	High (Excellent/Very good) self-rated health (n=222)	Sick-leave (n=30)
% (n)	OR (95 % CI) Adjusted OR (95 % CI)	OR (95 % CI) Adjusted OR (95 % CI)	OR (95 % CI) Adjusted OR (95 % CI)	OR (95 % CI) Adjusted OR (95 % CI)
Indistinct organisation and conflicts				
Low: 71 (300)	1.00	1.00	1.00	1.00
High: 29 (124)	1.63 (1.06–2.49)⌘ 1.70 (1.1–2.64)⌘	1.85 (1.00–3.44) 1.89 (1.00–3.59)	0.72 (0.47–1.09) 0.70 (0.45–1.10)	1.44 (0.66–3.12) 1.51 (0.68–3.38)
Individual demands and commitment				
Low: 74 (314)	1.00	1.00	1.00	1.00
High: 26 (110)	3.15 (1.96–5.06)⌘ 3.42 (2.08–5.63)⌘	2.50 (1.34–4.62)⌘ 2.88 (1.50–5.57)⌘	0.56 (0.36–0.86)⌘ 0.45 (0.28–0.73)⌘	1.47 (0.67–3.25) 1.70 (0.75–3.88)
Perceived stress due to indistinct organisation and conflicts				
Low: 90 (382)	1.00	1.00	1.00	1.00
High: 10 (42)	3.17 (1.51–6.62)⌘ 3.14 (1.49–6.60)⌘	1.34 (0.53–3.37) 1.26 (0.49–3.23)	0.55 (0.36–0.73)⌘ 0.37 (0.18–0.75)⌘	3.85 (1.59–9.30)⌘ 3.93 (1.56–9.88)⌘
Perceived stress due to individual demands and commitment				
Low: 75 (318)	1.00	1.00	1.00	1.00
High: 25 (106)	4.53 (2.71–7.56)⌘ 4.52 (2.68–7.64)⌘	2.64 (1.42–4.91)⌘ 3.22 (1.67–6.20)⌘	0.32 (0.20–0.51)⌘ 0.26 (0.16–0.44)⌘	1.55 (0.70–3.43) 1.85 (0.81–4.24)
Influence at work				
High: 78 (330)	1.00	1.00	1.00	1.00
Low: 22 (94)	1.89 (1.18–3.05)⌘ 1.86 (1.14–3.04)⌘	1.70 (0.88–3.28) 1.55 (0.78–3.05)	0.45 (0.28–0.72)⌘ 0.46 (0.28–0.77)⌘	2.54 (1.17–5.48)⌘ 2.37 (1.06–5.30)⌘
Work to leisure time interference				
Low: 67 (285)	1.00	1.00	1.00	1.00
High: 33 (139)	2.07 (1.36–3.15)⌘ 2.10 (1.36–3.25)⌘	1.03 (0.55–1.95) 1.27 (0.65–2.46)	0.75 (0.50–1.13) 0.61 (0.39–0.95)⌘	0.87 (0.39–1.95) 1.13 (0.48–2.62)

⌘ Statistically significant values of the confidence interval of OR

Adjusted by age-group, educational level, occupational class and employer.

Result discussion

Work-related stress in women

Ten percent of the middle-aged women, in the cross-sectional study, reported high *perceived stress owing to indistinct organisation and conflicts*, and 25 % reported high *perceived stress owing to individual demands and commitment*. Furthermore, 22 % reported low *influence at work* and 33 % reported *work to leisure time interference*. The prevalence of several specific work characteristics was also high. Items in the category concerning *individual demands and commitment* showed the highest occurrence. The prevalence of perceived stress owing to certain work characteristics, however, was lower, although perceived stress owing to increased workload and hard to set limits had a prevalence of around 40 % each. These findings of perceived stress can appear rather low in comparison with other studies, though. In a European report from 2000, 29 % of female employees in Europe reported stress related to work (124). One explanation of this disparity could be different ways of measuring the exposure variables. The Work Stress Questionnaire assesses not only the occurrence of work characteristics but also the immediate perception of the characteristic's stressfulness, i.e. if the characteristic is perceived as stressful or not. This result therefore distinguishes between the occurrence of negative work characteristics and the perception of stress owing to these characteristics.

In the cross-sectional study, it is notable that the prevalence of high *perceived stress owing to individual demands and commitment* was higher than for *perceived stress owing to indistinct organisation and conflicts*. Twenty-five percent reported high *perceived stress owing to individual demands and commitment*. In the study of women sick-listed owing to work-related stress, the women described putting high demands on themselves, having a high sense of responsibility and difficulty in setting limits as contributory factors to being placed on sick-leave. High dedication to work and difficulties in managing the work situation seem to result in a high amount of stress. The issue is whether the occurrence of perceived stress will result in negative consequences or not. Some studies have linked over-commitment to a higher risk of poor health (64, 103) and ill-health perception has been associated with sickness absence (22, 78, 125). High effort

and low reward, the so-called effort-reward imbalance, were also shown to have an adverse effect on self-reported health in a European comparative study (77).

Work-related stress and associations with sick-leave

The prevalence of high influence at work was 78 % in the cross-sectional study. Likewise, the prevalence of low *perceived stress owing to indistinct organisation and conflicts* was as high as 90 %. This was unexpected, since several studies point to a deterioration of work conditions, especially for women (3, 124, 126). On the other hand, those reporting low *influence at work* and high *perceived stress owing to indistinct organisation and conflicts* had an increased probability of sick-leave, with an OR of 2.54 and 3.85 respectively. These connections correspond to several other findings, linking low influence at work and work-related stress to an increased risk of sickness absence (5-7, 11, 69, 125). One might also have expected associations between the four other categories of work-related stress. To our knowledge, however, few studies have linked individual demands and commitment to sickness absence. Over-commitment has been related to vital exhaustion, low mental health and sleep disturbance, though (64, 74, 103). The phenomenon of sickness absence is complex and needs to be understood in a broad context, on societal as well as organisational and individual levels (15).

Work-related stress and associations with self-perceived health

An association between on the one hand all the categories of overall work-related stress, and on the other hand a high level of self-rated symptoms was also found in the cross-sectional study. Women reporting high *perceived stress owing to organisation and conflicts* and high *perceived stress owing to individual demands and commitment* had an increased probability of having a high level of self-rated symptoms, with an OR of 3.17 and 4.53 respectively. This corresponds with earlier research where different work characteristics were associated with ill-health perceptions (10, 22, 24, 64, 103, 125). Correspondence between work-related stress and low self-rated health was only found, however, in three of the six categories with the strongest association with *perceived stress owing to individual demands and commitments* having an OR of 2.64. Low reported work-related stress was, however, associated with high self-rated health. All of the significant associations between the exposure and outcome variables remained after adjustment for the confounders of age groups, educational level, occupational class, employer and sick-leave. Given

these associations, it seems to be of value to take preventive steps reducing the occurrence of work related stress in women.

Socio-demographic differences

In the cross-sectional study few differences were found between occupational classes, except for high *individual demands and commitment* where the prevalence was higher among the higher occupational classes. The European report mentioned earlier, also found that the prevalence of work-related stress varied between different occupations. Professionals reported highest stress, 40 % compared with 17 % in elementary occupations (124, 125). Two other studies, one of head teachers and one of police officers, found the prevalence of self-reported work-related stress to be 43 and 41 % respectively (127, 128). Also found in the cross-sectional study was that more public than private employees assessed *indistinct organisation and conflicts* to be high. This may be explained by the large staff reductions and reorganisations in the public sector during the nineteen-nineties, with higher workload for the retained staff as a consequence (126).

Gender perspectives

In this thesis light is shed on work-related stress in women, and since men have not been studied in this research project, the question is what can be learned from this in a gender perspective. In the study of women sick-listed owing to work-related stress, the women described the work situation as strained, with indistinct organisation, low influence at work and unsolved conflicts. Correspondingly, in the cross-sectional study, work-related stress was associated with low health perception and sick-leave. As pointed out earlier, several other studies have found that negative work characteristics and work-related stress are linked to sick-leave in both sexes (5-8), but with more severe consequences among women (9-11, 24). Women also report higher workload and more work-related stress than men, which can be explained by the large reductions in the public sector during the nineteen-nineties (3, 4, 124, 125, 127). In a recent Swedish study (130), working conditions were externally assessed in order to compare the gender differences and it was found that women had more time pressure, hindrances and less influence over their work. These differences were especially pronounced in the so-called active jobs. Women in active jobs also worked more often in typical female occupations (130). In a study of female and male nurses and accountants,

however, no differences concerning work-related stress were found between men and women of the same occupation, but nurses reported more work stress than did the accountants (53). The poor working conditions in female dominated work-places seem to affect men as well as women. Correspondingly, men working in female-dominated occupations run an increased risk for sick-leave (53). This points towards that gender differences should be considered from a socio-cultural perspective rather than a biological. In order to reduce the negative effects of work-related stress it is of great importance to take measures on an organisational and societal level.

It is interesting to note the lack of differences between public and private employees regarding the exposure to work-related stress in the cross-sectional study. Women have in studies reported less control at work and higher job strain than men (4, 11, 71). These factors, along with so-called active jobs (high control and high demands), constituted a risk for women, as opposed to men (11, 22), especially so for women in the private sector (11). This could be explained by the occupational gender segregation which puts women in subordinate positions in the public as well as the private sector. In Sweden in general, three out of four managers are men; four out of five in the private sector (34). The women, sick-listed owing to work-related stress, also described a low sense of participation and low influence at work, although the participating women consisted of mainly intermediate white-collar employees. This may also be referred to the vertical gender segregation of the labour market where women are not in the higher positions, with possibilities of making decisions (27).

Interference between work and leisure time was reported by 33 % of the participants in the cross-sectional study, and high level of interference was associated with a high level of self-rated symptoms having an OR of 2.07. A thing to bear in mind is that women are part of the paid work force approximately to the same extent as men, with a participation rate of 80 % to men's 86 % (34). At the same time unpaid work, such as household duties and childcare, has not decreased and women contribute the most to these chores (34, 35). In a study of white-collar women and men, women reported a higher total workload, including paid and unpaid work, more stress and higher severity of symptoms than men (37). Work-family conflict has been found to constitute a risk of sickness absence in both women and men. It is most pronounced, however, and with poorer health outcome, among women (40).

Return to work

Employer accommodations and adjustment possibilities

The sick-listed women emphasized the importance of having supervisors that listened to them, and helped them to alter their work situation. Furthermore, they stressed that an unchanged work situation was the determining obstacle to returning to work. To facilitate employees returning to work after health impairment, employer accommodation has been found to decrease the risk for job exit for persons with work-limiting health conditions (131). An international systematic review, with the purpose of going over the effectiveness of workplace-based return to work interventions, found evidence for some components to facilitating return to work (132). These components were work accommodation offers, ergonomic work site visits, contact with worker by workplace, contact between healthcare provider and workplace, and presence of a return to work coordinator (132). Workplaces with such interventions not only enables the workers to return twice as often, but also has economical advantages since it reduces the number of lost work days (133). Moreover, Swedish research has shown that adjustment latitude, i.e. an employee's possibilities to adjust the work effort when feeling ill, has been linked to less sickness absence in women and to increase return to work in both women and men (134, 135).

In the employer responsibility study, despite the supervisors expressing a serious ambition to be supportive, they did not have enough resources to carry out their intentions to facilitate their employees' return to work. The supervisors described having to recognise several other interests and to acknowledge not only the people on the sick list, but also workmates, other parties involved, and the demands of society and the business organisation. They experienced a conflict between on the one hand high work demands and a balanced economy, and on the other hand the need for modified work duties. This concern was also found in a study where the majority of employers had difficulty in providing suitable duties for injured workers. The main reasons given were that the nature of the work made it impossible to modify the activities and that suitable duties were not productive (136). Reviews of the effectiveness of modified work programme stated, however, that these programmes facilitate return to work and enables not only the sick-listed persons to return to work twice as often but also economic advantages since it lessens the number of lost work days (132, 137).

In addition, the supervisors, in the employer responsibility study, described that keeping the budget balanced entailed high work rationalization leading to high work demands on the employees. In Sweden large cuts in public services were made during the nineties and may have resulted in an increased workload for the remaining workforce (27, 51). Downsizing has, in fact, been shown to be associated with an increased sickness absence among the remaining employees (57, 68). Also, the supervisors described maintaining an economy in balance as a matter resting on the individual supervisor, and although they had every intention to support their sick-listed employees back to work, they lacked sufficient resources to carry it through. It seems that this issue cannot be solved by the individual supervisor, but ought to be a matter for the company as a whole. In order to prevent sickness absence and increase the return to work possibilities, society should work together with employers in these matters and try to find policies promoting modified workplaces, suitable tasks and less rationalization.

Supervisor support

In the study of supervisors' perspective of the employer responsibility, the supervisors described a thorough commitment to their rehabilitation responsibility and to their work with employees on sick-leave. They saw themselves as key persons carrying the main responsibility for initiating all collaboration and necessary measures. The supervisors also sought to establish a mutual confidence between themselves and the employees on the sick list, and they stressed the importance of being supportive throughout the whole process of returning to work. In the study of sick-listed women, having an employer listening and providing support, entailed an increased self-esteem and faith in own competence. The employers' encouragement and sympathy for the alterations suggested by the participants was described as facilitating return to work. Correspondingly, the lack of sympathy and understanding from the employer experienced by the sick-listed women was described as an obstacle for return. All these findings correspond well with aspects described as significant in studies carried out from the employee's perspective (20, 21), where supervisor contact, encouragement and information are described as central factors for returning to work. Additionally, substantial supervisor support has been found to be a predictive factor for returning to work and to promote the individual's rehabilitation back to work (14, 88). Supervisor behaviour such as frequent communication between the supervisor and the sick-listed person was shown to hasten the return to work (88). The supervisors in the in the employer responsibility study were aware of the

value of building up confidence between themselves and the sick-listed employees, and of being supportive in the return to work process. The supervisors' great commitment, engagement and sense of responsibility were unexpected but gratifying. It shows that their key position could be central in a return to work programme designed in collaboration with the social insurance office and rehabilitation professionals.

The supervisors, in the employer responsibility study, did not only view themselves as key persons in the rehabilitation work but also as bearing the main responsibility for creating a good work environment, thus preventing ill-health and sick-listing among the employees. Likewise, good leadership qualities, for example the ability to handle conflicts at work, lead the group towards a common goal and to delegate responsibility in a sensible manner, resulted in high work attendance as shown by a study among municipal human service workers (138). Supervisors' measures are not only essential to the return to work process, but also to the work aiming to prevent and reduce sickness absence.

Work-mate support

The sick-listed women pointed out, not only lack of support from management, but low work-mate support as reducing the possibilities for returning to the workplace. Furthermore, they also described how the opposite situation, i.e. the importance of workmates keeping contact, and how this encouraged them, made them feel welcome back and increased their self-confidence. The supervisors in the employer responsibility study were aware of these circumstances, and stressed the importance of workmates being supportive and keeping contact with the sick-listed person. The interplay between the sick-listed individual and the workmates was described as improving the possibility of returning to work. Research has shown that social support from work-mates is associated with the level of sickness absence and return to work possibilities (12, 13, 69). The sick-listed women also found unsolved conflicts at work as an obstacle for returning to work. In the employer responsibility study the supervisors described how a more hostile climate among co-workers towards sick-listed employees, rendered a return to work difficult. It has been shown that women who reported being bullied in the workplace (9, 39, 56) had a double risk of high incidence of sickness absence. The supervisors in the employer responsibility study were fully conscious of this problem and did express that supporting the sick-listed employee in relation to workmates was an essential part of the rehabilitation work.

The importance of co-operation

The supervisors, in the employer responsibility study, believed that it was important to co-operate with other parties involved in the rehabilitation process, and to establish a mutual outlook. The collaboration with case managers at the social insurance office was described as working out especially well. In an intervention study, it appeared that giving case managers a more active role in the rehabilitation process back to work resulted in a higher proportion of sick-listed employees returning to work (85). It was also shown that sick-listed employees who had received a rehabilitation investigation, gained access to rehabilitation programmes and ergonomic work site visits more often than others (85, 86). Correspondingly, another study found that co-operation, including regular rehabilitation meetings between the sick-listed employee, immediate supervisor, representatives from the social insurance office and occupational health service, resulted in an increased return to work rate for employees on sick-leave (139).

However, the supervisors, in the employer responsibility study, occasionally described a lack of understanding, particularly from health professionals, resulting in a negative effect on the rehabilitation process. Rehabilitation professionals usually have a client-centred perspective, putting forward the interests of the client. This is a vital part in all rehabilitation and necessary for a successful outcome (140, 141). Yet, as rehabilitation professionals it is essential comprehend not only the sick-listed persons but also the conditions at their workplaces. Therefore, it is important that professionals also acknowledge the perspectives of the supervisors and seek a mutual outlook in order to promote a return to work. The perspective given by the supervisors in this thesis, is valuable knowledge and can provide an understanding enabling fruitful collaboration between rehabilitation professionals and responsible supervisors.

The responsibility of the sick-listed person

The sick-listed women described how they used their personal characteristics, such as high demands on oneself and high sense of responsibility, to alter their own life situation both on a personal level and at work. They described several strategies for gaining control over the everyday life. One important strategy was to engage in meaningful activities not only for recreation but also to obtain routines of daily life. In occupational therapy it has been argued for the importance of engagement in activities and how this enables people to master life (91, 95, 97). Engagement in activities is a way to seize on a situation and enables the person to take control (95, 97, 99). The participants own actions to

master daily life and to change the work situation resulted in recaptured faith in competence and facilitated rehabilitation back to work. In a review it was found that participating in decision making at work was one important factor to hasten the return to work (142). Through engagement in activities and mastering everyday life the sick-listed women gained self-confidence. Positive feedback from the environment, from, for instance, representatives from work or health professionals, on their activities, was decisive for the outcome. This could encourage rehabilitation health professionals in general, to consider the context of the person and to support the person's own initiative, and for occupational therapists in particular, to increase their work promoting people gaining control of everyday life and mastering life as a whole.

In the employer responsibility study, the motivation of the sick-listed persons was expressed as a decisive factor for successful rehabilitation. In research, sick-listed workers self-efficacy beliefs and expectations have been linked to the return to work possibilities (65, 143, 144). Low return to work expectations, low recovery beliefs and low sense of mastery predicted sickness absence (65). In line with these findings, high return to work expectations predicted an actual return to work (143, 144).

Additionally, the supervisors in the employer responsibility study, experienced that both work-related and private factors were reasons for individuals not to want to return to work. Research has also shown that sickness absence is complex, being not only work-related, but also influenced by several different factors and aspects (38, 39, 145-147). Socio-economic factors, life-style and adverse life events were found to affect the rehabilitation process and sickness absence in both women and men (39, 145). Likewise, the domestic sphere seemed to affect women to a higher extent than men. Domestic workload and responsibilities were shown to be connected with obstacles for rehabilitation and increased sickness absence, especially in women with children at home (38, 39, 146), as was domestic harassment experienced by women (147). Although the supervisors stated that they understand that the sick-listed person's total life situation has to be considered and that it has an influence on the return to work possibilities, they found it difficult to draw the line regarding the employer's rehabilitation responsibility and to find suitable measures. This is especially true when the reason for sick-listing was perceived by the supervisors not to be work-related.

The Work Stress Questionnaire

The intention when developing a questionnaire, was to design a gender-specific measurement assessing work-related stress in working women – with the purpose of early identification of those women who risk being placed on sick-leave. To our knowledge, no such questionnaire has been developed, and no such questionnaire has been found in the literature. Women's and men's working conditions differ, to the disadvantage of women. Women's psychosocial work environment has deteriorated and women report a decline in health (61). Since the majority of those on sick-leave are women, we do think there is a need for this kind of questionnaire. An important feature of the Work Stress Questionnaire is that it distinguishes between on the one hand the occurrence of a negative work characteristic, and on the other hand the immediate perception of stress owing to the characteristic. In this way the questionnaire captures a broader view of women's working conditions and could contribute with an expanded knowledge of work-related stress in women.

There is a call for health professionals to find tools to identify individuals who need return to work interventions at an early stage, and this questionnaire may help in this. However, it is essential to make further studies, and to primarily evaluate if the questionnaire has the required features for a screening instrument. It is of great importance that the instrument discriminates the individuals at risk for sick-leave because of work-related stress from those at no such risk. If the questionnaire shows these qualities, the next step will be to evaluate if screening for individuals at risk and providing preventive interventions will reduce low health development and sick-leave.

The interaction between person, environment and occupation

The study of the sick-listed women provided an understanding of the complex situation of being on sickness absence because of work-related stress and the multifaceted ways for returning to work. This study also provided knowledge of how the women go from losing control of everyday life, to mastering life as a whole and finding, or not finding, a way back to work. Both environmental and personal factors influenced the possibilities and obstacles for returning to work. Several theorists suggest that it is necessary to obtain a balance between on the one hand the environmental

challenges and demands, and on the other hand the individual's capacity and self-perceived skills (19, 95, 97, 99). The women, on their part, described the work situation as strained, with indistinct organisation, low influence at work and unsolved conflicts. Furthermore, they saw themselves as being persons with high demands of capacity, high sense of responsibility and having difficulties setting limits. The interaction between work and person-related factors was described as being inseparable. This combination of work-related factors and personal characteristics led to loss of control and constituted obstacles for a return to work.

Notable in this study was the women's description of how one and the same factor could point towards two diverse directions. The participants described themselves as persons with high demands and high sense of responsibility and how these personal factors worked negatively in high strain situations. However, these personal characteristics were later on used in a positive way for returning to work. The women used their ability to change their own situation, both on a personal level and at work. It is evident that it is important to regard the context of the situation, and to understand the relationship between individual and environment when analysing and understanding the possibilities for return to work.

The supervisors in the employer responsibility study described a situation where many aspects had to be taken into account, and they saw rehabilitation work as a part of a greater whole influenced by the prevailing social climate, the demands and resources of the workplace and the interplay between all parties involved. To be engaged in activity, such as being able to work, can be described as the dynamic relationship between the individual, in her occupations and roles, and the environment. The individual and the environment are dependent on each other, and changes in either one influence the possibilities of performance. An individual's context is unique, and the individual both affects and is affected by her context, which results in continually changing prerequisites for performing activities and occupations (17, 90). In this study, the supervisors gave their perspective on managing employees on sick-leave back to work, and showed how they perceive and view the complexity of this process. The supervisors had to consider many different aspects and illustrate how all the different factors are interwoven and dependent of each other. They told about how possibilities and obstacles

in both the environment and in the individuals interact and have an impact on the rehabilitation process. These perspectives and experiences described by the supervisors could be of great value to all parties involved in the return to work process.

Methodology discussion

The issues of this thesis were of a qualitative as well as of a quantitative character, and the knowledge gained from the first studies was used in the following ones. Using two different approaches in one and the same research project and combining qualitative and quantitative methods can be a way to strengthen the research (148, 149). Since the qualitative approach has the advantage of being explorative it resulted, in this thesis, in a deepened understanding of the parties involved and captured both the women's and supervisors' unique perspectives and views. By using a qualitative method, not only the attitudes and beliefs of target groups were revealed, but also the framework of the groups. Another objective of the study was to identify a measure assessing work-related stress in women. Qualitative as well as quantitative methods were used in the developing of a questionnaire. A qualitative approach was used in constructing the Work Stress Questionnaire. Based on results of the first focus group study, items and scales were designed, and to confirm face validity of the questionnaire a pilot group study was conducted. A quantitative method was then used when testing the reliability of the questionnaire. In the last study, the objective was to investigate the prevalence of work-related stress in women and its association with self-perceived health and sick-leave. The developed questionnaire, the Work Stress Questionnaire was used. The study had an epidemiological approach and used quantitative methods to derive generalisations in analysing data. This kind of spiral model, with studies of diverse standpoints, can be fruitful when deepening the knowledge of a complex phenomenon (150), which also stands true in this thesis.

Focus group methodology

In the two qualitative studies (Paper I and Paper II) the focus group methodology was used. The most essential feature in order to achieve a variety of opinions about the research topic is to create an atmosphere stimulating an open discussion. This depends on both the composition of the groups and on the role of the group leader. (105-108). In the composing stage of the studies both homogeneity and heterogeneity were considered.

Homogeneity was represented by the participants sharing a common experience. This has been shown to be sufficient to create group identity and to provide interactive discussions (106, 108). Especially, sharing a health problem, such as the women in the first study did, has been found in studies to be a way to create group identity (106, 108, 109). Likewise, the women in the first study spontaneously expressed that meeting in the focus group was a positive experience.

The role of the group leader is crucial as well for the outcome of the discussions. The group leader has to be a good listener, encouraging the participants enter into discussion as freely as possible. These personal qualities are preferred rather than having expert knowledge of the research topic (105-107). In the studies the group leaders were well experienced in guiding groups and focus group discussions and had the ability to create an open climate, hence encouraging discussion. This, together with the compositions of the groups, resulted in the discussions being lively and interactive. Owing to the open atmosphere a variety of aspects and views concerning the research topic emerged and were duly discussed. Focus group methodology is an effective tool to use when seeking knowledge of not only the participants' aspects of the topic, but also comprehension of the participants' frame of understanding (105).

Throughout the analyses of the two studies, the data was attached to raw data for as long as possible, and was, in accordance with Krueger (107), analysed within its context. Before the interpretation of the data, descriptive statements were created from the raw data and illustrative quotations were selected. Finally the descriptive statements constituted the foundation of the interpretation. The presented themes and categories in the studies were significant throughout all the different discussions. Face validity was achieved by the participants confirming and opposing each other's views throughout the discussion. Although, studies have stressed the influence of the domestic area for women's health development (36, 37, 146, 147), this topic was only raised to a very limited extent in the first study of sick-listed women. One explanation for this could be that the main issue of that study concerned work. In order to complete a more representative picture of women's possibilities for returning to work, further studies focusing on the domestic area are of great importance.

However, the focus group discussion is a qualitative method, hence the results of the studies cannot be generalised and have to be interpreted with caution. As mentioned above, to create an atmosphere that will stimulate an open discussion, the homogeneity and heterogeneity had to be considered while composing the groups. In the first study (Paper I) the target group had a heterogeneous composition in employment and socio-demographic aspects. For example married and single as well as privately and publicly employed women participated. No women representing blue-collar workers, however, were participating. Studies have pointed out the impact on health development and sickness absence among women of factors such as educational and socio-economic status (129, 151, 152), and perhaps other aspects would have been discussed in this study if women representing blue-collar occupations had participated.

In the second focus group study (Paper II) the majority of the participants were representing public employers. This can be explained by the fact that the majority of the sick-listed employees in Sweden are women (3, 4). Given the gender segregation, with women in the public and men in the private sector (27), the chances of recruiting supervisors representing public employers were high. As the target group comprised supervisors with experience in managing employees on sick-leave, it can be assumed that the members of the focus groups were interested in rehabilitation matters, were well experienced in conducting rehabilitation investigations and represented employers with policies and routines for rehabilitation. The supervisors in this study also describe having experience of structured rehabilitation routines and collaboration with case managers. Studies have pointed out that fewer than half of employers conduct and send a rehabilitation investigation to the social insurance office. This investigation constitutes a starting point for the case manager coordinating rehabilitation (85, 86), and thus, it could perhaps be concluded that supervisors participating in this study represent employers conducting investigations and being accustomed to collaboration. Further research is needed to understand the perspectives of all those employers with less or no experience of rehabilitation of sick-listed employees, as well as of representatives of private employers, since the majority of the participants in this study represent public employers.

Questionnaire development

The Work Stress Questionnaire (Paper III) was developed from an empirical standpoint, and was based on a focus group study. A specific qualitative survey, such as a focus group study, is described as suitable when constructing questionnaires (79, 83, 153, 154). The focus group methodology helps the researcher to get closer to the data and to understand the shared, common experience of the target group (83). Although the development of this questionnaire was based on a specific study, several other surveys have confirmed the importance of work- and person-related factors as risks for perceived bad health and sick-leave (9-11, 22, 24, 56, 68). Besides well-known risk factors such as little influence at work, increased workload and conflicts at work, bad work organisation and unclear leadership have been proved to be associated with work-related symptoms and increased sick-leave (55). Other studies have also described how person-related factors such as demanding too much of one's capacity, have a negative influence on health development (67, 155).

Because the questionnaire is intended to be self-administered, it has to be simple to administer and uncomplicated for the target group to complete. The focus group methodology is found to facilitate the process of formulating the items and scales since it helps the researchers to become familiar with the target group's language and expressions (117, 154). In order to obtain straightforward answers and a high response rate without reluctance and frustration, this method is stressed as being crucial for gaining the recognition and acceptance of the questionnaire in the target group. A sign of reluctance or frustration is when the questionnaire is filled with comments and ticked in between scale-pace boxes (80, 82). Few of these signs were found, and the conclusion is that the test-taking attitude of the participants at test-retests in this study was good. Face validity was also confirmed by the pilot group in the study.

The second phase in the development of the questionnaire was to test the reliability of the items and scales in terms of stability. A test-retest study was designed and a rank-invariant method was chosen to evaluate the reliability (119, 120). The rank-invariant method is appropriate since it takes into account the fact that the data is paired and assessed on ordinal rating scales. In contrast to marginal models, such as kappa statistic (156), the rank-invariant statistical method has the possibility of separating systematic disagreements in categorisation from random individual disagreements. Compared to kappa

statistics, this method is also valid regardless of the number of categories (119, 120). In a study, the kappa statistics was compared with the rank-invariant method and found the rank-invariant method to be superior when identifying and separately measuring the level of systematic and random disagreement between test and retest (157).

A 4-point scale with descriptive scale steps was used. Studies have shown that verbal descriptor scales are superior to numerical scales and that it is important to clearly define the categorical levels. Although scales with more response categories offer the possibility of being more sensitive they do not necessarily guarantee a higher sensitivity or validity. More response categories can in fact decrease the stability of the questionnaire (158, 159). Face validity of the 4-point scale in this study was confirmed by the pilot group and the stability was found to be high.

The time interval between the test and retest occasions was two weeks, an interval long enough for the participant to forget the questions and answers but not long enough to change too much of the circumstances of the assessed phenomena (110). However, several circumstances do, in fact, influence the stability of a questionnaire, and it is not possible to achieve total stability, since the test and retest occasions cannot be exactly the same (80). The reliability of the items in the revised version of the questionnaire showed a high level of stability since the majority of values were close to zero. Two of the items, however, showed a significantly low level of stability. It is essential to be aware of the features of the phenomena and to distinguish between so-called trait and state assessments. Trait assessments have a higher temporal stability than state assessments. A trait feature such as cognitive abilities, for instance, more often has higher temporal stability than a state feature such as mood (80, 110). The instability of the item, 'Do you perceive it as stressful being involved in conflicts at work', can be interpreted in two ways: *either* this specific question has a tendency to be overestimated on the first occasion *or* there had been conflicts at the workplace that had been reduced or solved between the test-retest occasions. The authors' conclusion is that conflicts at work are constantly fluctuating, and that this question is sensitive to change. Our argument is that this question is a valuable assessment in the questionnaire and, despite low stability, should remain in the final version. The instability of the second item, 'Do you perceive it as stressful getting engaged in your work?', was owing to an occasional disagreement implying random changes. Therefore, this particular question ought to be further clarified. The instability

found in the two items can, however, be explained by the fact that perceived stress, which was the main feature assessed, can be characterised more as a state assessment than a trait one.

Cross-sectional design

A cross-sectional design was used in Paper IV, and because of this no conclusions regarding causality can be made. Previous research, however, supports the finding that being exposed to work-related stress increases the risk of symptoms of illness and sick-leave (9, 10, 22, 24, 69). It is notable that some statistically significant values of the confidence interval of OR were wide and therefore the results have to be treated with caution. One possible limitation of the study was that the exposure variables were assessed with a recently-developed questionnaire. It has been found to have high reliability and face validity, but further research is required to ensure its validity. In this study, the criterion validity was tested and correspondence was found between all categories of work-related stress and general stress experienced. Some of the items had a low prevalence and should perhaps have been considered for omission. The grouping of the items in different categories of work-related stress was, however, based on the empirical findings in Paper I and, since this questionnaire is still under development, the items remained. The two items found to have low reliability in Paper III also remained for the same reason. Despite its limitations, the Work Stress Questionnaire has shown new ways of assessing work-related stress. The advantages with this questionnaire lie both in the design, which combines environmental and personal work characteristics, and in the quality of assessments of the experience of perceived stress in relation to each specific item.

With regard to selection bias, the educational level was higher (>12 years=55 %) in the study population than in the general population of women in Gothenburg in 2004 (>12 years = 44 %) (160). The study population, however, is not completely comparable with the general population, since only employed women were included. The general population also includes, for example, women who have not yet entered the labour market and unemployed women presumed to have a lower educational level. The sickness absence rate was somewhat higher in the study population (7 %) than in the general female population of 2004 (5.6 %) (34). This can be explained by the higher representation of 50-year-olds.

Conclusions

Work-related stress in women should be understood in a societal context with special focus on the interaction between the individual and the environment. It is of great importance to take measures on a societal, organisational and individual level in order to reduce the negative effects of work-related stress and promote a return to work. The knowledge gained in this thesis could be used to develop a successful rehabilitation programme in the return to work process.

Implications for society:

- Society should work together with employers trying to find policies promoting modified workplaces and suitable tasks.
- Taking preventive steps reducing the occurrence of work-related stress ought to be essential for society as well for the work-places.

Implications for organisations:

- Improving co-operation between the parties involved, i.e. the sick-listed person, the supervisors, the case managers at the social insurance office and the health professionals.
- Rehabilitation health professionals should be aware of, and consider the context of the person, support the person's own initiative and promote their gaining control of everyday life and mastering life as a whole.
- Superiors at the workplaces should develop a return to work policy which includes structured directions regarding employer accommodations and adjustment possibilities, supervisor and work-mate support and collaboration.

Implications for the individuals:

- Engaging in meaningful activities not only for recreation but also to obtain routines of daily life. Mastering daily life and participating in altering the own situation can result in recaptured faith in competence and facilitate rehabilitation back to work.

Research implications:

- Put together, test and evaluate a return to work programme.
- There is a need for preventive methods identifying individuals who risk being placed on sick-leave, and the Work Stress Questionnaire can be a useful tool in this for health professionals.
- Further research is needed to improve the Work Stress Questionnaire, primarily to evaluate if the questionnaire has the required features for a screening instrument. It is of great importance that the instrument discriminates the individuals at risk for sick-leave because of work-related stress from those at no such risk.
- If the questionnaire shows these qualities the next step will be to evaluate if screening for individuals at risk and providing preventive interventions will increase health and decrease sick-leave.

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Appendix

Appendix 1 *The Work Stress Questionnaire (revised version/reviderad version)*

01 Hinner du utföra dina arbetsuppgifter?	ja, alltid ja, ganska ofta nej, sällan nej, aldrig
02 Har du möjlighet att påverka de beslut som berör verksamheten på din arbetsplats?	ja, alltid ja, ganska ofta nej, sällan nej, aldrig
03 Tar din närmaste chef hänsyn till dina åsikter?	ja, alltid ja, ganska ofta nej, sällan nej, aldrig
04 Bestämmer du över din arbetstakt?	ja, alltid ja, ganska ofta nej, sällan nej, aldrig
05a Har din arbetsbelastning ökat?	ja nej – om <i>nej</i> : gå till fråga 06a
– 05b Om <i>ja</i> : Upplever du det som stressande?	inte stressande mindre stressande stressande mycket stressande
06a Är målen för verksamheten på din arbetsplats tydliga?	ja – om <i>ja</i> : gå till fråga 07a delvis nej
– 06b Om <i>delvis</i> eller <i>nej</i> : Upplever du det som stressande?	inte stressande mindre stressande stressande mycket stressande
07a Vet du vilka arbetsuppgifter som ingår i ditt arbete?	ja – om <i>ja</i> : gå till fråga 08a delvis nej
– 07b Om <i>delvis</i> eller <i>nej</i> : Upplever du det som stressande?	inte stressande mindre stressande stressande mycket stressande
08a Vet du vem eller vilka som tar beslut som berör verksamheten på din arbetsplats?	ja – om <i>ja</i> : gå till fråga 09a delvis nej
– 08b Om <i>delvis</i> eller <i>nej</i> : Upplever du det som stressande?	inte stressande mindre stressande stressande mycket stressande
09a Förekommer det konflikter på din arbetsplats?	ja nej – om <i>nej</i> : gå till fråga 12a
– 09b Om <i>ja</i> : Upplever du det som stressande?	inte stressande mindre stressande stressande mycket stressande
10a Är du inblandad i någon eller några konflikter på din arbetsplats?	ja nej – om <i>nej</i> : gå till fråga 11a
– 10b Om <i>ja</i> : Upplever du det som stressande?	inte stressande mindre stressande stressande mycket stressande
11a Har din närmaste chef gjort något för att lösa konflikterna?	ja – om <i>ja</i> : gå till fråga 12a delvis nej

<p>– 11b Om <i>delvis</i> eller <i>nej</i>: Upplever du det som stressande?</p>	<p>inte stressande mindre stressande stressande mycket stressande</p>
<p>12a Ställer du höga krav på dig själv i ditt arbete?</p>	<p>ja nej – om <i>nej</i>: gå till fråga 13a</p>
<p>– 12b Om <i>ja</i>: Upplever du det som stressande?</p>	<p>inte stressande mindre stressande stressande mycket stressande</p>
<p>13a Blir du ofta engagerad i ditt arbete?</p>	<p>ja nej – om <i>nej</i>: gå till fråga 14a</p>
<p>– 13b Om <i>ja</i>: Upplever du det som stressande?</p>	<p>inte stressande mindre stressande stressande mycket stressande</p>
<p>14a Tänker du på arbetet efter arbetsdagens slut?</p>	<p>ja ibland nej – om <i>nej</i>: gå till fråga 15a</p>
<p>– 14b Om <i>ja</i> eller <i>ibland</i>: Upplever du det som stressande?</p>	<p>inte stressande mindre stressande stressande mycket stressande</p>
<p>15a Har du svårt att säga nej till arbetsuppgifter trots att du redan har fullt upp att göra?</p>	<p>ja ibland nej – om <i>nej</i>: gå till fråga 16a</p>
<p>– 15b Om <i>ja</i> eller <i>ibland</i>: Upplever du det som stressande?</p>	<p>inte stressande mindre stressande stressande mycket stressande</p>
<p>16a Tar du mer ansvar för arbetet än du borde göra?</p>	<p>ja nej – om <i>nej</i>: gå till fråga 17a</p>
<p>– 16b Om <i>ja</i>: Upplever du det som stressande?</p>	<p>inte stressande mindre stressande stressande mycket stressande</p>
<p>17a Arbetar du utöver din ordinarie arbetstid för att utföra dina arbetsuppgifter?</p>	<p>ja ibland nej – om <i>nej</i>: gå till fråga 18a</p>
<p>– 17a Om <i>ja</i> eller <i>ibland</i>: Upplever du det som stressande?</p>	<p>inte stressande mindre stressande stressande mycket stressande</p>
<p>18a Har du svårt att sova på grund av att du tänker på arbetet?</p>	<p>ja ibland nej – om <i>nej</i>: Gå till fråga 19</p>
<p>– 18b Om <i>ja</i> eller <i>ibland</i>: Upplever du det som stressande?</p>	<p>inte stressande mindre stressande stressande mycket stressande</p>
<p>19 Har du på grund av arbetet svårt att få tid till att umgås med dina närmaste?</p>	<p>ja, alltid ja, ganska ofta nej, sällan nej, aldrig</p>
<p>20 Har du på grund av arbetet svårt att få tid till att umgås med dina vänner?</p>	<p>ja, alltid ja, ganska ofta nej, sällan nej, aldrig</p>
<p>21 Har du på grund av arbetet svårt att få tid till att utöva dina fritidsintressen?</p>	<p>ja, alltid ja, ganska ofta nej, sällan nej, aldrig</p>