

From the Department of Public Health Sciences, Division of Psychosocial Factors
and Health, Karolinska Institutet, Stockholm, Sweden



**The Health Care Sector:
A Challenging or Draining Work Environment**

*Psychosocial Work Experiences and Health among Hospital
Employees during the Swedish 1990s*

Anna Hertting

Stockholm 2003

The Health Care Sector: A Challenging or Draining Work Environment
- *Psychosocial Work Experiences and Health among Hospital Employees
during the Swedish 1990s.*

©Anna Hertting, 2003

ISBN 91-7349-665-0

All previously published papers were reproduced with permission from the publisher.
Printed by Karolinska University Press, Box 200, SE-171 77 Stockholm, Sweden.

To the women in the health care service

***'Within you, vault opens behind vault ad infinitum.
Never will you be finished, and that's as it ought to be'.***

Tomas Tranströmer*

*From the suite of poems "The living and the dead" (1988) by Tomas Tranströmer.

Abstract

Health care personnel in a large Swedish hospital were followed over a period characterised by downsizing and related restructuring. The access to a research field, and research database between 1994 and 2001 provided an unusual opportunity to study longitudinally the consequences of structural instability in the work environment, as well as personnel health. The findings from this research project indicate the significance of the combination of methods for assessment of major organisational changes in working life.

The aim of the *first study* (on biological stress markers) was to assess whether there were physiological changes associated with the downsizing process. The participants, consisting of 31 women (medical secretaries, registered nurses and assistant nurses), had blood sampled in the morning and in the afternoon during a working day in 1997, in conjunction with the two-year layoff period, and were followed up one year later in 1998. This study indicated that protective and anabolic functions had suffered among the studied women. There was evidence of a flattening of the circadian cortisol rhythm, which could be a sign of physiological dysfunction coinciding with the enduring adaptation process. It could be speculated that this was a sign of increasing difficulty for the women to mobilise energy.

The aim of the *second study* (with the same 31 participants) was to explore experiential aspects of psychosocial 'stressors', balanced by 'motivators', and how the women managed different phases in the restructuring process. Repeated interviews were performed in 1997 and 1998, with additional follow-up interviews in 2000, and in 2001. The women discussed downsizing as an 'energy consuming' experience, which included continuing distrust towards the employer. It seems to be important to implement a good 'change-focused pedagogy', where staff managers need to be aware of the dimension of 'psychological contracts', and the dynamics of crises.

Job insecurity among the assistant nurses was expressed as fear of losing valued caring work tasks ('down-skilling'), while medical secretaries conveyed that expanded administrative functions, and their increased use of ICT might possibly mean future 'up-skilling'. At the same time as the registered nurses seemed to be assured of being able to strengthen their position in health care ('up-skilling'), they struggled with ambiguity and their complex deference-dominance relationship towards the physicians. The main stressor in the ongoing work was being behind in an insufficient organisation without power to change working routines. The main motivator was being a part of a comprehensive and learning team, associated with promotion and influence.

The aim of the *third study* was to identify (on an ecological level) trends in working conditions and health outcomes, as well as their interdependence, among health care staff in the hospital as a whole. The results (1994-2001) showed that the hospital staff reported a downward trend in mental health and a corresponding upward trend in long-term sick leave during the latter part of the study period. It was also found that the negative trends in the work environment, such as having less time to plan work, and conflicting demands, were accompanied by deteriorating mental health. Decrease in time for planning work was the factor that showed the strongest association with the delayed increasing long-term sick leave. Four stable 'healthy' departments were identified for future research.

Keywords: Downsizing, Psychosocial work, Occupational health, Women and stress, Work motivation, Health care, Gender, Coping, Exhaustion, Cortisol circadian.

List of publications

The present thesis is based on the following articles:

Article I

Hertting A. & Theorell T. Physiological changes associated with downsizing of personnel and reorganisations in the health care sector, *Psychotherapy & Psychosomatics*, 2002, 71, 117-122.

Article II

Hertting A., Nilsson K., Theorell T., & Sätterlund Larsson U. Personnel Reductions and Structural Changes in Health Care - Work Life Experiences of Medical Secretaries. *Journal of Psychosomatic Research*, 2003, 2, 161–170.

Article III

Hertting A., Nilsson K., Theorell T., & Sätterlund Larsson U. Demands, challenges and ambiguity in registered nurses - Experienced stressors and motivators during a period of downsizing and restructuring processes. *Journal of Advanced Nursing*, 2004, January 45:2b.

Article IV

Hertting A., Nilsson K., Theorell T., & Sätterlund Larsson U. *Assistant Nurses in the Swedish Health Care Sector during the 1990s - A Hard-hit Occupational Group with a Tough Job* (Submitted for publication).

Article V

Petterson I-L., Hertting A., Hagberg L., & Theorell T. *Are trends in work and health conditions interrelated? A study of hospital employees in the Swedish 1990s* (In review).

Contents

Background	1
The new working life of the 1990s	1
Parallel changes in Swedish health care	2
International research in downsizing	4
Psychosocial work and health trends in the 1990s	6
The ill health trend	6
The sick leave trend	7
Long-term sick leave	7
Short-term sick leave	9
Concluding reflections	10
Work environment trends for health care workers	11
Aims	14
General Aim	14
Specific Aims	14
Theoretical framework	15
Psychosocial factors related to health	15
The Gendered Dimension of Working Life	15
Stressors – Motivators - Stress responses	17
Complementing stress- and motivational concepts	18
From functional stress to allostatic load	21
Concluding remarks	23
Empirical investigations	24
Introduction to the research field	24
Personnel trends in the present hospital	25
Recurrent work environment reports	26
Myself as an insider with an outside perspective	27
Included methods	28
Methods for interviews and biological markers	28
Design	28
Participants	29
Data set and analyses of biological markers	30
Data set and analyses of interviews	31
Methods for trends in work and health	32

Subjects	32
Measurements	32
Statistics	33
Ethical Considerations	33
Findings and discussion	34
Overweight of drainers, balanced by challengers	34
Tougher work trends	34
The adjustment phase	35
Downsizing consumes energy and emotions	35
The ongoing work	39
Being subordinated and being ‘in between’	39
Being behind in an inefficient work organisation	41
Efforts to gain control at work	45
Work-related deteriorated health trends	48
Energy-draining processes among staff	48
Tougher work trends associated with deteriorating health	49
Concerns about sustainable health and finances	50
A challenging work environment	51
Being part of a comprehensive and learning team	51
Four stable ‘healthy’ departments in the hospital	53
Concluding reflections	54
Methodological considerations	55
The physiological study	56
The Interview study	56
The trend study	58
Future research perspective	59
Acknowledgements	61
References	65
Appendix	73
Interview guides	

Background

The new working life of the 1990s

In the history of economics the advanced industrialised societies are described to have undergone distinct 'industrial revolutions', each of them with far-reaching technical and organisational changes as regards the way in which products and services are produced. In Sweden the third structural transformation of the labour market was gradually developed from the 1970s onwards, and had its major impact during the 1990s (Magnusson 2000). Characteristic features of the new working life are: the increase of white-collar workers, decentralised ways of organising the work, and also more temporary and subcontracted work. Yet another parallel tendency is the long-term increase in the demands of qualifications among employees due to the changing nature of work (Level of Living surveys 2000). As a whole, occupational groups and sectors with relatively high demands for qualifications are growing, while others are declining.

In the analysis of social development, it is emphasised that the driving forces behind a structural change are connected with the new technology and changes in the surrounding world, which in turn are concerned with changed market conditions (Magnusson 2000). What characterises the existing social changes is the global order with an increasing integration as regards markets, ownership, knowledge and trades. The toughening international competition in industrial life, in combination with periods of economic recession has been the incentive behind the efforts of different companies and sectors to make their activities more efficient by such means as purchasing or merging of working entities, outsourcing of certain service functions, and downsizing the number of staff.

The new systems of work organisation - extolled as reforms of Taylorism and aimed at improving productivity, product quality, as well as profitability - have taken a variety of forms and names, such as lean production and high-performance work organisation (Landsbergis et. al 1999). The rationale behind lean production is that fewer employees with a broader basic competence (up-skilling) should be able to manage a more flexible and adaptable work organisation (Lindberg & Trädgårdh 2000). There are points of connection with downsizing, even if lean production could be seen as a more explicit way of producing goods or services, and downsizing a more pronounced cost containment strategy. However, both are concerned with making more efficient use of the organisation's resources, in terms of competition, profits and making savings (Freeman & Cameron 1993).

Several studies reviewed have shown that when introducing these new working principles there have been reports of an intensified work pace and time constraints among employees throughout the advanced industrialised world from the late 1970s (Landsbergis et. al 1999). Another conclusion is the evidence of increasing job strain among employees, since the growing demands must be seen in relation to continuing or even decreasing low decision latitude for many workers (Landsbergis et. al 1999). However, there are examples from companies that could report lower levels of stress when they actively involved the trade union and the employees to participate in developing new working routines such as team-oriented work, as well as implementing lean production (Parker & Chemiel 1995; Kaminski 1996).

Parallel changes in Swedish health care

At the beginning of the 1990s the recession in Sweden brought about a corresponding economic crisis in the public sector. Swedish health care underwent a radical process of adjustment; after decades of increasing resources, the care services had to reduce costs and the number of employees was reduced (Federation of County Councils 2002).

Due to the related demands for making the work more efficient there were also substantial management reorganisations in the mainly publicly financed health care sector in Sweden. In order to increase the economic incentives many county council directors started to introduce new market-driven principles, such as performance measurements and compensations – i.e. systems of buying and selling (Törnqvist 1999).

The numbers of persons employed in the health sector were estimated to decrease by an average of 24% due to saving demands during the present decade. At the same time the proportion of full-time employees increased from 63 to 75 per cent. The staff reductions primarily affected female personnel working at the lower structural levels, such as assistant and auxiliary staff, and those in the younger age groups, following the guidelines provided by the Swedish Security of Employment Act (LAS): ‘last in, first out’ (Federation of County Councils 2002).

This meant that the numbers of physicians and registered nurses in fact increased by 9 and 5 % respectively between 1993 and 2001, while the numbers of assistant nurses decreased by 37%, and the nursing auxiliaries by 39%. Over a period of three decades, the more unqualified jobs in the health care sector have gradually decreased; most marked during the 1990s. In the same period, 1993-2000, the average age of the personnel increased from 42 to 45 years, and the proportion of staff aged 50 or more from 25% to 36 % (Federation of County Councils 2002). As it became more difficult to recruit regis-

tered nurses, the county councils again seemed to employ assistant nurses. This resulted in a slight increase in 2000.

Hence, the health personnel in the latter part of the 1990s consisted of people with higher formal education, and of a higher age. There was less access to assistant personnel than previously. Even if the proportion of women declined from 82 to 81% during the decade, this means that the health care sector at the turn of the century 2000 as a clearly female-dominated workplace was populated by many women in the same middle-aged phase of life.

Concurrently with all the efforts for cost-containment, health care production expanded in many areas. It is not possible to obtain a precise picture of how demands for performance have changed in relation to the level of personnel resources. Although the number of available hospital beds has obviously decreased during the present decade, the level of patient flow was almost the same in 1999 as in 1990 (County council statistics 2002). Between 1990 and 1997, the average length of hospital stay decreased from 7.5 to 5.4 days (personal communication). It is interesting to note that the average length of stay did not further decrease from 1997 to the year 2000, which shows an extra dimension of the intensity in the parallel increase of demanding changes around the middle of the decade.

It is important to keep in mind that intensity of care is greatest during the first few days, and also that in general, patients that stay in hospital require more intense care, and that the hospital beds were utilised more intensively. This trend is interpreted as a result of the introduction of new and more effective treatment methods that have produced 'sped up' patient care and related shortened hospital stays (Federation of County Councils 2002). This is also true for the increased use of day treatment instead of inpatient care, which implies that the relatively self-sufficient patients who previously stayed for observation have been removed from the inpatient care. The proportion of older patients over 85 years of age, characterised by having various and more complicated disorders, has also increased substantially. The number of inpatient care episodes for these patients has increased by substantially due to wider indications for treatment (Federation of County Councils 2002).

During the last decade there has also been an increasing use of Information Communication Technology (ICT) to increase the capacity of different hospital information systems: for the recording of relevant personnel and patient statistics, as well as documentation and handling of medical records. A parallel development is the increased presence of research-based reconsideration of new methods of treatment and care (About responsibility concerning quality and documentation SOS 96:24).

It could therefore be argued that the overall work demands were enlarged during the 1990s, due to intensified and more qualified patient care, including older and sicker patients, and with an ageing workforce without access to auxiliaries.

International research in downsizing

From the perspective of international research on downsizing, the stressors for employees are described in terms of perceived job insecurity in combination with growing work demands, reduced control, and loss of trust (Landsbergis et. al. 1999).

It is evident that most of the literature on job insecurity has dealt with the adverse health effects of unemployment among blue-collar workers in times of economic recessions and related shutdowns (Arnetz 1991; Brenner 1988; Ferrie 1999; Hellgren 2003). Brenner showed (1988) that the highest stress level in association with the shutdown of a workplace was the first uncertain anticipation phase. This is a phase that is characterised as a period when the employees realise that changes may occur but are not sure if, or how, they may be affected (Joelsson & Wahlqvist 1984; Ferrie 1999).

The researchers in a closely related and growing research domain are dealing with the effects of job insecurity in relation to the temporary and subcontracted working conditions that have followed the more flexible labour market (Hellgren 2003). From that research tradition the importance of enlarging the concept of job insecurity to include loss of valued features in one's work is evident (Greenhalgh & Rosenblatt, 1984; Hellgren, 2003). In a review of studies concerning job insecurity and downsizing (some of those from health care) the authors found that more than 90 per cent reported negative effects on occupational health (Quinlan et. al. 2001). In a parallel review Ferrie (2001) maintains that there are examples on longitudinal studies showing that perceived job insecurity could act as a chronic stressor.

In the literature of human relations it is emphasised that the continuing demands for profitability by one-sided implementation of lean production and downsizing seems to be inconsistent with a good work environment for the employees (Ketz de Vries & Balazs 1997; Pfeffer 1998). The authors base their standpoint on the strong negative reactions expressed by the staff that are left – the so-called 'survivors'.

I will now focus on presenting those psychological reactions and health effects found in the literature concerning lay-off 'survivors'. The downsizing process is described as an anger-provoking experience among the remaining employees (Greenglass & Burke 2000), as well as a process of distress to go

through since the survivors miss their previous fellow workers and the related group-togetherness. The sense of being disloyal or having a bad conscience about one's fellow workers who had to leave the workplace has been summarised as 'lay-off survivor sickness' (Ferrara 1998). It means that the survivors take upon themselves some of the guilt for the experienced injustice.

Ferrie (1999) describes experiences of staff redundancies as an externally imposed threat of job continuity, inducing feelings of demoralisation, lack of control, and loss of trust in those in positions of power. In the anthology of 'lean organisations' (National Council of Work and Life research 2000) the authors together reveal that such anxiety comes from an uncertain future with new occupational functions, and from the threat of future saving demands. Considering the future credibility of the organisation, they also emphasise the importance of communication and openness with downsizing at hand, as well as through the whole process.

Quinlan and colleagues (2001) demonstrate that there is not much available longitudinal research, which illustrates work environment and health trends for ongoing workers after having experienced parallel restructuring processes. However, there is research from the period of economic recession in the early 1990s in Finland, showing that major downsizing was associated with a significant twofold increase in medically certified sickness absence (the degree of organisational downsizing being correlated with the amount of absence) among local government employees (Vahtera et. al. 1997). In a follow-up study the same research group showed that nearly half of this association was explained by the combination of increased demands, loss of control and job insecurity (Kivimäki et. al. 2000). In yet another study the research team found that there was a five-fold increase in sick leave due to musculoskeletal sickness in association with the same downsizing process (Kivimäki et. al. 2001). In worksites with a large number of workers over 50 years of age, the downsizing meant an up to tenfold increase in this risk.

With regard to different work sectors, researchers have shown that employees in work units in the region of Stockholm with a stable economy and stable work organisations have fewer cardiovascular risk factors compared with corresponding workers in more unstable work units (Westerlund et. al. 2003). It has also been shown that organisational changes in the form of a pronounced expansion of the number of employees is correlated to both an increased number of long-term sick leave episodes and increased incidence of hospitalisations/increased morbidity (Westerlund et. al. submitted).

Psychosocial work and health trends in the 1990s

The concepts of illness, disease and sickness are given different meanings in the public health literature. Illness is an expression of perceived or self-rated ill health from the individual's point of view (Alexandersson. 1995). A diagnosis of disease could be based on either the biomedical findings or the physician's estimation of the description of symptoms from his/her patient. A disease is what medical science, in a certain time and culture, categorises as a disease (Alexandersson 1995). Sickness means the role a person experiencing illness or disease is given in the cultural context, and is often discussed as exemption from social duties, such as absence from work.

The independent research-based welfare commission (Palme et al. 2003) stated that most of the techniques that have been developed to measure health are constructed to identify ill health. Thus, in reality health is usually defined and measured as the absence of health problems or mortality. The trends regarding psychosocial work factors related to health will be viewed from the two most commonly used measurements in the research field, i.e. self-rated (ill)health and sickness absence. Furthermore, there is a long tradition of using biological markers that could mirror physiological responses in relation to psychosocial parameters (described in connection with the theoretical framework: From functional stress to allostatic load (p. 21).

Public health trends will be discussed in relation to the psychosocial work environment in the mainly publicly financed health care sector, and with special emphasis on women. Researchers in social science demonstrate a particularly large consensus in identifying the psychosocial aspects of the work environment during the 1990s as a problem in a class of its own (Bäckman 2001). In the same report – *Welfare at the crossroads* – there is said to be a corresponding consensus when it comes to women in the public sector as the great losers of the 1990s with regard to tougher psychosocial work conditions, ill health and income distribution – due to a strong relative decline in public sector salaries. Gender differences in income were still considerable at the end of the 1990s and had diminished only marginally during the decade, leaving the rather gloomy picture of women still at a disadvantage (Bäckman 2001).

The ill health trend

The 1990s showed a rise in health complaints and a fall in mortality. It is worth mentioning that women's mortality continues to be considerably lower compared to men's, and in percentage terms the differences between women and men remained the same at the end of the decade (Palme et. al. 2003). This public health paradox is a well-known fact.

According to the answers in the recurrent Swedish surveys of living conditions (Statistics in Sweden 2001), there is clear increase in common health complaints, such as tiredness and pain in the musculoskeletal organs. The increase for women is more marked. Trends in health complaints that increased correspondingly during the 1990s were fear, unrest and anxiety (Palme et. al. 2003). Epidemiological data from the Level of Living Surveys (1991-2000) show that 'light' psychological illnesses became considerably more common, while more serious long-standing illness had no such observable rise (Palme et. al. 2003; Åsberg et. al. 2003).

Although self-rated ill health is still unevenly distributed in the population - due to gender, age, ethnicity and social class - there are some obvious shifts in the health pattern. What makes the 1990s stand out is the rising prevalence of mental health complaints in younger age groups (particular among young women), and in addition a relatively greater increase in ill health among white-collar workers (Palme et. al. 2003; Vogel & Theorell 2003; Åsberg et. al. 2003). The trends could be understood in relation to the upgrading of qualifications in the work force, in combination with the overall increased level of psychological demands, and corresponding deterioration in control (Level of living surveys 2000; Theorell 2003).

The strong concerns about the 'new ill health' from society could in turn be interpreted as an expression of the fact that more central figures and people with higher status (levels of education and salary) in society are stricken with different signs of accumulated strain. In spite of these shifts, it is important to stress that both health complaints concerning musculoskeletal pain and long-standing illness- with reduced working capacity are- most prevalent among those who still have heavy manual work (Vogel & Theorell 2003).

The sick leave trend

Long-term sick leave

Sweden has shown a fluctuating sick leave trend with two clear peaks: at the end of 1980s and at the end of the 1990s. It is important to point out that the sick leave (for which compensation was paid by society) was higher at the end of the 80s when there was a boom, than at the end of the 90s. The probable reason for this is that the employer's responsibility for paying sickness benefit has been extended. However, in the discussions of the 80s and 90s about work-related illness, the government authorities expressed, then as now, the need to slow down the spiralling costs of the health insurance system. An increasing number of people on long-term sick leave in the population also

means increased costs for the employers, due to adjustments and lower production levels, and reduced tax power for society, which in turn has a negative effect on the public sector (Wikman & Marklund 2003).

What further distinguishes the patterns of sick leave in the 1980s and the 1990s is that the diagnoses have shifted from a wide dominance of musculoskeletal pain to various mental diagnoses (the same as for self-rated ill health). Another distinction is that the difference between women's and men's sick leave rates has been increased, and that it is the long-term sick leave (more than one year) that has increased considerably (Wikman & Marklund 2003).

In a longer time perspective (since the 1950s) both work intensity and sickness absence tend to follow the business cycle by being lower in times of recession and higher in times of prosperity, when there is a greater number of vulnerable people in the labour market (Wikman & Marklund 2003). On the contrary, recessions tend to have a disciplinary effect leading to sickness presenteeism (Aronsson 2000). An exception from the fluctuations related to the business cycle are the long periods of sick leave where there has been a continuous rise from the beginning of the 1980s: a pattern which is clearer for women than for men (Wikman & Marklund 2003). The fact that women are generally speaking on long-term sick leave to a greater extent than men is also well known in other countries (Feeney et. al. 1998).

From the Swedish Social Insurance Board's statistics it is evident that at the national level there is a clear relationship between age and rates of ill health (National Social Insurance Board 2001). It appears that the extent of the ill health figures within and the distribution between various age groups was relatively constant for the years 1990 and 2001, except for the younger age group (16-29 years), where the ill health rates doubled during the time period in question. Thus the increasing numbers of older employees (with generally higher rates of ill health) are probably a strongly contributing factor to the rise in ill health figures from 39 days in 1990 to 51 days in 2001.

Since 1995, Statistics in Sweden has also followed work-related sick leave by linking data from structured interviews in the surveys about work environment to health complaints. From this it is apparent that self-rated work-related ill health has increased concurrently with the increase in total sickness absence (1996-2002). In a questionnaire investigation (Eklund 2003) of people who had been on sick leave for less than 15 days, half of the respondents considered that it was the circumstances within the workplace that had caused their sick leave. This picture corresponds with clinical studies, where work-related conditions were regarded as a triggering factor for just over half of those who were on sick leave due to mental diagnoses (Åsberg et. al. 2003).

In the research-based publication about democracy at workplaces, the increase in work-related sick leave is interpreted as being above all related to reports of decreasing opportunities for control (Theorell 2003). From the Finnish research group (introduced in connection with the downsizing literature) it was shown that organisational downsizing for local government employees played an important role for subsequent sick leave (Vahtera et. al. 2000). This was also true for sickness absence among civil servants exposed to major downsizing, and also among those employees facing privatisation of state departments in England (Ferrie 1999).

In the recurrent random sampling of diagnosis - carried out by the Swedish Social Insurance Board - it can be seen that the kind of sickness that has increased most during the 1990s is mental ill health, with depression as the most common diagnosis (AHA 2002). In the report published by the Swedish Board of Health and Welfare on exhaustion syndrome, it is maintained that the insurance companies' symptom registers (AFA & Alecta) show corresponding general ill health trends, with the exception of those insured through the Swedish Trade Union Confederation (Åsberg et. al. 2003). The differences in diagnostic patterns between so-called blue- and white-collar workers are particularly evident for the group of people on long-term sick leave in health care. The proportion of mental ill health is greatest for physicians and registered nurses, while assistant nurses continue to show a greater prevalence of neck and back problems. This finding is very consistent in several surveys.

Short-term sick leave

The prevalence of short spells of sick leave has been shown to be associated mainly with sickness benefit rules, job insecurity and loyalty towards workmates and the third party (patients, pupils, clients) (Wiklund & Marklund 2003; Aronsson et. al. 2000; Johansson & Lundberg 2003). Hence, an important factor for the decrease in short spells of sick leave in the middle of the 1990s could be the organisational instability in working life, in combination with a policy of restraints in the Swedish social insurance. One such restraining factor was the introduction of a qualifying day before sickness benefit can be claimed, and decreased levels of compensation for sickness absence.

In work environment research it has also been found that contextual factors of 'attendance requirements', such as job insecurity and loyalties, affect people's decision to go to work in spite of having symptoms of illness: This has been termed sickness presentism (Aronsson et. al. 2000) or sickness attendance (Johansson & Lundberg 2003). From the psychological perspective of 'pain avoidance', sickness absence is described as a flight from negatively assessed

work experiences. Furthermore, Johansson and Lundberg (2003) have shown that sickness absence (identified as neither short- nor long-term) is increased when people experience little opportunity to reduce their work efforts. Finally, it is found that short-term sick leave can function as a conscious preventive and positive recovering coping strategy to prevent long-term sickness (Kristensen 1995; Aronsson et. al. 2000).

Concluding reflections

In conclusion there seem to be four combined societal forces behind the substantial increase in long-term sick leave around the turn of the millennium 2000:

- (1) the recession with concurrent structural changes at the beginning of the 90s, which led to a substantial increase in unemployment and thereby created uncertainty with disciplinary and loyalty-based sickness presenteeism among those in employment
- (2) the upturn in the economy that followed at the end of the 90s, which readmitted more older and vulnerable people to the labour market
- (3) raised retirement age and restraint in the pension system, which contributed to an increase in long-term sick leave
- (4) general demographic factors, with more and more older people in working life and a segregated labour market, where women (with an increasing average age) to a great extent are found within the care/education occupations in the public sector.

On top of all this there remain considerable regional differences in the country, which Goine and Edlund (2003) interpret as an expression of a more varied labour market in the major cities, and this increases people's opportunities to change jobs. Another tentative explanation of regional differences is that the three welfare systems (unemployment, social allowance, and health insurance) seem to function as communicating vessels for people to support themselves when problems arise regarding their health or the situation on the local labour market.

In the same report it is stated that research is needed to investigate both attitudes and ways of using the welfare systems among the general public, as well as the way in which the regional social insurance offices deal with social insurance. To this I would like to add the need to investigate how health professionals meet people with different symptoms of stress-related ill health. Despite considerable research and increasing knowledge, there is still assumed to be a widespread lack of coordination in the way in which people are taken care of, which in turn is assumed to be yet another piece of the jigsaw in the pattern of long-term sick leave. In analogy with this a working party commissioned by the National Board of Health and Welfare have carried out a research-based synthesis of knowledge concerning exhaustion syndrome in the target groups of health professionals (Åsberg et. al. 2003).

Work environment trends for health care workers

According to the national surveys the employees' influence and competence options in Swedish working life were improved during the 1970s and 1980s (Vogel & Theorell 2003). Vogel indicates that the Swedish social and labour market policies had to some extent protected the labour force from the social effects of the work globalisation. However, the period from the beginning of the 1990s marks a break in the trend for the labour-force as a whole.

What makes the work environment of the 1990s to stand out is that female public sector employees in general (and among them particularly female health care personnel) reported on one hand a more marked increase in psychological demands during the whole decade, and on the other hand a corresponding loss of influence from 1995 onwards, as compared with employees outside the welfare service (Bäckman 2001; Theorell 2003). The particular intensified capacity utilisation of women within the counties - considering the combination of lowering decision authority and growing demands - is illustrated in the figures 1 and 2 in next page.

In an ongoing study, Bernin (manuscript) found that managers in the health care sector and managers in private industry estimate psychological demands equally highly. What was striking in health care was that there was no significant difference between the estimated level of demands of the co-workers and that of their managers. On the other hand, the health care workers showed significantly lower authority over decisions than their managers.

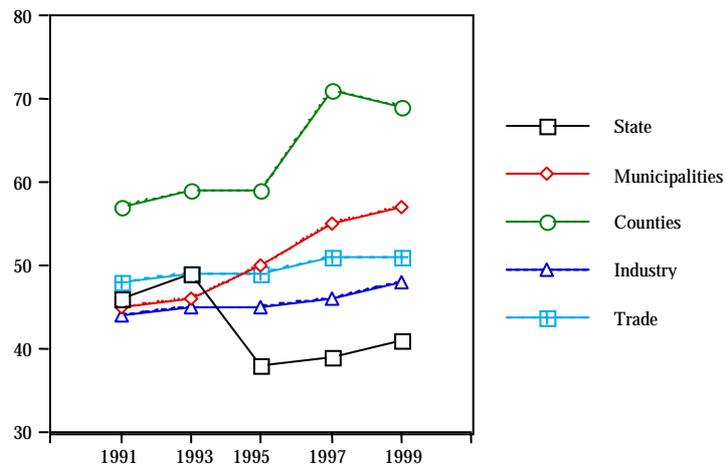


Figure 1. Percentage of women with reported 'lack of decision latitude' at work in different sectors (government, municipalities, counties, trade and industry) during the 1990:s according to the national surveys of working conditions in Sweden (AMU). Source: Democracy at work and its relationship to health: Theorell 2003.

Compared to women, men in general score higher on decision authority. This is also true for the 1990s. What is notably for men is that male employees in the counties (mainly health care employees) outnumber men within other sectors with regard to their increased perceived lack of decision authority; also with a marked raise from the middle of the 1990s (Theorell 2003).

Psychological demands among both women and men increased during the whole decade with about 10% in the proportion of subjects who reported 'too high demands'. Both female and male employees in the counties scored higher demands in the 1990s as compared with employees in other sectors.

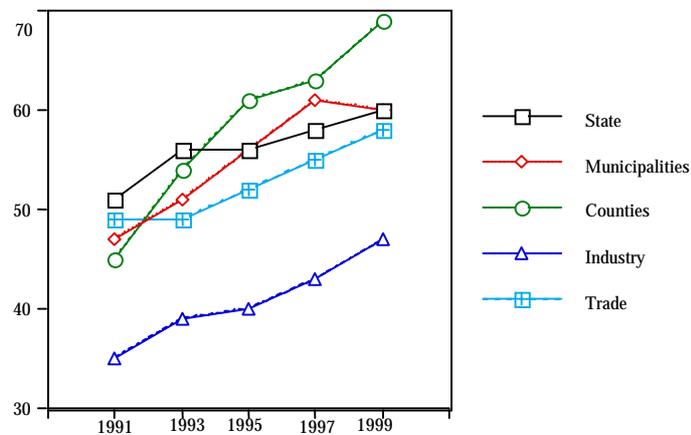


Figure 2. Percentage of women who reported ‘too high demands’ at work in different sectors (government, municipalities, counties, trade and industry) in 1991, 1993, 1995, 1997 and 1999 in Sweden according to the National Survey of Working Conditions. Source: Democracy at work and its relationship to health: Theorell 2003.

The Swedish Committee on Funding and Organisation of Health Services and Medical Care in Sweden provides a summary of studies conducted in the 1990s on workplace environment conditions and occupational health among employees (Petterson 1999). Gustafsson in the same official report (1999) maintains that work environment research for health care workers has not supported the notion that market-oriented management systems should have meant improvements from a work environment viewpoint. On the contrary, several of the studies that were carried out showed that, in spite of the explicit intention to improve the work situation, there were adverse reactions from an increasing number of personnel who experienced less influence. An interesting diverse conclusion in the same report is that, from a financial point of view, for those county councils that introduced new market-oriented management this was considered as a significant cost containment strategy (Törnqvist 1999).

Furthermore, it is said to be impossible to determine how reported deterioration in the work environment can be specifically related to the reorganisations

of the 1990s – in the form of cuts and attempts to raise productivity – since such a connection basically does not exist in present research. The investigators emphasise that both social scientists and decision-makers must pay more attention to work environment consequences in connection with continuing changes in health care politics (Gustafsson 1999; Petterson 1999). Other studies of the Swedish health care work environment have broadly shown that work organisations continue to be hierarchical, and that there are considerable differences in work conditions between, as well as within, occupational groups. These studies will be discussed in connection with the presentation in the findings and discussions (p. 34).

Aims

General Aim

The overall aim of this research project was to investigate psychosocial work experiences and health conditions among hospital staff, following downsizing and restructuring processes in the Swedish health care sector during the 1990s.

Specific Aims

- To record possible physiological changes among three specific occupational groups of women, i.e. medical secretaries, assistant nurses, and registered nurses - in conjunction with the downsizing and restructuring period in 1997-1998.
- To explore the experiential aspects of psychosocial ‘stressors’ - balanced by ‘motivators’ - and how the related occupational groups of women managed their work situation during a period of considerable structural changes (1997-1998- 2000- 2001).
- To identify (on a worksite level) trends in work conditions and health outcomes, as well as their interdependence, among health care personnel, over a prolonged period (1994-2001); characterised by personnel reductions and restructuring processes.
- To find possible health-promoting departments in the same period from an organisational perspective.

Theoretical framework

Psychosocial factors related to health

The central subject of this thesis – psychosocial work conditions and health development among hospital employees in a context of structural changes - is a multifaceted research area that requires an integrative view and a number of dimensions to investigate. The term ‘psychosocial factors’ is used as a summary label, denoting social conditions that interact with psychological factors and elicit recurrent stressful and/or positive experiences. Siegrist (2000) states that there is a solid body of research on the role of distinct psychosocial factors in triggering stress-related risk factors, or, on the other hand, promoting health (protective factors).

The most frequently used stress models will be presented, as well as the work motivation model within the dimension of a gendered dimension of working life. In this research project there has been an overemphasis on stressful experiences in relation to adverse health effects. Yet, in the concluding part of the findings I will point at some possible ways to develop health care sector with more motivating and health-promoting key factors (p. 51).

The Gendered Dimension of Working Life

In 1989 Hall noted that women were neglected as subjects in occupational health research, except as relevant to those particular areas where women differ from the men, such as levels of endurance and strength, and different reproductive systems. In stress research and public health science during the last decade, there has, however, been more focus on analysing gender specific patterns per se. Of interest for this thesis, researchers have highlighted the importance of gender-related social and organisational structures in working life. Women in both female- and male-dominated occupations are found to be more exposed to job strain due to the fact that they are more often found in subordinate employment positions (Vamala et. al. 2000; Hall 1989).

In addition to gender-related hierarchies there is also a striking horizontal gender division in the labour force in Sweden. Government policies regarding full employment and the expansion of welfare state services have, on the one hand, created more employment opportunities for women than in other countries (Östlin 2002). On the other hand, these policies have contributed to a particularly gender-segregated labour market, since women today make up the majority of personnel in the public sector.

The frequency with which women are found in subordinated positions, and the marked gender segregation of the labour market persists, despite agreed consensus on the part of the political parties regarding gender equality, and also despite explicit efforts on the part of the state during the past twenty years to increase equality between women and men (Pincus 2002). Government policy is, however, often dependent on local organisations for its realisation, and research shows that the implementation of gender equality policy encounters significant problems at this level. In a study in political science, one such problem is shown to be the passivity and neglect from men in leadership positions, regarding the implementation of this government policy (Pincus 2002).

Taken together, gender-related conditions in the labour market have led to inequalities in both monetary terms and in health options for women. Health inequity is a more appropriate word to use regarding health differences between women and men, or between different groups and individuals in society, when these are seen as being unfair or unjust (Braverman et. al. 2000).

In the field of cardiovascular stress research, employed women have been identified as having a higher risk of ill health because of their often multiple family roles within larger social networks, in addition to having the main responsibilities for unpaid domestic work (Orth-Gomer et. al. 2000). Due to multiple responsibilities, women tend, for example, to report more problems in time scheduling than men do (Kelloway 1999). As early as twenty years ago Haynes and colleagues (1980) emphasised that the combination of negative conditions at work and hardships in the home situation accounted for an increased risk of cardiovascular diseases in women.

The difficulty in balancing demands in working life and private life is considered to be the most profound stress producer in women (Hallman 2003; Thomsson 1996; Elvin-Nowak & Thomsson 2001). Research into physiological responses has in addition shown that there is a greater spillover of stress from work to private life among women who work full-time (Frankenhauser 1991; Lundberg 1999). Yet another factor mentioned in public health literature is the increasing number of single parents (Starke 2002). Keeping all this in mind, Kolk seems to be correct in seeing it as being logical that women outnumber men when it comes to reporting stress-related health problems (Kolk et. al. 1999). To the studies mentioned above we can also add the very recent studies, which reveal an increase in psychological ill health among women during the last decade (Palme et. al. 2003; Åsberg et. al. 2003).

In conclusion, women in the paid workforce are more represented in subordinated (strained) jobs, and tend to have more role conflicts due to spillover effects from paid work to the invisible domestic work. Altogether this gives

them a larger total workload and an associated sense of inequity (Barnett & Marshall 1992; Östlin 2002). The middle-aged woman of the 1990s surely has to deal with many changes that demand adaptation, along with cumulative loads, as well as the taking of responsibility for relations, both at work and in their private life. Viewed in a lifetime perspective this must be exhausting in the end (Hallman 2003). At the same time it is important to indicate that the fact that women have entered the labour market has led to both greater scope of actions, and more financial independence, which in turn has meant increased opportunities for them to decide about their lives (Björk 1999).

Stressors – Motivators - Stress responses

In the early studies from the 1940s, stress was defined as the acute and non-specific physiological response of the body to any demand, whether it is caused by pleasant or unpleasant conditions, labelled as the General Adaptation Syndrome (Selye 1950). The acute stress response is still considered as a ‘neutral’ and functional energy mobilisation process that the body needs in order to rise to the challenge of different levels of urgent demands. Since the 1970s the psychosocial contributors to the research area have developed a more complex picture, with the dynamic interplay between environmental and individual conditions, and with focus on long-term consequences, as well as the interplay between catabolic and anabolic processes in the individual.

The different internal or external demands, challenges, efforts, changes and threats that function as a trigger for the energy mobilisation system are balanced against intrinsic or extrinsic protective/health-promoting or hampering/stressful circumstances. These different (positive or negative) conditions together constitute how we succeed in meeting all the demands that urge us to perform, or to give up. This balancing act, which over time affects our well-being, could be termed ‘the health equation’ (figure 3).

The Health Equation¹

Demands (external and internal) + Conditions (external and internal) + How people interpret and manage their situation ⇔ Inner (psycho-physiological) reactions ⇔ Our well-being and health over time, which in turn affects the perceived level of demands and options for coping.

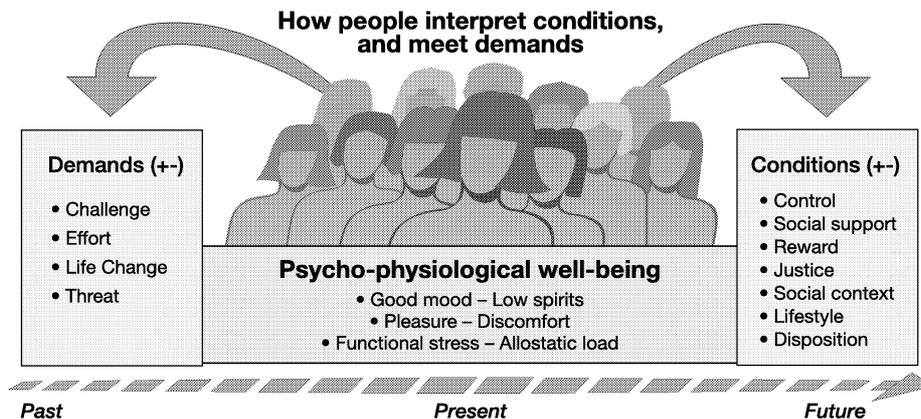


Figure 3. The Health Equation

Complementing stress- and motivational concepts

Work-related stress has been conceptualised in many ways. In this research project I will include three main theoretical models: the demand-control, effort-reward imbalance, and organisational (in)justice models. What is useful about all these three stress models is their dynamic formulations and emphasis on the structurally defined characteristics of work (modified from Hall 1990).

The *demand-control model* was introduced as a synthesis of two research traditions, one from 'stress research' and the other from sociology 'alienation research' (Gardell 1971). From stress research the demand-control model inherited qualitative and quantitative demands at work, and from sociology it inherited control (Karasek & Theorell 1990). The concept of skill utilisation (work psychology tradition) is closely related to the sociological dimension of authority over decisions. These two concepts were found to be closely related to each other and therefore constituted the control (decision latitude) component. The demand-control model was intended to provide a framework for the analyses of the way in which work is organised, and how it relates to the degree of alienation, as well as ill health among employees (Karasek & Theorell 1990).

¹ Illustrator; Jan Nilsson, Örebro

The decision latitude of the individual implies her/his ability, as well as options to control the circumstances, in terms of permitting a choice of alternative actions in order to change or influence her/his environment (Östergren 1991). This room for manoeuvre has been considered to be the most decisive component in the model. Control is also said to be the most thoroughly investigated variable in the occupational stress literature, and furthermore it overlaps the theoretical emphasis on either 'the person' or 'the environment' (Hall 1989). A low score is a feature of jobs associated with low social class and of specific occupations (Theorell 1998). It has been shown that as much as 30 to 40 per cent of the decision latitude can be explained by occupational group, in contrast to perceived job demands, which have been shown to be more independent of occupational group (Karasek & Theorell 1990).

In line with this, international studies during the last twenty years have shown that women in general report lower skill discretion and decision latitudes (Karasek & Theorell 1990; de Jong 2000). This is also valid for research showing that increasing job demands for women are not compensated for by increased job control as often as in similar situations for men (Karasek & Theorell 1990; Härenstam 2001). Corresponding studies have revealed that perceived demands (e.g. time pressure, working pace, mentally tough work) are much more general, and also that high psychological demands have been more commonly reported in upper social classes. However, as mentioned before, there are exceptions. Bernin (manuscript) found that health care managers and health care workers have similar levels of perceived psychological demands, and furthermore similar demands to those that are found among leaders in the private sector (Bernin & Theorell 2001).

The dual concepts of demand and control have been tested extensively during the last two decades. The results have shown that repeated and long-term exposure to situations that have a combination of high demands and low control (job strain) increases the risk of developing a number of stress-related illnesses, as well as diseases (Karasek & Theorell 2000).

The model was later expanded to include a social support dimension, which has been shown to moderate the effects of psychological demands/strain (Johnson 1988). The social network of the individual can be seen as an expansion of the individual and her/his own resources for handling minor or major stressors in daily life (Östergren 1991). Social support has also been described as being related to decision latitude, in the sense that good social support can facilitate collective 'decision authority', which in turn is related to work organisation (Johnson & Hall 1988). Another dimension of social support is befriending within one's own group, which has been found to be a significant

gender-adaptive strategy to handle stressful situations in women (Shelley et al. 2000). From studying cardiovascular risk factors in women, Orth-Gomer (2000) also emphasises that being socially responsible within one's network can function as a stressor.

The *effort-reward-imbalance model* has also been tested in several studies showing that lack of reciprocity between 'costs and gains' at work gives a state of emotional stress. This imbalance between perceived efforts and rewards has been shown to increase risks of similar magnitudes to that of job strain (Siegrist & Peter 2000). The two models overlap to some extent, since they share a demand component. However, the effort-reward-imbalance model also includes some structural determinants of working life, since it includes efforts as part of a socially organised exchange process, to which society contributes in the form of rewards such as money esteem (salaries), promotion opportunities, job security, and job esteem (e.g. respect and support from colleagues and superiors). The imbalance will be maintained if the individual does not see any alternative choices in the labour market.

Moreover, the model includes intrinsic components such as personal traits of coping. The combination of having high self-inflicted demands and a desire to be approved of is termed over-commitment. Several studies within this framework have shown that the combination of contextual and personal characteristics concerning the balance between rewards and efforts produces the most powerful effects on subsequent health risk (Siegrist & Peter 2000). Peter and colleagues (2002) found gender-specific effects regarding risk estimation of acute myocardial infarction; in men the extrinsic effort-reward imbalance contributed more to the risk estimation, whereas this was the case with the intrinsic component in women. Furthermore they showed improved risk estimation by combining information from both the demand-control and effort-reward model.

Corresponding independent health risks in working life have been discovered in connection with low *organisational justice*, in terms of decision-making (procedural justice) and interpersonal treatment (relational justice) (Kivimäki 2003). The index of procedural justice is close to decision authority from the demand-control model but has a supplementing dimension, referring to whether procedures at the worksite create clarity and consistency (are structured) for the employees concerning decisions at work. Relational justice deals with whether the supervisor is perceived to treat employees in a respectful way, reminiscent of esteem.

In addition to the stress models, the 'work motivation' model has been used as a framework for subjective assessment processes involving the interaction between the individual and environmental factors. The motivation model in-

cludes perceived demands as challenges in relation to invested efforts and moderating factors, such as positive feedback, commitment, self-efficacy, and rewards (Locke & Latham 1990). In addition, job satisfaction has been found to be associated with feelings of achievement, recognition, and responsibility, in combination with inner motivation toward the work itself (Herzberg 1999). Employees' perceived satisfaction with their work situation has been shown to be an important link (mediator) between organisational and individual well-being (Thomsen 1999). It is interesting and logical that the concepts from the perspective of stressors and motivators overlap.

As mentioned in the introduction, energy is mobilised both for the positive challenge and for the tougher demand of adapting to new work organisations. What is decisive for the health development, apart from the individual's capacity (fitness), is her/his internal and external options to recreate regenerative (anabolic) processes in order not to develop an internal allostatic load (Mason 1968). This leads us to the next section.

From functional stress to allostatic load

The literature about the long-term process from stress reactions to different disturbances in the stress regulation mechanisms and related symptoms of illness, as well as different diseases, is extensive (McEwen & Stellar 1993). From our point of view, we were interested in the signs that could mirror a potential lowering of certain protective factors and the development of physiological exhaustion, that is the process of 'allostatic load' (McEwen 1998).

The body's acute stress response occurs through the activation of the rapidly fluctuating sympatho-adrenomedullary system (noradrenaline and adrenaline) that functions as a trigger for the more stable and functional (slow acting) HPA (Hypothalamo- Pituitary- Adrenocortical) axis. The hypothalamus produces CRF (Corticotrophic- Releasing Factor) that stimulates the pituitary gland to release ACTH (Adreno- Cortico- Trophic- Hormone). This in turn stimulates the adrenal cortex to increase its production of plasma cortisol and other similar corticosteroids.

Cortisol improves the ability of the body to mobilise the energy required so that the body's cells can react more efficiently. Under conditions of acute stress, the activity is increased throughout the entire HPA axis, which is functional and promotes vitality. If the energy mobilisation, the catabolic phase, lasts for long periods, the continuing activation may increase the risk of damage to the body's cells; it may also consume the sense of vigour of the individual (McEwen 1998).

On a group level, the concentration of cortisol is at its highest level in the early hours of the morning. During the day the concentration of cortisol nor-

mally declines gradually with recurrent smaller level peaks, and is at its lowest level before midnight (Pruessner et. al. 1999).

It is known that in connection with prolonged demands on energy mobilisation, the body downgrades regeneration activity (McEwen 1998). Therefore, an enduring stress period can induce exhaustion of the HPA axis with manifestation of disturbances in the body's mechanism for regulating cortisol (Pruessner 1999; Theorell 1998). A disturbance in the regulatory mechanism is mirrored in a flattening of the diurnal variation in cortisol excretion between morning and afternoon. This can result in an attenuated response to critical events that would normally trigger increases in the level of cortisol in the blood. This attenuation of response might be seen as dysfunctional in a short time perspective.

A further aspect in a lasting elevated stress system is an increased sensitivity in the cortisol receptors, which means that the threshold becomes lower, or that there is an enhanced reactivity to stimuli, i. e. an increased negative feedback in the stress response (Yehoda et al. 1995). On the contrary, there are hormones that reflect anabolic activities such as oestradiol. Oestradiol is the dominant sex hormone among the naturally occurring oestrogens in women (Anderberg 1999).

Stress researchers have revealed that there is a close reciprocal relationship between the neural, neuroendocrine, and neuroendocrine-immune mechanisms (Cacioppo et. al. 1998). An exhausted HPA axis can therefore negatively affect different attached systems such as the opioid peptides (Anderberg 1999) defending pain, as well as the immune system (Dhabhar & McEwen 2001). In the acute stress phase there is an increased activity in the immune system, which can show weakened activity after longer time periods (months). The sign of this reduced activity can be lower levels of immunoglobulin G (IgG) (Theorell & Orth-Gomé 1990). IgG plays a central role in the immune system, and is the dominant and only type of immunoglobulin that can activate the K cells that are required to kill those cells to which antibodies have become bound (Granrot 1997).

A further aspect of physiological reactions are changes in the metabolism that are affected by lifestyle factors such as exercise, eating habits and smoking, in combination with long-term stress (Granrot 1997). Lipoproteins that are carried by apolipoproteins (apolipo A+B) are affected by these factors. Apolipoprotein A, carries the protective high-density lipoprotein cholesterol (HDL), which protects the arteries against arteriosclerosis. In terms of salutogenic factors, a person should have relatively high lipo A in relation to the reference interval (Granrot 1997).

To promote long-term survival, the HPA axis tries to adapt to elevated stress levels and still maintain homeostasis by bringing about 'stability through change' (allostasis). This phenomenon is very well described by McEwen (1998) as follows: "When the adaptive systems are turned on and off again efficiently and not too frequently, the body is able to cope effectively with challenges that it might not otherwise survive. However, there are a number of circumstances in which allostatic systems may either be over-stimulated or not perform normally, and this condition has been termed allostatic load or the 'price of adaptation'.

This adaptation could be interpreted and expressed as follows: in the acute stress situation the body ensures that it adopts the system to survive at that very moment. However, if a 'long-distance race' is required, the system is adopted to manage the increased efforts over a longer period. In the prolonged resistance phase there are other reconsiderations of priorities - in order to maintain homeostasis - but if the demands do not decrease, the body cannot manage to compensate (i.e. it remains on an allostatic higher functional level). It finally capitulates with more and more regulation disorders (and related symptoms) in the interactive systems, which from the beginning were designed for 'fight and flight'. Thus we should attend to the initial symptoms such as sleep disturbances, as well as tiredness, restlessness, irritability, listlessness, worry/anxiety, concentration problems and susceptibility to infection that goes with it (Schaufeli & Enzmann 1998). The balance can then be restored. From a clinical health perspective the type and the degree of difficulty of the symptoms could be derived from either a fighting, or defeated HPA system.

Selye has already described these general adaptation phases - from alarm and resistance to overstrain and exhaustion - in broad terms (1950). If the threats or demands seem to be too great, Selye also pointed out the alternative to give up by 'playing dead'. As a conclusion, there are three interrelating factors that decide the stress progression: i.e. the time perspective; the frequency and the accumulation of different burdens (psychosocial - physical - emotional - infection - stress); and the bio-psycho-social vulnerability of the individual.

Concluding remarks

What is fascinating about the subject area 'psychosocial factors related to health' is that it has grown from a coherent theory and causal chain, which can describe how experienced and current social circumstances trigger biological reactions, which over time determine people's health conditions. Another way of expressing this is that the individual with her/his bio-psycho-social vulnerability, or resources, is the meeting place between internal psycho-physiological systems and external social systems (Larsson 1999).

Empirical investigations

Introduction to the research field

According to the earlier-mentioned law governing employment security (LAS principles), and the adjustment phase (Joelsson & Wahlqvist 1984), the down-sizing process is prolonged due to both the lasting period of notice and subsequent redeployment processes, where the staff has to change working units in order to replace the co-workers (with fewer years of employment) that have been made redundant.

Örebro Central hospital in the middle of Sweden that had experienced substantial personnel reductions - was selected for this research project. In 1995 the political leadership of Örebro county council demanded the board of directors to make substantial financial cuts. Of the total savings, amounting to SEK 250 million (20 per cent of the total budget), as much as SEK 200 million was estimated to be saved by staff redundancies of around 20 per cent (1000 persons). This process of layoffs began in the autumn of 1995 and ended two years later in August 1997, when the last laid off employee had left the organisation.

At that time Örebro county council had among the highest health care costs per inhabitant in the country, due to a tradition of high local taxes and also ambitions to provide a high level of health care. During the recession at the beginning of the 1990s with decreasing state subsidies, it was not regarded as politically possible to try to compensate the rising budget deficit with increased tax revenues.

A further factor behind the heavy financial deficit which had arisen in the economy, for the highly specialised regional hospital in Örebro, was that earlier long-term and established contracts with various county councils in the region for ordering care had been broken; in competition with above all Uppsala and Stockholm (1992). This meant that within a short time the 'hospital's suit had become too big' in relation to the decreasing sales of care to the county councils in the immediate area. What also happened within the hospital at that time was that market-oriented management, with a system of bonuses for all jobs within the health care sector, was fully introduced within a short time. In 1993-1994, the board of directors gave signals about the deficit as something that would create an intolerable situation. One year later, the politically governed hospital administration saw the necessity of reconstructing the hospital's finances (personal communication with the chief administrator).

The staff reductions at the Örebro central hospital were estimated to be among the most extensive in Sweden during the 1990s (County council statistics, 2002). Considering that the present county council was relatively late with the savings demands the redundancies occurred over a relatively short period of time and with great intensity. However, the principles of the downsizing process (according to LAS) were considered to be representative for the Swedish health care sector in general.

In preparation for the staff reductions (1995-1997) the hospital board had produced an adjustment programme, in which the head of each department had the task of making financial cuts of up to 20%. Apart from the main LAS principles of staff redundancies, the department heads could decide how the savings should be accomplished. According to the hospital board of directors, their conscious policy of allowing the heads of departments to participate in making the cuts had meant that, as compared to the rest of the country, there was less resistance amongst these leaders at Örebro hospital, and fewer of them left their posts (personal communication). Despite this decentralised decision making procedure there was an overall focus on mainly reducing the group of assistant nurses.

In order to manage the competition in a more market-controlled, highly specialised hospital system, the directors worked towards becoming a university hospital (USÖ) in 2000. This meant greater investments in medical education, research programmes, and further education among the personnel, as well as the upgrading of medical posts in order to keep and obtain a core of competent physicians. At USÖ the average length of patient stay gradually decreased from 6.5 to 4.5 days between 1994 and 2002 (hospital statistics).

Personnel trends in the present hospital

In 1995 the hospital had 4542 employees, but by 1997 the number had decreased to 3524. After this, the staff were gradually reemployed, resulting in a number of 3632 (1999), and then decreased again by 2003 (table 1).

Table 1. Number of personnel categories at RSÖ/USÖ 1995-2003

	Sep-95	Sep-97	Changes since -95	Sep - 03	Changes since 95
All categories	4542	3524	- 22%	3540	-22%
Physicians	450	421	- 6%	452	0,4%
Registered nurses	1415	1251	- 12%	1445	2%
Assistant nurses	1174	671	- 43%	661	-44%
Medical secretaries	221	181	- 18%	197	-11%

As can be seen in the table, the layoffs at the hospital mainly concerned assistant nurses, where the cuts were 43 per cent between 1995 and 1997. Seen in a longer perspective, they even continued to decrease. The year 2003 is included as a mirror of the 1990s.

What also emerges from the table is that after the initial cuts, both registered nurses, physicians, and medical secretaries have been reemployed. In 2003 the physicians were almost back to the same number as in 1995, and the registered nurses had increased even more. This is a picture that corresponds with the rest of the country (p. 2). In addition, there was a small rising mean age among all the categories of the remaining staff – from 45 to 46 in 2003 (table 2). The registered nurses are youngest, in a class of their own. The ratio between female and male personnel has remained relatively constant over the years at approximately 83% women and 17% men.

Table 2. Mean age of different personnel categories at RSÖ/USÖ 1995-2003

Personnel categories	Sep-97	Sep-03
All categories	45	46
Physicians	45	47
Registered nurses	42	43
Assistant nurses	48	50
Medical secretaries	45	48

(It was not possible to obtain ages for 1995)

Recurrent work environment reports

Another important rationale behind the selection of the present hospital for the study was the availability of comparative data due to the continuing reporting of work-related conditions, using the research-based Quality, Work, and Competence Scale (QWC) that started in 1994 and was planned to be repeated in 1995, 1997, 1999 etc (Arnetz et. al. 1995). The feedback on these survey results was used by the hospital as an administrative tool in the systematic follow-up of the work environment during this period.

In conjunction with the announcement of redundancies in 1995, as many as 85 per cent of all personnel groups reported worries concerning the anticipated imminent workplace changes, and 76 per cent reported decreased job insecurity, which was an increase from 1994 (Pettersson 1997). Pettersson also showed that perceived tiredness increased significantly between these two measurements - among all personnel categories, but proportionately more among assistant nurses (1997).

Over the following years, these results showed that the hospital staff reported a marked increase in workload (1995-1997), followed by a corresponding marked decrease in psychological energy (1997-1999) (Arnetz 2000). Furthermore, the number of people on long-term sick leave at the hospital doubled between 1996 and 2001 - from 2.5 to 5% of the total number of staff (Hertting & Hagberg 2001). However, it is important to point out that the personnel's assessment of organisational parameters, such as the quality of objectives, efficiency, and participation has shown a positive development from the year of measurement 1997 to 2001 (Arnetz 2002).

Myself as an insider with an outside perspective

The idea for this thesis came partly from two different development projects during the first half of the 1990s at the hospital in question. The first study – ‘The personnel are the backbone of the health care service’ – was carried out at a geriatric department between 1991 and 1994. The concept of ‘the backbone of the health care service’ arose in order to study methods aiming to counteract the considerable increase in sick leave and early retirement, which at the end of the 80s was attributed to musculoskeletal diseases (Hertting & Swift 1996). Since the project came to be carried out during the anticipation phase of a downsizing period there were a number of premonitory signs of a budget deficit, leading to increased anxiety and considerable rumours. Thus, the perspective gradually altered from the ergonomic theme to the concern about coming redundancies at the hospital.

Just before the information was circulated about which staff were to be made redundant and thereby given notice, and which were to remain at the workplace (according to the new budget planning), the personnel at the accident and emergency department called for stress prevention advice. Although it was known that the hospital followed the general guidelines for the readjustment programme, there was considerable uncertainty, which continued for a long period.

Thus it was due to earlier work in the field, combined with the results from the QWC surveys, in relation to the prevailing downsizing process and knowledge about women's increasing work-related ill health that the idea arose to follow a group of female health care personnel after the period of staff redundancies (articles I-IV). The intense and coherent downsizing process at Örebro Hospital inspired the construction of a longitudinal research design, something we knew was lacking in the research tradition of downsizing. The inspiration for the fifth article came from our own ongoing results and the recurrent QWC feedback in 1997, 1999 and 2001.

Included methods

This thesis contains comprehensive dynamic data over a period of eight years, and is process-oriented, explorative, and explanatory in character. In order to elucidate the overall design and time perspective of the thesis, I have outlined the three different studies and the five articles included in the thesis (figure 4).

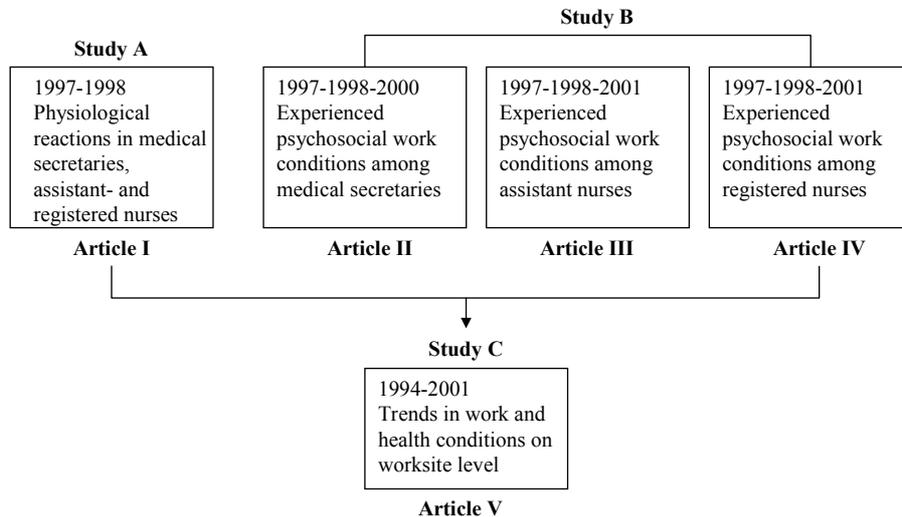


Figure 4. Outline of the thesis

Data on physiological health status were collected through blood tests (study A). Data on experienced psychosocial work environment conditions were collected through repeated interviews (study B). The methods in these two studies had the same participants, i.e. medical secretaries, registered nurses, and assistant nurses ($n=31$), and will partly be described together.

Trends over time in work and health conditions, and their interdependence, were identified in the third study (C), on a work unit level, in 24 departments, from available repeated self-rated questionnaires, and from administrative registers at the studied hospital.

Methods for interviews and biological markers

Design

The period of *interviews* began in November 1997, three months after the last round of layoffs had been completed, and was followed up one year later in November 1998. Within a week of the interview the same participants were required to visit the chemical lab and take the relevant blood tests (figure 5).

The qualitative research design was selected to contribute new perspectives in the research area of stress and occupational health. The interview study involved recurrent individual open-ended conversational interviews, which were intended to extend descriptions and exploration of the informant's experiences over time. An additional follow-up interview was made in 2000 with all medical secretaries and in 2001 with a strategic selection of four nurses and three assistant nurses from the original group.

The *blood tests* (biological markers) were used to illuminate how the pattern of physiological reactions, in a more slimmed work organisation with women, changed at the end of a long adjustment phase - the first year after the staff layoffs and related relocations - which in turn followed one year of premonitory signs. Thus, the adjustments over several years, in combination with the anticipated work intensity that was assumed to follow, were expected to be of particular importance for the remaining ageing staff.

Autumn 1998

Individual interviews

Blood tests taken (morning and afternoon tests)

Autumn 1998

Individual interviews.

Blood tests taken (morning and afternoon tests)

Autumn 2000

Follow-up individual interviews of all medical secretaries

Autumn 2001

Follow-up interviews of a strategic selection of registered and assistant nurses

Figure 5. Study A and B: Blood tests and individual interviews at the hospital in question (Articles I, II, III, IV)

Participants

The personnel manager of the hospital was asked to select, on one hand, two clinical departments of different character, and, on the other hand, departments that together could show common efforts in creating satisfactory work environment conditions during this period of structural instability² One of these departments had a relatively low score, while the other had a corresponding high score in the Quality, Work, and Competence Scale.

A selection of employees was made in the two departments in such a way that one third of the registered nurses (n=14); one third of the assistant nurses

² For the physiological and interview studies altogether (study A and B).

(n=11) and one third of the medical secretaries (n=6) were asked to participate. For several reasons seven persons had to be excluded, and were substituted by employees from an additional personnel list. This corresponds to a participation rate of 82% in the interview study.

As mentioned before, only female staff were included in the first two studies. What characterised this process-oriented thesis was that it was planned in dialogue with the managers. This meant that my initial intention to follow the two main occupational groups of nursing personnel (registered and assistant nurses) was extended to medical secretaries. The reason was an expressed request from one of the department heads to include this small occupational group who were seen as having extra burdens in the period of structural changes. The mean age of the medical secretary participants was 45 years (1997); four were single and two were living with a partner. The corresponding age of the registered nurses was 45 years (1997) and for the assistant nurses 50 years (1997).

Regarding the *physiological study*, there were four additional dropouts in relation to the different biological markers; four persons were removed from the cortisol data set due to pregnancy (1 person) and nightshift work (3 persons). Hence, the cortisol measurements were made in 27 women, which correspond to 71% participation. Of these, 9 were assistant nurses, 12 registered nurses, and 6 medical secretaries. In the case of the immunoglobulin G (IgG)³, the sample population included 26 individuals, and for apolipoprotein A, 25 individuals, since technical losses resulted in one and two additional dropouts respectively. In the case of the oestradiol, values from only 21 individuals were available from the sample population for both years. The remaining 6 were pregnant, or on medication that excluded them from the test.

Data set and analyses of biological markers

Within stress-related research there is a long tradition of *using blood tests* to measure the biological markers that correspond to psycho-physiological responses to psychosocial parameters. In this case, blood samples were taken and analysed with respect to: cortisol, oestradiol, IgG and the apolipoproteins A and B. This combination of biological markers can mirror the balance between protective and damaging risk factors. Another reason for choosing these biological markers is that the variations in the concentration of plasma/serum occur slowly in response to changing life situations. Thus, irrelevant rapid variations are avoided.

³ Described more thoroughly in article I.

The blood tests were taken twice during the same day to capture the degree of variation in cortisol levels. These were at the beginning of the work in the morning (8 a.m.), and in the afternoon just after the end of the work shift (4 p.m.). Exactly the same test-taking procedure was repeated one year later. Each sample of *blood test* was analysed for cortisol, oestradiol, and apolipoprotein AI and B. With the exception of cortisol, the means of the results from the two sampling occasions in the morning and afternoon (duplicates) were used. The amount of cortisol and the variation between morning and afternoon levels was analysed with regard to both first-year and second-year test results. The statistical method for all measures was paired t-test. (For further details concerning the precision of the used method and correction for menstruation cycles, as well as some additional biological markers, see article I.).

Data set and analyses of interviews

The *semi-structured interviews* took the form of a conversation based on a question guide (see appendix p. 73), designed to mainly cover the informants' experiences of daily stressors and motivators, but also their individual well-being, and how they managed their situation. The approximately one-hour interviews with the informants took place outside the workplace. The women were encouraged to express their experiences freely in interaction with the interviewer. In order to confirm (validate) the meanings of the responses, the interviewer made short summaries at regular intervals. The female interviewer – the author - represented the field of stress research. Data included all in all 79 audiotaped interviews (31 from 1997 and 1998 respectively, 6 from 2000 and 6 from 2001), which were transcribed verbatim.

The *interview texts* were examined using an inductive strategy for thematic content analysis in order to obtain meaning and understanding (Silverman 2001; Miller & Crabtree 1994). The contents of all interviews from 1997 and 1998 were read and reread to obtain an overall view of the data. Then words, sentences and expressions that emerged and corresponded with the aim of the study were noted in the margin. Those text segments that related to each other were grouped together and gradually constituted preliminary themes. Then the themes were given suitable headings based on their content. Subsequently, the themes were either reduced or expanded, as new aspects emerged during the analyses. In order to reduce the risk of bias in the coding procedure, a co-assessor independently coded the observational data, which later were compared with the interviewer's codes.

The results of the inter-rater reliability in finding themes and points of disagreement were resolved through continuing reflection and discussion within the research group (also including the second supervisor) and in line with the theoretic-

cal framework (Silverman 2001). Based upon these themes, the third round of interviews in 2000 and 2001 was more focused on motivators within the women's work context, in line with Agar's (1996) funnelled questioning method.

Methods for trends in work and health

Subjects

The trend study was ecological, based upon data collected during an eight-year period (1994 –2001). Departments were selected on the basis of their work-related functions of care with direct responsibility for patients. In total, 24 departments were included, representing 90 - 95 per cent of all personnel in the hospital with direct responsibility for patients.

All categories of employees (physicians, registered nurses, assistant nurses, medical secretaries, and some paramedics) at the selected departments responded to questionnaires on five occasions. Questionnaire data were used as aggregated means on the department level, which means that the unit of analysis was the worksite. This procedure was the only possibility to follow the development, since the questionnaires were anonymous and there was no identification on the individual level over years.

Measurements

Two kinds of data were collected, from each of these five measurement occasions: 1) measures of work conditions and health, based on (anonymous) individual questionnaire data and 2) hospital register data. (Seen in table 3)

Table 3. Types of data and time points for collection from a sample of hospital units

	1994	1995	1996	1997	1998	1999	2000	2001
1. Questionnaire data:								
Working conditions	x	x		x		x		x
Mental health								
2. Register data:								
Working conditions	x		x		x		x	x
Sick leave								

Questionnaire surveys were repeatedly carried out at the hospital in 1994, 1995, 1997, 1999, and 2001. The feedback on these survey results was used as an administrative tool to systematically follow the work environment. In order to adjust the questions to the specific needs of the workplace, they were continuously revised. The questions in this present trend study were selected with re-

gard to the following criteria: the questions should be identically formulated over the years, and the measures should have theoretical relevance from a work-related stress process point of view during times of structural changes⁴. A new data set was formed using the departments as the study subjects (n=24).

Administrative register data considering short-term (≤ 30 days) and long-term (>30 days) sick leave were used as additional measures on health status. Furthermore, demographic personnel data (staff turnover) were used as proxy measures on organisational instability (working conditions). These data were available from administrative personnel register statistics from the years of 1994, 1996, 1998, 2000 and 2001. Data from these years were accessible from the hospital administrators responsible. Due to these selected years for collection of hospital register data; there was a one-year time lag between questionnaire and sick leave data for the time period 1995-2000.

Statistics

The statistical analysis was made in two steps: As a first step, trends in work as well as health conditions for every single variable were measured for the studied time period on department level by linear regression, using the standardised regression coefficients (beta) as a measure of time trend (x=year; y=questionnaire/register measure). In the next step, the beta coefficients from these analyses for every single variable and department respectively, were used for further analyses, in order to relate trends in work conditions to health trends (x=trend in work condition; y=trend in health; n=24 units). These results, expressed in new beta coefficients of regression, indicate associations between trends in explanatory work-related factors and trends in health outcomes in the different departments.

Ethical Considerations

All the participants in the two first studies were given both written and verbal information about what participation in the study would entail, in order to be able to give their informed consent. The participants were randomly selected from the employment lists and then contacted through their home addresses – to guarantee anonymity. Furthermore, the two selected departments were anonymous, and described on a principal level. In the last trend study the departments were also guaranteed anonymous treatment.

⁴ The exact measurements for both questionnaire and register data on working characteristics, and health measures, are thoroughly described in article V.

Findings and discussion

Overweight of drainers, balanced by challengers

In the presentation and discussion of the findings, I will start from the self-rated psychosocial work questions between 1994 and 2001 in 24 departments (study C). Then I will condense the findings of experienced *work conditions* from the interviews with medical secretaries, registered nurses, and assistant nurses in the two selected departments (study B). These interview findings will be discussed after grouping into an adjustment phase (1997), and an ongoing working context (1998, 2000 and 2001) divided into subheadings, including parallel changes and ‘everlasting’ problems in health care, though elucidated from the perspective of a more downsized work organisation.

In next step I will present the *health outcomes* as they emerged in physiological results (study A), as well as questionnaires and register results (study C), and the women’s worries about access to energy as they were reported in the interviews (study B). I will also sum up the time trends that were found in the *related work and health conditions* (study C). By way of conclusion I will portray the interviewed women’s view of their motivators (study B), and finally the four identified ‘*healthy*’ departments (study C).

Tougher work trends

The personnel (on worksite level) reported an increasing trend in working hard, along with conflicting work demands and having less time for planning. Work support also changed negatively over time, expressed in a decreasing level of satisfaction with workmates. In the interviews this was expressed as difficulty in repressing irritation or lack of generosity among co-workers due to increased tensions. Furthermore, the overall sense of work satisfaction followed a decreasing time trend, as did the sense of pride in working at the hospital. The tendency to work harder was associated with the diminishing proportion of assistant nurses, indicating that tasks previously carried out by assistants had to be taken over by other professionals and added to their ordinary work. The results of working harder in the studied hospital are congruent with the previously mentioned increasing demands among health care staff throughout the country (Bäckman 2003; Theorell 2003). This is also valid for findings showing that health care staff tend to report more contradictory demands, compared with personnel working with ‘things’ or ‘symbols’ (Ahlberg-Hultén 1999; Härenstam et. al. 2003).

Surprisingly, we also found that the staff in question rated an increasing trend of authority over decisions. This was assumed to be associated with the fact

that almost half of the total number of assistant nurses had left the organisation – an occupational group who traditionally have lower decision latitude compared with other occupational groups in health care work (Karasek & Theorell 1990). With this in mind it is even more notable that the control factor in general decreased among the county council employees from the middle of the 1990s - considering that 34% of the auxiliaries disappeared between 1993 and 2000 (Federation of County Councils 2002).

I would like to emphasise that the content analysis in the interview study preceded the results from the later trend study. It is evident that findings from process-oriented interviews can facilitate the understanding of working life conditions behind trends such as working harder, having more contradictory demands and increasing lack of time to plan. However, the interviewed women did not describe a high potential for authority over their work, which will be evident in the following descriptions.

The adjustment phase

Downsizing consumes energy and emotions

The downsizing process that took place from 1995 to 1997 at the hospital studied was described as a long waiting period, generating uncertainty and anxiety. Those *assistant* and *registered nurses* who were transferred to other departments against their will agreed about this. The two occupational groups used emotionally laden words, such as mistreatment by the department heads, together with a sense of divorce and painful split-ups from the teammates they were used to working with. As newcomers they said they were aware that they were pushing someone else out of her work, giving the feeling that they owed their laid-off fellow workers an excuse, and as if it was their fault. The training of new co-workers who replaced younger and more energetic (already competent) ex-colleagues was mentioned as an energy-consuming process.

The two groups of assistant and registered nurses described a temporal process by which they went from being angry, to feeling resigned, and then beginning to function again, but with resulting resentment and lasting distrust towards the management. Further, the *assistant nurses* said they were extra critical due to the heavy cuts (43%) in combination with an indifferent attitude on the part of the employer. The indifference towards them was interpreted to mean that they belonged to an occupational group in the hospital that was unnecessary, questioned, soon to become obsolete or under threat of extinction. Since there were few women in intermediary ages, the women wondered who would replace the group of ageing assistant nurses.

As described above, it is evident that the restructuring process from the pre-monitory signs (1994) and notices (1995) to the discharges (1995-1997) and relocations (1996-1997) was a draining process over several years. As mentioned above, many of the employees in the entire hospital had judged high risks of unemployment, and increased job insecurity (Pettersson 1997). In the light of the fact that it was mainly a question of an auxiliary downsizing phenomenon, these extensive worries can seem surprising, but, at the same time consistent with literature describing this anticipatory phase as the most threatening (Brenner 1988), with elevated anxiety levels and energy-mobilising hormones (Arnetz 1991). Furthermore, it is described as a state of paranoia with lots of rumours, and lack of faith in information (Joelsson 1993).

However, in the interviews the downsizing 'survivors' in this study did not appear to have concerns about future unemployment. One factor could be the expressed promise from the board of directors that no more staff reductions would come about during the 1990s. It seemed that the *registered nurses* soon became aware that they were a needed profession in the specialised hospital care (perceived due to new recruitments in 1998). In the most severely hit group of *assistant nurses*, the reason for not feeling threatened as individuals was partly due to their relatively high age with only a few years left before reaching the formal retirement age. The first slight increase in new requirements (1998) was perceived as a sense of revenge.

Another interpretation is that many of the younger laid-off assistant nurses were recruited by the nearby Ericsson mobile communication company, and that these ex-colleagues in their turn gave positive signals of having better paid, and moreover less tiring jobs. This is congruent with a Canadian study revealing that the displaced employees – the victims – who secured new employments perceived fewer negative job strains than continuing workers – the survivors (Devine et. al. 2003). Yet another Canadian study of nurses found that restructuring processes that were experienced as positive due to hospital support were associated with higher hopeful responses (Burke 2001). This was also true for older nurses, and nurses with longer nursing tenure.

Job insecurity among *assistant nurses* was manifested as anxiety of being downgraded to merely serve the hotel function part their job, thereby losing their highly valued characteristics (pride) of care. The fact that they had not obtained formal competence was said to aggravate their weak position in a period of restructuring and increased care qualifications. Thus, they were concerned about the future, wondering whether their occupation would survive in the hospital care service as a whole.

The *medical secretaries* stated that they were not bothered about future unemployment, bearing in mind the large and obvious amount of work that was demanded of them. Even if they received more work tasks, they were at the same time more involved in the daily life of the department and could see a future possibility of being able to function to a greater extent as the administrative hub of the department (potential up-skilling). It is worth mentioning that these informants had not been exposed to redeployments other than receiving a few newcomers and stand-ins into their departments. Thus, they were not engaged in the lingering downsizing procedure as compared to the other two groups. The older medical secretaries' sense of job insecurity, however, was concerned with the 'new economy', which demanded more advanced use of Information Communication Technology (ICT) in health care.

However, all three groups of interviewed women lamented over 'those in positions of power'. This could be interpreted as a broken psychological contract between the employer and the employee with regard to the long previous period of stable and secure employment conditions in the Swedish health care sector (Federation of County Councils 2002).

Staff reductions and restructurings of work organisations involve strong psychodynamic processes! With hindsight it would have been interesting if the interviews had gone into the emotionally laden words about 'divorce', and 'not being seen as people- just a work force' (expressed by both *registered* and *assistant nurses*) from the concepts of psychological contract and organisational culture traditions in relation to the new more production-oriented health care service.

A parallel dimension of adapting to a new culture could be the women's opinion that the board of directors throughout the 1990s was using a more outright economic language. The board was reported to recurrently claim the necessity of saving money, and having employees work more efficiently. The increased demand for production-oriented health care can in turn be understood in that the pattern of constantly increasing allocation of resources was broken in the 1990s.

Communicating and supporting the continuing workers in a downsized workplace has been regarded as a key question (Burke 2001). In the present hospital the decision makers seemed to reach the departments heads, and to a great extent avoid conflicts by making the processes and decisions understandable for them. However, from the interviews it became evident that the directors did not manage to reach those who carried out the direct health care work. The health care hierarchy seemed to be strengthened in the structural changes of the 90s, since the staff 'down there' had different types of stressors, com-

pared with 'them up there', who were never threatened and had greater control, decision latitude and power.

It appears to be important to implement a good 'change-focused pedagogy', where both staff managers and supervisors need to be aware of the psychodynamics of crises, as well as people's frequent and very human reactions of resistance in connection with change (Joelsson & Thomsgård-Joelsson 2000). It is therefore important that those who enforce a change (the managers) understand that the conditions, and therefore the reactions, of those who are subjected to these changes are different. The concept of critical life events mostly includes major changes in private life, but could also be used in congruence with this described dynamic processes in relation to major organisational changes that demand adaptation and adjustment (Joelsson 1993).

A further reflection with regard to the difficulties of communicating a message 'down' into the organisation is that in spite of all parallel changes in health care the 'yoke of tradition' seems to be just as topical a theme as it was twenty years ago (Gustafsson 1985).

The experienced waste of human resources, in the form of competence drain and injustice toward the assistant nurses that were laid off to such a large extent (emphasised among themselves, as well as among the registered nurses and medical secretaries), is consistent with the dimension of working in an organisation that does not create clarity and consistency (Kivimäki et. al. 2003). Neither in the public debate nor in the hospital organisation was it clearly articulated that it was mainly a question of downsizing among the assistants. It appeared to have been a general and just reduction of all personnel categories. The uneven reductions were also a hidden reality for the country as a whole.

In conclusion, the present findings in the adjustment phase are congruent with the downsizing literature introduced in the background, that discussed restructuring as both a threatening and anger-provoking stressor, which increases with more restructuring initiatives, including broken psychological contracts and loss of trust (Greenglass & Burke 2000), as well as lingering feelings of guilt towards laid-off colleagues (Ferrara 1998), value conflicts (Maslach 2001), job insecurity in the sense of losing valued work tasks (down-skilling) (Ahlberg 1999; Ferrie 1999; Hellgren 2003), injustice, and finally the need for a good change-focused pedagogy (Joelsson 1993).

For the years 2004-2005, the hospital organisation is facing new significant saving demands, which indicates that this knowledge ought to be even more important for the political and operational managers to take notice of. This is

also valid for first- and second-line managers, and the health care workers who are in direct contact with the patients.

The ongoing work

Being subordinated and being 'in between'

Both the *assistant nurses* and *medical secretaries* placed themselves on the bottom rung of their department managerial structure, having little status and experiencing an invisible and degrading service and support function. They were in agreement about the traditional hierarchical culture of the work setting as being the main difficulty they had to overcome. These findings are congruent with epidemiological statistics, showing that medical secretaries reported the lowest decision latitude when compared with women in the general working population in Sweden (Theorell et. al. 1991). (The assistant nurses were not visible in these statistics). Corresponding findings regarding the low autonomy of medical secretaries in the health occupational hierarchy are also reported in work statistics from the USA (Butter et. al. 1994).

From this perceived subordination there were long-lasting energy draining irritations, concerned with incongruent communication and – suffering from not being sufficiently listened to. The *medical secretaries* wanted both managers and physicians to have a better understanding of the part that they could play in the smooth running of the entire department. The two working groups also seemed to be in agreement that mainly the physicians, and to some degree the registered nurses, had difficulties in adapting to the fact that they had less access to support personnel.

The *registered nurses* frequently referred to their general and traditional dilemma of being 'in between', in the sense of having split professional functions. They are health professionals, and as such, they considered themselves as equal partners with their colleagues with the medical responsibility – the physicians. Yet on the other hand they could feel they functioned as doctor's assistants. The nurses' unfulfilled collaboration with physicians (in this study primarily men) was interpreted as a major stress producer that seemed to become more obvious in the downsized organisation.

Further, registered nurses handled tasks that required their particular expertise, as well as tasks that could be carried out by assistant nurses. A parallel conflict was their split attitude towards their nursing profession that was accentuated from the decreased access to auxiliaries. However, those that advocated patient-focused nursing care felt that it was advantageous to acquire a holistic professional understanding of the patient, while task-oriented nurses,

on the other hand, were afraid that this close involvement in every detail of the patient could negatively affect their professional status.

Many registered nurses were concerned with these eternal questions about the division of labour in work tasks close to the patient. However, having a pronounced philosophy of nursing seemed to function as a health-promoting and stress-buffering resource for the individual nurse in the rapidly changing 'new working life'; involving new demands and the need for acquiring new knowledge. This was interpreted to be in accordance with the concept of coherence (Antonovsky 1996).

The lack of monetary reward was frequently discussed among all three female occupations when considering increasing responsibilities and expanded work tasks. From the sense of being both subordinated and qualified, the *medical secretaries* used the strongest words of being 'shamefully poorly paid'; the most shameful thing for a medical secretary was to tell other people about her salary because it represented a low value. Being conscious of doing qualified work with many years of experience, and still remaining among those employees who had the lowest salary in the hospital, was associated with feelings of indignity. The sense of being treated unjustly was intensified when the secretaries compared themselves with others who they perceived to be more fortunate (seen in table 4). From their perspective, they were indignant about situations where the physicians seemed to be promoted and better rewarded without the need for salary negotiations. They were also painfully aware of their salaries - always lagging behind because of the proportionately low increases in salary. 'Being locked into a low work position' was intensified by uncertainty as to whether or not the manager really took any notice of the gap in pay between employees.

This was also true for the *assistant nurses*, who described their salary conditions as essentially deadlocked, and the department heads without power to respond to their wish to be more valued. Both groups expressed ironically that they were negotiating about hundred kronor notes. The frustration about almost frozen salaries was especially pronounced in those assistant nurses who had been assigned to particular tasks in a highly specialised clinic. The resentment about being inadequately rewarded was also coupled to the feeling that layoff periods were inopportune times for making salary demands.

The *registered nurses'* sense of going unrewarded was expressed as salary lags - in relation to the growing job demands - and as salary differences in relation to younger fellow workers, as well as physicians. Due to the increase in shortage of nurses, and recently introduced individual setting of salaries, a competitive factor was introduced between older nurses, who remain in ser-

vice, and younger nurses, who have been recently employed, and are in a better position to negotiate about salaries. The feeling of not being esteemed could be seen in the light of injustice, based on the opinion that experiences and loyalty towards one's workplace were not valued; and in addition that differences in salary were too large in relation to the respective work tasks of registered nurses and physicians. In table 4 it is possible to see the salary rise for different occupations from 1998. I chose a salary level that could illustrate the possibility of a career for life, and the coming quality of life as a pensioner.

Table 4. Rise in wages for different occupational groups between 1998 and 2003 (50-59 years)

	Comparison Wage 1998	Median Wage 2003	Percentage Increase
Senior physician	38 800	49 500	28%
Ass.senior physician	35 800	43 380	21%
Registered Nurse (spec)	18 400	23 020	25%
Registered Nurse	18 200	21 600	19%
Assistant nurse	14 150	17 150	21%
Medical secretary	14 200	16 800	18%

It was not possible to obtain median values for 1998. Comparison wage means randomly compiled values to use as a background for reflections in relation to the interviewed women's sense of going unrewarded. It should be noted that the main interviews occurred in the latter part of the 1990s after a long period where real wages decreased for the three occupational groups in this study. According to the medical secretaries' expectations of future promotion prospects, they are bound to be either disappointed or need to have patience over a longer period of time. The assistant nurses seem to have been somewhat more successful in 2003, which were their latest collective trade union based wage claims. Still, the question of job evaluation is a topic in its own right that would be interesting to investigate in a hospital context associated to the change to more production-oriented care, and the related market-based need for specific occupational groups or professions.

Being behind in an inefficient work organisation

In the aftermath of the downsizing, the *medical secretaries* were above all disturbed by the 'shortage of resources' in relation to the need for administrative support. An evident stressor was the proportionally increased number of physicians, trainee doctors, and medical students altogether - due to the growing teaching hospital, and to the corresponding reduced number of medical

secretaries (-18%), along with increased patient turnover from shortened patient care times.

Being forced to do the most necessary tasks in recurrent crisis situations meant frequent presence of uncompleted work, leading to the sense of 'being behind'. The sense of being behind was elucidated as the most profound stress producer for medical secretaries, who described themselves as being 'hunted by time'. The most striking energy-draining vicious cycle, was working in an overloaded and ad hoc situation, was the concurrent feeling of being inadequate in their job, and not having enough energy to render more effective routines that could facilitate catching up with the work. It also meant short-term crisis management solutions, such as using subcontracted temporary workers. Not having enough time or energy to instruct newcomers or create an atmosphere of learning and staff retention were additional energy drainers.

As a result of tighter schedules and frequent workload peaks, the *registered nurses* experienced, that they had insufficient time to communicate with one another, and to develop proper nursing care. From the literature it is known that the daily work of nurses contains wasteful interruptions that make concentration difficult (Hedberg & Sätterlund Larsson 2003), and that time pressure is the factor that above all explains the variable 'hard work' (Ahlberg 1999).

In a similar way the *assistant nurses* mentioned as stress producers the sense of being behind due to insufficient time to carry out tasks. The need to complete the tasks planned for the day was confirmed in terms of tradition and occupational pride (also emphasised in the group of medical secretaries). The assistant nurses could agonise over broken surgical schedules, and vicious cycles of returning patients due to ever-shorter inpatient stays. They felt they shared the responsibility for an overloaded and inefficient working system, and yet lacked the power to change things. This dilemma could in turn illustrate the hospital trend of working harder with more contradictory demands, and less support throughout the decade (study C), and from having a subordinated position. It can also be compared with earlier health care research, which has confirmed that such a limited room for manoeuvre creates a feeling of inadequacy (powerlessness) in nursing staff (Ahlberg –Hultén 1999).

When time is short, indirect forms of patient care, such as washing material in the rinse and sterilisation of surgical material, receive lower priority. Having to hand over to their fellow-workers tasks that they had not had time to finish meant being disloyal, since they would get too a big workload. For the same reason the assistant nurses said they were afraid of going on sick leave. It has been confirmed that such contextual factors of 'attendance requirements' as loyalty towards workmates or patients (third party) affect people's decision to

go to work in spite of having symptoms of illness (Aronsson et. al. 2000; Johansson & Lundberg 2003). At this particular hospital, short-term sick leave was lowest in 1996, coinciding with the most intensive downsizing period, which shows that the perceived demands to attend work can also be interpreted in terms of uncertainty with regard to one's own job (hospital based statistics).

All these accounts are a good illustration of the revealed hospital trends, with less time for planning work. Ellström (1992) describes a work situation of this sort as the classic threat to a desired integration between work production, learning and problem-solving. From the results in the third trend study we could use a stronger word and call it a devastating threat with regard to the relation found between little time for planning and long-term sick leave.

When there are unfinished work tasks, ineffective forms of extra work will arise giving vicious circles of even more work. Hence, an often-mentioned dilemma in relation to 'being behind' was the difficulty to agree about new working routines. Representatives from the two groups of registered nurses and assistant nurses experienced that the traditional 'task-oriented' care organisation did not correspond to the new more slimmed-down working conditions. The shortcomings in the organisation became more obvious when there were 'fewer people to run' - less access to assistant nurses

The *assistant nurses* said they wanted to 'work in pairs' with a registered nurse as a possible practice to achieve a more efficient use of their time, and the registered nurses advocated patient-focused nursing. In practice, implementing patient-focused care has been found to result in a more efficient use of time, since it stimulates the development of a coherent way of organising nursing activities (Lundgren & Segesten 2001).

The *registered nurses* wanted the physicians to be more visible on the ward, and to consult them more often about workloads so that they could organise their own staffing to meet patient demands. A more developed inter-professional cooperation was said to be more efficient and thereby save both time and energy for everybody concerned. By expressing the desire to be consulted by the doctors to a greater extent, and to gain their support for creating new time-saving work methods - without taking concrete action - the nurses could be said to disclaim their responsibility to 'them up there', in the same way as the assistant nurses did (in their wish to change working routines) in relation to their registered nursing co-workers.

It would be possible to provoke the two groups by saying that they must express themselves more explicitly about the need for mutual understanding. At the same time, experiencing hesitance to influence one's working routines is assumed to be

a consequence of traditional limitations in health care, which involve lack of practice to try out (learn) choices of alternative actions to one's own advantage (See further discussion of effort to gain control in the next section.).

By the second year, 1998, the two groups of *registered* and *assistant nurses* in both departments said they had been gradually revived, and that this was manifested with a growing collective willpower among persons in charge, as well as employees, to build working groups in order to change working routines and improve their work situation. However, three years later in 2001, informants complained that they had reverted to a resigned approach as a result of high rates of personnel turnover and sick leave, and the superiors' lack of strategies for bringing about a sense of long-lasting responsibility among all co-workers. The *medical secretaries* in the same working context continued (throughout the whole study period) to compensate lacking resources with subcontracted stand-in staff, plus overtime work for the permanent staff. In the more supportive surrounding, *registered nurses* (in the interviews in 2001) described different improvements in their work environment, such as adding in scheduled telephone hours for patients, introducing professional supervision, and programmes for applied studies. The supportive department in study C turned out to be one of the four 'healthy' departments we found.

In a hospital study in four countries, Aiken (2002) correspondingly found that understaffing as well as lowered levels of organisational and managerial support were related to more dissatisfaction, burnout and even intentions to leave their job among nursing and caring personnel. The conclusion to be drawn from all these findings is that it is particularly important to strive towards enduring time- and energy-saving working department routines in a downsized work unit. Thus, the study has implications for both the first and second line superiors to develop the work organisation together with their co-workers.

However, there seems to be many hindrances to overcome in the hospital context. In a study of first-line nursing managers, Nilsson (2003) showed that they did not seem to use the room for manoeuvre, which was there in the organisation. In the study it is pointed out that the driving force behind the wish to become managers was the ambition to improve the work routines of the department – for the benefit of both patients and co-workers. Yet, it was shown that many of them got stuck in the everyday problems and ended up spending a considerable amount of time recruiting people (filling gaps). The development work had to take second place. They had expected better support from the head of their department in order to get on. It looks as if both registered nurses and first-line managers are fighting with corresponding professional ambiguity.

Davies (2001) stated that nurses are hampered by traditions expressed in the complex 'deference - dominance' doctor-nurse relationship. In action theories, corresponding lack of propensity to take action is called learned helplessness (Ellström 1992), and in stress research it is expressed as having low 'locus of control' (Theorell 2003). The way in which this spiral of not taking control could be broken in the health care setting is yet another urgent area for research in the meeting between 'gendered occupational pedagogy' and 'gendered occupational health'.

If the women's wish to create a more team-oriented working system is to be implemented, I would like to emphasise that (if being efficient) it must embrace the whole work organisation. In the book 'Class, Gender and Surgery', Lindgren (1999) analyses the risks involved in close multi-professional teams if there is too great differences in the conditions of those occupations that are to be included. The position of those with a shorter education and less authority in teamwork may be weakened and become less protected than in a group consisting of equals. Hence, the assistant nurses and the medical secretaries are considered to be the most vulnerable as individuals without support from their own group, which will be visible in the next section.

It is evident that all three themes within the heading of 'ongoing work' overlap, since they deal with the efforts to take control from the perspective of 'being subordinated' and 'being in between, as well as 'being behind' in a both time limited and inefficient organisation. Hence, the external and internal room for manoeuvre (control) is interpreted as the integrating concept.

Efforts to gain control at work

The *registered nurses* cautious coping approach was interpreted from their perception of having an ambiguous professional function, and their uncertainty to stand up for themselves; and also related to the nursing culture, where sticking out was said to be disapproved of, indicating that nurses could hold each other back. The interviewed nurses recognised that they contributed to a static situation by not sufficiently communicating their opinions.

The efforts to cope among *medical secretaries* fluctuated between will to act and resignation, interpreted as an even more accentuated cautious approach and hence labelled as being 'between submissiveness and taking action'. Even the medical secretaries recognised their part in an incongruent communication style towards the physicians by having 'spoilt them in an incredible way' - a service tradition they understood was devastating in a time of limited resources and increased work demands for themselves. Not having the position nor the courage or energy to legitimately resist work requests, such as working overtime, meant that the

secretaries could feel 'invaded by job demands'. This difficulty in setting limits is in line with a study showing that women, more than men, tend to respond to unfair treatment by using a 'covert coping style', which in addition was correlated with high blood pressure (Theorell 2000b).

An example of adjusting to a non-desirable work situation was the tendency to released expressions of stress through ventilating problems within their own group (also valid for the nursing groups). In the literature it is described as a female-oriented befriending strategy (Shelley 2000). However, the medical secretaries described how they took support from their own group in their efforts aimed to facilitate the order of administrative management at the department. One mentioned strategy to gradually overcome fear in different meetings was to encourage oneself to be a messenger, speaking for the others in the group. The *registered nurses* also talked in terms of speaking as a group, along with strategies such as waiting for the right moment, or giving the question enough time to sink in; then perhaps the superiors and doctors would go along with it.

The younger *medical secretaries* conveyed that their way of taking action was by investing time in information technology training courses. As mentioned before they realised that their expanded administrative functions and the fact that they were now required to be familiar with ICT might possibly mean 'up-skilling' in the long run. These desires were, logically, expressed by the small words of reservation. They were inspired by the expanding work tasks, and furthermore by the chance that the recently started two-year university course for medical secretaries had provided.

Among the *registered nurses* there was also a widespread opinion that taking courses, as well as participation in workplace improvement activities, stimulated the sense of professional growth, and there were some examples of promotion prospects. Nevertheless, informants also noted that investments in professional growth on the part of the individual did not give sufficient pay-off as regards increased salary or influence at work; A women's dilemma that could be labelled as 'competence stimulant pitfall'. Parenthetically I would like to mention that there are financial studies analysing whether further training pays off for women (Stark & Regnér 2002).

From the perspective of *assistant nurses*, it was most obvious that they experienced they could not influence their working conditions, outside their stipulated work tasks within their own group. They also had difficulty in influencing opportunities to acquire that specific competence they felt they needed in order to be able to raise to all the challenges connected with the higher level of health/medical care qualifications. In spite of this they spoke warmly about the

opportunities that were actually provided, such as being assigned to special tasks that stimulated the individual assistant nurse. The effect of having this field of responsibility was taken away, whereas corresponding investments in competence growth did not correspond to any movement in terms of promotion or financial incentives. This was connected with a sense of being taken advantage of and labelled as frozen salaries (article IV).

The university education seemed to provide the *registered nurses* with a professional identity that gave them slightly more power to assert themselves, as compared with that of the medical secretaries and assistant nurses. The phrase 'having slightly more power' is a conscious reservation to stress the interpretation that professional development might be a necessary but not sufficient condition to empower traditional female occupational groups, providing care or administrative service in a health care context.

A conclusion that can be drawn is that without an increased awareness of the feelings of hesitancy to take action, among the women themselves, and among superiors and even physicians, as well as occupational health consultants, there will always be a movement back. Therefore, it is important to emphasise the mutual responsibility of different personnel groups in a work organisation to support assertive coping behaviour, and also to consider and encourage the bringing out into the open feelings of ambiguity, inferiority or injustice. This also applies to the need to develop a more direct and 'equal' style of communication between interdependent workers, which in turn could render work production more efficient, and thereby save time and energy. Based on these findings it seems evident that coping and communication patterns should be seen as forms of empowerment, and as representing both a fluctuating and contextually grounded process.

Finally, I would like to underscore that the interviewed women revealed that they were more successful with regard to the 'efforts to safeguard their own health' - than to gaining control in the workplace -in terms of keep-fit measures. The reflections about the necessity of keeping fit were found to be especially prevalent among registered nurses (further developed in article III). Another dichotomy that would be interesting to look into is why the professional assertiveness that registered nurses seem to have in patient -related situations is not extended towards work related situations.

Work-related deteriorated health trends

Energy-draining processes among staff

The physiological study including medical secretaries, registered nurses and assistant nurses (A) showed a possible early sign of dysfunction expressed in a 27% decrease in mean difference between the concentration of serum cortisol in the morning and afternoon from the initial assessment in 1997 to the following one in 1998. If this reduced variation in the circadian rhythm is seen as a ‘flattened cortisol curve’, the interpretation could be that the regulation of the levels of cortisol has become more rigid, which in turn could be the result of a long-lasting period of adaptation during all these described years around the downsizing processes (described in the section ‘Downsizing consumes energy and emotions’).

Additionally, the level of oestradiol fell by 36%, and IgG by 9% and apolipoprotein AI by 15%, between 1997 (interpreted as an adjustment phase) and 1998.⁵ The reduction in the level of *oestradiol* could be interpreted as a sign of a lowered level of anabolism, while the lower levels of *IgG* support the conclusion that it is likely that there has been a reduction in the activity of the immune system. With regard to the lower levels of *apolipoprotein AI*, the expectation is that over time the reduction could influence the body’s protection against arteriosclerosis. Thus, the results suggest that the studied group of women had gradually developed signs of a weakened physiological defence, including possible signs of physiological exhaustion.

A possible pathway linking the organisational changes, including both readjustments, occupational insecurity and harder work pace, to the assumed loss of capacity in energy mobilisation, is the fact that the staff lacked younger members. Among the assistant nurses, there was an even more marked tipping of the balance to the older staff. The medium age was about 46 years. The tendency to a flattened cortisol curve as a possible sign of reduced capacity to regulate energy mobilisation is consistent with the results from a cross-sectional study on teachers, who scored high on an inventory of burnout (Pruessner 1999). A corresponding flattened curve has also been found in emergency ward nurses (Yang et. al. 2001).

Although the physiological study (A) in two departments and the trend study (C) in the whole hospital included neither the same subjects, nor exactly the same time perspective, the findings strengthen each other. It was shown that the staff in the selected 24 departments scored higher values on items such as

⁵ P-values and CI interval could be seen in article I.

listlessness, restlessness, irritation, as well as difficulties in concentrating, and in worry and anxiety throughout the study period. We found no statistically confirmed time trend regarding short-term sick leave⁶, but there was an increasing trend in long-term sick leave (30 days or more).

Tougher work trends associated with deteriorating health

We also found that the increase in working hard and having conflicting demands, as well as the corresponding decrease in time to plan work was strongly associated with the revealed deteriorating mental health. It was also obvious that the substantially decreasing proportion of assistant nurses (43%) was related to the increase in working harder, which in turn was related to health. According to the findings in this study, the most important risk factor for increasing long-term sick leave was decreasing time for planning work. Thus, the perceived time pressure and the sense of being behind (also found in the interviews) could be referred to lack of control over both quantitative and qualitative demands. Given this twofold meaning, time for planning work could be considered a factor of central importance in relation to stress-related health.

A more thorough scrutinising of the trend data showed that the lowest level of time to plan work was reported in 1997, while the highest levels of working hard and conflicting demands, and the lowest level of mental health were noted in 1999 (two years later). Furthermore, the rate of long-term sick leave was at its maximum in 2001. This finding may indicate that work conditions could be seen as important health predictors, and reversed causality (a high rate of long-term sick leave causing lack of time for planning) is less likely. This was also valid for the underlying inspiring Quality Work and Competence surveys (QWC), showing that the hospital staff reported the most marked increase in workload (1995-1997), followed by a corresponding marked decrease in psychological energy (1997-1999) (Arnetz 2000).

These results indicate that negative stress reactions and low mental health, might possibly precede long-term sick leave in the latter part of the 1990s. Also due to the selected years for collection of hospital register data - with a one-year time lag between questionnaire and sick leave data (table 3, p. 32) - the results of interrelated trends were also from that perspective based on a delayed health effect with regard to long-term sick leave. Hence, our results

⁶ Short-term sick leave is discussed in article V, from the perspective of support, and with regard to the result of no found association between short- and long-term sick leave.

confirm the need for longitudinal studies to follow work and health conditions, and also argue against cross-sectional studies measuring work conditions and health outcome at the same time point.

Concerns about sustainable health and finances

In the interview study (B) the sense of being fatigue was classified as ‘worries due to the lack of energy’ (intrinsic stressor) in a demanding work context. The statements regarding consequences of being tired also concerned spill-over effects, such as having too little energy left for family life or for socialising with friends in the evenings. The women also spoke of ‘never-ending demands’, as various duties and tasks awaited them when they returned home from work. Conflicts between work and family life were expressed as worries about not being accessible and supportive enough for children, grandchildren or ageing parents, as well as in-laws. All these experiences concerning multiple roles and double work burdens of caring for and serving other people at work, together with corresponding tasks in private life (combined job and family stress), are congruent with the introduced literature in the section of a gendered working life (p. 15).

Regarding ‘sleep disturbances’ (for whom it was present) these women followed the pattern observed in other studies, waking up too early, invaded by thoughts about their jobs and worries about whether they would be able to manage during the coming day (Åkerstedth et. al. 2002). Another aspect of the health concerns that were expressed was having difficulties in unwinding after days of chaos at work, resulting in a lasting sense of irritation, or being tired. It could also be difficult to let go of thoughts about deeply troubling patients, or whether they had treated patients properly during the day. Especially the registered nurses stated that pervasive time pressures meant that that they more often worked through such worries at home.

It was generally felt that working full-time in present-day health care was too hard. All three groups of women in a more overloaded working context said they were anxious about having to pay with their health as a consequence of not being able to manage to keep up with their job, given their own aches and pains, or when returning to work after illness; thus they felt vulnerable. Furthermore, they were concerned about not having sustainable health or energy to keep working until their retirement. This was particularly pronounced for those who had about five to ten years left in their working life. Planning for retirement became a matter of setting priorities regarding health, family and financial situation (also valid for the other departments).

The women appeared to consciously balance their investment in health against their private financial situation. This tipping of the balance was (of course) made easier by living in a relationship with two disposable incomes. The most critical dilemma with regard to quality of private life seemed to be the situation of 'being a low-income earner', and single woman. The central question raised was how to manage financially and remain healthy until retirement at sixty-five. Regardless of age, the single women in this study were anxious about their lack of opportunity to accumulate financial buffers. More working hours meant more money and poorer health (less energy), while fewer working hours meant less income. Having to work full-time with this unsolved dilemma was in itself a strain.

A Canadian study of nurses (97% women) that dealt with work and family conflicts and self-rated well-being during a period of hospital downsizing and associated restructuring showed a significantly greater relation between work → family conflict patterns, than family → work conflicts patterns. However, both work and family conflicts were associated with less work satisfaction and greater psychological distress (Burke, 1999). These results are congruent with the literature about spillover effects from work to private life. When in contact with employers and managers I have, however, often heard these persons proclaim the opposite; namely that they perceived the family → work stress pattern to be more related to the increases in ill health and sick leave patterns during the 1990s.

A challenging work environment

Looking into the future, I will conclude the findings of this thesis by describing the motivators found in the interviews (study B) together with the four stable 'healthy' departments that we found (study C). I wish to stress that it is extremely important to elucidate balancing challengers and 'health-promoting key factors', considering the very consistent findings of trends of deterioration in work-related public health during the 1990s in Sweden (Palme et. al 2003; Åsberg et. al 2003), as well as at the hospital that was studied in Örebro. Kreitzer and colleagues (2001) in turn highlight that in the midst of organisational changes and transitions, the need for a healthy work environment is greater than ever, thus underlining the acknowledgment of the reality of the present environment. This was my reason for elucidating the motivators perceived by the women themselves (study B).

Being part of a comprehensive and learning team

There was a general wish among the interviewed women in all three occupational groups to be part of the whole network of the department. Job rotation was introduced for *medical secretaries* leading to closer cooperation with and

insights into the working conditions of co-workers. This increase in responsibility seemed to be important in work motivation. In addition, they said they really enjoyed recognising the administrative process regarding patient care (reception work). Getting to know the patient was something the medical secretaries valued most. The increased use of computers in administrative duties was also a positive challenge for especially the younger ones, yet requiring invested time and efforts to learn new techniques.

The *registered nurses* described corresponding motivators in being a parallel professional in a comprehensive and learning team, working towards the same goal. A sense of group-togetherness arose when the nurses felt that their different skills complemented one another, and they were contributing to the overall work organisation. Working with the patient as his or her personal nurse was also thought to create a team feeling. In addition, the nurses expressed professional assertiveness and professional pride in nursing practice, in terms of 'knowing the patient'. Some of the informants stressed that cooperation with the remaining assistant nurses had been strengthened since the staff reductions occurred. Corresponding feelings were described by the *assistant nurses* who stated that their occupational pride was found in their trained intuition to assess people's needs, and worries from many years of creating a relationship with patients. The response in their work mainly came from the gratitude they received from the patients.

Sometimes co-workers could enrich each other's jobs by recognising a job well done with verbal feedback. When superiors offered support, the informants emphasised that they experienced greater job satisfaction. There was, however, no formal strategy in place for regularly giving feedback in the departments studied, and the women thought that it would be good if they were acknowledged more often. Therefore, it is important to highlight that feedback from managers to employees could function as a modeling tool for providing workers with confirmation and encouragement⁷ (Pousette in press).

A motivation vision for the *registered nurses* was their expressed desire for improving the mutual charge of patients and sharing of knowledge (combining academic subjects). In accordance with these findings, I would emphasise that increased knowledge sharing within the team of health and medical professions could be seen as a positive work environmental factor. This is also in line with discussions in epistemology, expressing the opinion that it is high time to supplement the dominating perspective of positivism in medicine with other perspectives (Malterud 2001). In a less hierarchical setting, it was found

⁷ Further discussed in article II about medical secretaries.

that both nurses and physicians, male as well as female representatives, expressed more positive collaborative attitudes (Hojat et. al. 2001).

There was also a frequently mentioned desire among *assistant nurses* for improved collaboration. They wanted to make their voice heard in connection with their assessment from working close to patients. In their opinion an improved utilisation of their knowledge of the patients' ability to manage their daily life could avoid the vicious cycle of returning patients.

In conclusion: Being ahead and in control, when everything works, and having a chance to 'complete work' was expressed as a wishful condition associated with great pleasure and also as an opportunity to balance their work rhythm. The need to complete tasks was also confirmed in terms of tradition and professional pride among *assistant nurses* and *medical secretaries*.

Four stable 'healthy' departments in the hospital

In searching for health-promoting departments (study C) we unfortunately did not find any in terms of a positive health development. However, of the 24 departments, the four with the best health trend could be considered as more salutogenic. In these four departments, the whole team of staff showed a stable health situation, in relation to both their scored mental health and the rate of short- and long-term sick leave over the studied years, in comparison with the general negative trend of the hospital. These so called 'health stable departments' have generated a new interview study from a perspective of salutogenic leadership. In this recently started study we want to explore the first- and second-line superiors' experiences of those management strategies and work environment conditions that they assume have contributed to the stable health situation among their co-workers. Consequently it is a question of a retrospective study, mirrored in leadership theories, where the interviewed managers look back upon those eight years (1994-2001) that meant a period of structural instability. It is important to mention that all departments had the same saving demand to accomplish.

The study in question will contribute knowledge about how these different departments have handled the structural changes of the 1990s in relation to the health outcomes, but also to the assessments of the staff regarding the work environment at the department. We will hopefully be able to provide some answers as regards what the management and staff of a workplace can do to protect the health of the personnel in times of cuts and uncertainty. What different sorts of concrete solutions have we seen? What organisational choices are there, and how was the scope of action used at the departments in question?

Concluding reflections

The comprehensive interview study design improved understanding of the dynamic interplay between stressors, motivators and efforts to control psychosocial work factors for three female occupational groups in a changing working context. With the various underlying dimensions in the found themes: 'downsizing consumes emotions', 'being subordinated' and 'being in between', 'being behind in an insufficient work organisation', and 'efforts to gain control at work'; new forms of interacting conceptions were captured. Hence, these findings have extended the existing concepts of demand-control, effort-reward and (in)justice from a woman perspective. This is also valid for an augment understanding of the used items of working harder, working with more contradictory demands, and having less time to plan work.

Following is an example on the complex interacting positive and negative dimensions that were found with regard to the *registered nurses*: The nurses' experience of ambiguity in their professional functions was in congruence with the split feeling of 'being in between', having a cautious coping approach and too little power to make working routines more efficient. There was a duality between the positive challenges from the demands of a more qualified care, which the registered nurses wanted to meet and be promoted from, and at the same time experiencing 'ever-growing work demands' in an organisation that had not been sufficiently adapted to the decrease in the supply of staff, and on top of this having a sense of still going unrewarded, but yet being in great demand in health care giving faith in the future with visions about 'being equal' in a knowledge-sharing multi professional team.

The two hospital-based groups of *registered* and *assistant nurses* expressed that they more and more often had to work without the support of a colleague. This is an example of cultural shifts in the health care sector, which in turn require their own adaptation. Such a cultural adaptation comes over and above the experience of having to work flat out from time to time. Another example of cultural shifts was the recurrent suggestion from the managers that production costs and staff costs were too high.

It is important to emphasise that my inductive style of interviewing meant that, without stipulating any conditions, I asked the women to tell me about their perceived work situation. As a result they spoke about what involved them, and what disturbed and irritated them. The 'everlasting' difficulties, concerning gendered hierarchies with related difficulties in being subordinated and in between, and also having difficulty in cooperating within, as well as between, occupational groups, came up to the surface. All these energy-

and time-consuming conflicts seemed to become more accentuated in a changing organisation lacking buffers, and demanding efficiency. Since the group of *assistant nurses* was reduced to 43 per cent, their reactions are consequently most strongly linked to the cuts.

The main message from the third hospital study is that in times of organisational downsizing, and restructuring processes, a deteriorating trend in health care work conditions seem to predict worsening mental health and increasing long-term sick leave among the employees. On the contrary, conflicting demands, and lack of time for planning work also appear to be central aspects of working conditions, emphasising the importance of job control over time pressure. Lack of time to plan work mostly means producing under time pressure. Thus, the results support such stressors as a precursor of ill health by a prolonged energy mobilisation process without opportunities for recovery. This conclusion is strengthened by the results from the physiological study indicating that protective and anabolic functions had suffered - between 1997 and 1998 - in the selected group of 31 women.

Despite these statements, it is important to keep in mind that it is not possible to determine the influence of the downsizing phenomenon as the only explanatory change factor on the continuing work environment throughout the whole study period to 2001. We have to consider other parallel changes that are connected with new demands for increased productivity and quality in care (described in the background p. 2), and in connection with the hospital's new status as a university hospital. This can be compared with the Stockholm studies also mentioned in the background section, which showed that it seems to be a question of changes demanding adaptation even in cases of expansion (Westerlund 2003).

Methodological considerations

The intense and coherent downsizing process at the present university hospital enabled a special focus on work and health conditions among the employees in times of organisational insecurity. Spitze (1988) pays attention to the danger of looking for health consequences without regarding the processes involved or the variety in work life experiences, and Hall (1990) in turn underlines the importance of including the gender perspective in work-related stress inventories. The need for a diversified longitudinal data is still emphasised ten years later in an extensive review article (Quinlan et. al. 2001). Thus, from these interests of knowledge, this research project contains process-orientated methods from a woman perspective, and with findings to be tested in future questionnaires. In addition we have studied health outcomes, including both subjective and objective health indicators for the personnel groups as a whole.

The physiological study

The evidence of physiological adjustments in conjunction with organisational changes is important to discussions regarding staff reductions. No comparable studies from this period have so far been published.

The validity of the physiological findings derive from the combination of a longitudinal study design, and from the information collected in subsequent interviews and the following trend study, showing different indicators on lowering perceived psychological energy throughout the whole study period (1994-2001).

The lack of a referent group was of course a weakness of the study design. To find a hospital where no downsizing had occurred was rather small considering the period of general personnel reductions in the healthcare sector. Further, the conclusion drawn from this study must be tentative given the small size of the study sample. Although the layoffs at the studied hospital occurred with great intensity, the principles for downsizing seem to have been the same in the Örebro regional health care organisation as in the Swedish health care sector in general (Federation of County Councils 2002).

The downsizing and restructuring processes may of course not have been the basis of the physiological changes that we observed on the group level. On the other hand, it is hard to find an alternative explanation of the observed changes; some other major life change occurring in a large part of the participants would be required. It could be argued that there was general societal change going on, but that would be part of the same phenomenon: the structural changes at the common workplace.

The Interview study

My previous work in the research field provided a favourable basis for the longitudinal interview study at the hospital (p. 27). My interviews of female health care personnel were also facilitated by being a middle-aged woman myself with previous experience both as a public health practitioner, and as an interviewer (Mägi 1988).

The discovery of qualitative variation needs a combination of interview openness, and a maintained distance to the studied phenomenon; termed as 'going native' (Sachs 1983). The outsider perspective was facilitated by the fact that I was neither employed at the hospital, nor was I representing any of the occupational groups. The importance of an outsider role has become more obvi-

ous in my reporting of the results to the occupational groups and health care departments.

Initially the project may be characterised as 'emergency research' based on the motto 'seize the downsizing time'. Svensson (1996) points to the importance of taking the prevailing time spirit into consideration when carrying out a study. During this period, the public debate was full of indignation over the heavy cuts at the county's hospital. Even if I approached the interviews from an unbiased and inductive perspective, my involvement in the issue may have been important for the opening round of interviews. The fact that I represented the field of stress research might as well have made the informants more inclined to tell me about stressors rather than what motivated them in their work. Correspondingly Ferrie (2001) maintains that perceived 'job insecurity' may subject to reporting bias through the tendency to accentuate the negative in a situation. Due to the longitudinal interview approach, my awareness of this possible interviewer bias was increased, which supports the trustworthiness of the interview data.

The combination of the inductive attitude and the repeated interviews also provided a dynamic picture of the development at the hospital. It became obvious that the initial reactions during the readjustment process then changed to discussion of the 'eternal questions' within health care, which is a further argument for longitudinal research efforts.

The content analysis of the transcribed interview material was facilitated by my collaboration with both Kerstin Nilsson (doctoral student) and also my assistant supervisor both working in the same methodological tradition as I do, but representing health care pedagogic. Through discussions and reflection within the research team, the initial content analysis was carried out with the motto 'going native'. In cooperation with my main supervisor the results were then connected to the area of stress research.

Silverman (2001) emphasises that the research process should be described so that the reader obtains a clear picture of the different stages. The process has been described both in the three interview articles (II, III and IV), and in the method section of this thesis (p. 28). However, it should be made clear that it is the content in the statements that has been studied, and not the interaction between the informant and the interviewer (Edwards 1997). The transcriptions of the interviews constitute an important link between collection and presentation of data. The interview transcriptions were of high quality, made by a secretary with long experience in this field.

Finally, I am fully aware of the fact that the interview material is always a fragmented picture of the informant's experience, depending on the specific situation (Silverman 2001). The repeated interviews increased the possibility to reinforcing feedback and related openness between the interviewer and the informant, which accounted for a rich data material.

The trend study

This study was based on the possibility to link repeated sets of self-rated questionnaire data to corresponding administrative data sets over an 8-year period, which allowed for a longitudinally approach to study the consequences of structural changes in work conditions related to staff health.

There was a one-year time lag between the self-ratings and the sick leave-data from the hospital, during the period 1995-2000. Accordingly, the interrelated trends are based on a delayed effect with regard to long-term sick leave. Such findings could not have been made with a cross sectional study. This is an additional argument for longitudinal studies.

Studies on the ecological level have advantages and disadvantages, and the limitations have therefore been considered. The questionnaire data was based upon anonymous, individually based responses, which made it impossible to link individual data over time. It is further in the nature of the study that substantial changes in the personnel structure occurred over the study period, especially since the number of assistant nurses to such a great extent decreased. This problem was handled by using the individual data as aggregated means on department level.

In addition, single items (questions) were used as explanatory variables in this analysis. The rationale behind using items was that individual variations in the way in which a separate question is perceived is different on the measured ecological level. Another rationale was that single items might be more useful than summarised dimensions for the managerial interests of improving the work environment.

When interrelated time trends in self-rated and registered work conditions are studied, the markedly decreasing proportion of assistant nurses could be seen as a confounder. Another confounder is the fact that the recurrent feedback from the QWC- survey results to the department heads and from them to the co-workers may have affected the variations between separate departments. Finally, the fact that the questionnaires were answered anonymously made it impossible to recognise and analyse the non-response of separate departments. All these factors are discussed in article V.

Future research perspective

It is urgent to discover that in the middle of all the restructuring and changes in Swedish working life, there is in fact great inflexibility in the form of cemented structures. Throughout two decades, stress- and work environment researchers have shown that people's access to or lack of perceived room for manoeuvre (decision authority) is the most decisive and enduring component in relation to their position in working life with associated welfare and health options. Access to or lack of reciprocity between invested efforts and received rewards, in combination with a sense of (in)justice, seems to be just as important for health, as women's and men's basic needs when it comes to gaining control of their lives.

My purpose was to describe the psychosocial work and health trends, as well as the gendered dimension of working life, with reference to both social science and to developments during the 1980s and 1990s, in order to make underlying structures visible. As I see it, such current and retrospective views constitute a necessary point of departure if we are to be able to solve the psychosocial work environment problems in the future, since this means that there is a need to change the rigid pattern of overordination and subordination between different occupational groups, and between women and men in the health care service sector. Underlying this is the fact that sub/overordination seems to be internalised, and there is thus both internal and external resistance to challenging the prevailing circumstances with the aim of achieving more equal work and health opportunities.

In the interview study it became clear that the majority of women wanted more team-oriented and patient-focused care. It would be interesting to follow such a development in order to investigate how different occupational and professional groups in such a work context perceive the level of demands and degree of effort in relation to the three central concepts of control, reward and justice - linked to the perspective of employees having unlike authorities because of various educational levels and status (Lindgren 1999).

The second challenge for work environment researchers, given the prevailing consensus concerning psychosocial risk factors and negative health trends for women working in the public care sector, is to concentrate research even more on identifying 'health-promoting key factors'. Based on the results of this research project we intend to continue with a study that aims to investigate the prerequisites for health-promoting management strategies in a university hospital context. The aim of the democracy book published by the National Institute of Public Health was to show that there is already considerable support in

the literature for the health-promoting effects of increased influence and participation at work (Theorell 2003).

In future health-promoting working life research it would therefore be important to have an implementation perspective on the explicit ambitions on the part of the state to improve the psychosocial work environment by analysing the resistance that arises in local work organisations responsible for the realisation of a healthy promoting work environment. The inspiration for such a notion comes from the political science study of the implementation of a gender equality policy (Pincus 2002). What can be learned from the study of this particular policy is that implementation is not only an administrative matter but one in which conflicting interests arise and are played out by the actors involved.

In the Swedish Committee on Funding and Organisation of Health Services and Medical Care in Sweden it became clear that during the 1990s there was hardly any research concerning the relation between financial incentive and its consequences for the work environment (Gustafsson 1999). Research in the Nordic countries is still considered to be weak in this area (personal communication). It is worthy of note that the representatives at management level in the county council also considered that there is far too little internal discussion and exchange of knowledge about how the health care sector's different financial incentives (the purpose of which is to make the production of health care more economical and efficient) can affect involvement and attitudes in all those who are to carry out the direct health care work close to the patient.

There is also the underlying question of what the management can learn from the fact that it proved to be difficult, in connection with the big cutbacks during the period 1995-96, to make the decisions and processes understandable for the co-workers. The question of a 'change-focused' communication strategy that creates clarity and consistency (Kivimäki et. al 2003) is extremely topical, considering that we are approaching another big wave of cost-cutting demands for the years 2004 – 2005.

Acknowledgements

In this intensive and final period of writing the thesis, I have been like a lone sailor, close to the wind, focusing on trying to stay in control of the course as well as the sails and ropes, and aided by satellite contact with my steady and reliable co-workers in Göteborg, Stockholm, and Frösön. For short periods I have put into port and derived sustenance from those in my close surroundings, whose supportive cheers gave new energy. Those who have known me for a long time have probably been amazed that such a sociable and outgoing person could become so withdrawn and resolutely focused on reaching her goal. Even if I now and then have wished for fair winds, to relax and reflect, it has nevertheless been an interesting experience, and a privilege, to have had the opportunity to become so totally immersed in my work.

It is in light of this that I write my acknowledgements.

First of all I would like to thank all the 31 engaged and loyal women at Örebro University Hospital who willingly and trustfully shared their experiences about work and about life. Without my informants the research findings could never have been achieved.

The realisation of the study also depended on the hospital's personnel manager *Ove Petersson* and the heads of the involved departments, who willingly opened the doors to the research field and entrusted me with the task of following the staff after the heavy downsizing wave in the middle of the 1990s.

The next person who made this research possible was my main supervisor *Töres Theorell* who supported the idea from the beginning. It is a real pleasure to work with Töres, who is unique with his comprehensive mind and interest in every perspective of public health and stress. I am also grateful for the quick and expert feedback I have received in the tough process of learning to write scientific articles in English.

Logically, Töres' research group is comprehensive, with *Peggy Bernin* studying managers' stress, *Gabriel Oxenstierna* and *Hugo Westerlund* job insecurity, *Hans Petter Söndergaard* and *Reza Emdad* posttraumatic stress, *Yvonne Liljeholm-Johansson* orchestra musicians, and *Annica Kempe* experiences of childbirth among Yemeni women. We have gathered around Töres, and we have had to make an effort to get involved in each other's research questions, which has been useful. Thanks for all those Monday mornings! And special

thanks to Peggy for the extra exchanges of ideas concerning our common interest in the health care organisation.

My thanks are also due to my employer during these years: The National Institute for Psychosocial Factors and Health (*IPM*). As a teleworker coming and going from Örebro, I have always received a warm welcome, and many hands have shown their willingness to help; Special thanks to the administrative team with *Bosse Gigel*, *Veronica Grenhagen*, *Anette Hedberg*, *Maria Johansson*, *Lillemor Katz*, *Louise Nordenskiöld*, and *Jan Westermarck*. Also to my 'neighbours' on the second floor, where I have appreciated the company of *Frank Lindblad*, who has offered exclusive and freshly brewed tea and nice lunch times with his team members, of whom I especially changed experiences with *Eva Jonzon* and *Clara Gumpert*.

The next person who made this research possible was my supervisor *Ullabeth Sätterlund Larsson* at the Institute of Health Care Pedagogics in Gothenburg. Ullabeth was my special guide concerning qualitative research methods; she taught me to be more precise in scientific writing, and that as an interviewer I must leave my old teaching role behind. Ullabeth's fighting spirit and wonderful laugh has inspired me on many occasions.

Thanks to Ullabeth I got to know *Kerstin Nilsson*, who for all these years has been my co-doctoral student, co-interpretor and co-writer. Kerstin is a real pillar of strength, and from our different perspectives we have been able to enrich the analysis of the interviews. She has therefore been invaluable in critical reading of manuscripts, and also in helping me to apply the finishing touches to the thesis layout.

Inga-Lill Pettersson, from the Department of Occupational and Environmental Health, Stockholm County Council, has also been an inspiring and teaching co-writer in the third trend study. It is thanks to Inga-Lill's insight into the hospital, as well as her ability and determination to manage the myriad of measurements and computer runs that we reached our goal.

Thanks to my editor and linguistic advisor *Hilary Hocking* it is possible for an outsider to read this thesis. She has succeeded in turning my 'swenglish' into British English, and I am impressed by her ability to make the text clearer. Receiving e-mails with feedback from Hilary in her 'writing workshop' on Frösön has been a true pleasure.

The study has also been made possible by my manager *Thomas Falk* and all colleagues at the workplace that is my 'home base' - the Unit of Community Medicine at Örebro County Council. They have all been both generous and

tolerant towards my coming and going as an eternal part-time worker. I am grateful to *Lena Kördel*, who has willingly carried out all the financial transactions; to *Ingmarie Arvidsson*, who has been helpful in drawing figures; and to *Lars Ekholm*, for always solving computer problems in moments of desperation. My special gratitude is due to *Lars Hagberg*, with his superb skills in managing all the complicated personnel statistics from the hospital for the fifth article; and to *Carina Persson*, who was a statistical supervisor for the first physiological article. She was also a motivating coach for the statistical learners *Sirkka Elo*, *Anne Marie Wallin* and myself entering the Svensson course at Örebro University. That was an intense period!

To include the history I will attend to the first dynamic social medicine team in Örebro- with my ex- husband and co-worker *Margus Mägi*, and *Charli Eriksson*, *Gunilla Fahlström*, *Sven Larsson*, *Marie Montin*, and *Anna Swift-Johannison*- thanks for all rewarding discussions and good old times.

Finally we come to the third and latest part-time workplace – ‘Stressforum’ at the Department of Occupational and Environmental Health, Örebro University Hospital. *Lilian Litzell* from the Social Insurance Board in Örebro has been the coach for the development of this resource centre. I also wish to express my acknowledgement to the stress-team including *Kristina Claesson*, *Lars-Gunnar Gunnarsson*, *Liselotte Hjort*, *Eva-Britt Hult*, and *Karin Lindblom*, for constructive and intense discussions about our common work. I would particularly like to thank Lars-Gunnar, who generously helped me to gain a deeper understanding of psychobiological systems thinking, and to Eva-Britt who became a new loyal friend even outside work.

I also wish to express my sincere gratitude to everyone who in different ways has been supportive during this period:

Cecilia Berge, *Marianne Botvalde*, *Nina Buer*, *Eva Hällvik*, and *Ingrid Pincus* for their invaluable friendship and all our ‘walks and talks’ about vital questions throughout the years. They really are a home base in Örebro.

Special thanks to Ingrid, who has inspired me right up to the conclusion of this thesis, when we realised that we from now on would try to combine our respective affiliations in public health and political science, for our common interest in questions concerning women, health and equality.

Tina Hallman, my colleague and discussion partner at ‘Myntet’, for her critical reading and constructive comments on the discussion of the findings, and for her energy in contributing understanding and being a coach in the latter phase of this work.

Gunnel Ahlberg, who readily acted as an informal opponent on the third nursing article, and *Ingvar Lundberg* who at short notice acted as an examiner. Both gave useful points of views.

Elisabet Sjögren, my old neighbour in Rynninge, who rapidly wrote all the interview manuscripts early in the mornings before her ordinary work, and sent comments with her subtle humour.

Many thanks to all helpful *librarians* at the medical library at Örebro University Hospital giving quick and professional assistance to a frequent visitor. And to *Ian Jones* and his co-workers, who carried out all the laboratory work in a supportive way, and to *Lars Lindkvist*, *Lars Söderström*, *Anders Bertebo*, *Åsa Thor-Gustafsson*, who readily distributed administrative personnel statistics, and to *Hasse Zettergren* and *Lars Berggren*, who gave their view about what happened at RSÖ/USÖ during the 1990s.

A special credit to *Marianne Omne Pontén*, my old neighbour in Umeå, who made so many of the arrangements around the oral defence of the thesis, from her platform at the Centre for Clinical research, Dalarna.

This research project has been supported by grants from the Swedish Foundation for Health Care Sciences and Allergy Research, AFA Insurance Foundation, and the Swedish Council for Working Life and Social Research (FAS). The research project was further financially supported by the Department of community medicine, Örebro County Council, and the Stress Unit, Department of Occupational and Environmental Medicine, Örebro University Hospital.

The feeling of being part of a close circle of family and friends spread out over the country from Umeå to Helsingborg, who were there long before this work started, and will be there for a long time afterwards, has constituted a safe and secure base in my ever changing life. My sincere thanks to all those near and dear, with whom I share my history. Although my parents Kerstin and Magnus have passed away I would like to direct a special 'thank you' to them for their sense of commitment, which lives on in all their seven grandchildren, among them my two really great, and loyal sons, *Johan* and *Erik Mägi*. The moments I spend with them are the ones I treasure most.

References

- Agar M. (1996). *The professional stranger*. Boston: Academic press.
- AHA - utredningen: *Analys av hälsa och arbete. [Analysis of health and work.]* Stockholm: SOU 2002:62.
- Ahlberg-Hultén G. (1999). *Psychological demands and decision latitude within health care work. Relation to health and significance*. (Diss). Stockholm: Department of Psychology, Stockholm University.
- Aiken L. H., Clarke S. P. & Sloane D. M. (2002). Hospital staffing, organisation, and quality of care: cross-national findings. *International Journal for Quality in Health Care*, 14(1), 5-13.
- Alexandersson K. (1995). *Sickness absence in a Swedish county with reference to gender, occupation, pregnancy and parenthood*. (Diss) Linköping: Department of Community Medicine, Linköping University.
- Anderberg U-M. (1999). *Fibromyalgia Syndrome in Women - a Stress Disorder? Neurobiological and Hormonal Aspects* (Diss). Uppsala: Uppsala University.
- Antonovsky A. (1987). *Unravelling the mystery of health: How people manage stress and stay well*. San Francisco: Jossey-Bass.
- Arnetz B. (1991). Neuroendocrine and immunologic effects of unemployment and job insecurity. *Psychotherapy and Psychosom*, 55(2-4), 76-80.
- Arnetz B., Peterson O. & Zettergren G. (1995). Instrument for strategic organisational development within health care. Practical application defined the problems. [Instrument för strategisk arbetsmiljöutveckling inom vården.] *Swedish Medical Journal*, 92, 3240-3245.
- Arnetz B. (2000). *KAK-uppföljning 2001 Rapport från USÖ*. [Report from QWC - follow-up 2001]. Örebro: Örebro university hospital
- Arnetz B. (2002). *KAK-uppföljning 2001 Rapport från USÖ*. [Report from QWC - follow-up 2001]. Örebro: Örebro university hospital
- Aronsson G., Gustavsson K. & Dallner M. (2000). Sick but yet at work. An empirical study of sickness presenteeism. *Journal of Epidemiology and Community Health*, 54(7), 502-9.
- Barnett R. C. & Marshall N. L. (1992). Worker and mother roles, spillover effects, and psychological distress. *Women & Health*, 18(2), 9-40.
- Bernin P. & Theorell T. (Manuscript). *Leadership and health in health care*.
- Bernin P. & Theorell T. (2001). Demand-control-support among female and male managers in eight companies. *Stress and Health*, 17, 231-243.
- Björk G. (1999). *Att förhandla sitt medborgarskap. Kvinnor som kollektiva politiska aktörer i Örebro*. [Negotiating about one's citizenship. Women as collective political participants in Örebro 1900-1950]. Lund: Arkiv.

- Braverman P., Krieger N. & Lynch J. W. (2000). Health inequalities and social inequalities in health: A reply to Murray et al. *Bulletin of World Health Organisation*, 78(2), 232-235.
- Brenner S. (1988). *Stressreaktioner på hot om arbetslöshet och upplevd arbetslöshet*. [Stress reactions to threat of unemployment.] Stockholm: Stressforskningsrapport. National Institute of Psychosocial Factors and Health.
- Burke, R. (2001). Nursing staff survivors' responses to hospital restructuring and downsizing. *Stress and Health*, 17, 195-205.
- Burke, R. J. & Greenglass, E. R. (1999). Work-family conflict, spouse support, and nursing staff well-being during organisational restructuring. *J Occup. Health Psychol*, 4(4), 327-36.
- Butter I., Carpenter E., Kay B. & Simmons R. (1994). Gender hierarchies in the health labour force. In E. Fee & N. Krieger, (Eds.). *Women's health, Politics, and power: Essays on sex/gender, medicine, and public health*. New York: Baywood Publishing Company, INC.
- Bäckman O. (2001). Med välfärdsstaten som arbetsgivare – arbetsmiljön och dess konsekvenser inom välfärdstjänsterna under 1990-talet. [With the welfare state as employer - the work environment and its consequences during the 1990s]. In *Welfare in transition*. Anthology/The Swedish Welfare Commission.] SOU:52 2001.
- Cacioppo T., Berntson G., Malarkey W., Sheridan J., Kiecolt-Glaser J., Poelmann K., Bursleson J., Hawkey L. & Glaser R. (1998). *Automatic, Neuroendocrine, and immune responses to psychological stress: The reactivity Hypothesis*. New York: Academic of science academy.
- County Council Statistics. (2002). *Statistisk Årsbok för landsting*. [The Federation of County Councils] Retrieved 2003-02-20 from the World Wide Web: http://www.lf.se/download/2075/StatArsbok_02.pdf.
- Davies K. (2001). *Disturbing gender - On the doctor-nurse relationship*. Lund: Studies in Sociology Vol.4.
- Devine K., Reay T., Stainton L. & Collins-Nakai, R. (2003). Downsizing outcomes: Better a victim than a survivor. *Human resource management*, 42(2), 109-24.
- Dhabhar F. S. & McEwen B. S. (2001). Bidirectional effects of stress and glucocorticoid hormones on immune function: possible explanations for paradoxical observations. In R. Ader, D. Felten & N. Cohen. *Psychoneuroimmunology*. Academic Press, 1, 301-338.
- Edwards D. (1997). *Discourse and cognition*. London, Thousand Oaks, New Dehli: Sage.
- Eklund M. (2003). *Hälsa-Arbetsförhållanden-Sjukskrivning (HALS)*. [Health, work conditions and sick leave.] Stockholm: The National Social Insurance Board.

- Ellström P-E. (1992). *Kompetens, utbildning och lärande i arbetslivet. Problem, begrepp och teoretiska perspektiv*. [Competences, education and learning in working life. Problems, concepts and theoretical perspectives.] Stockholm: Publica.
- Elvin-Nowak Y. & Thomsson H. (2001). Motherhood as idea and practice: A discursive understanding of employed mothers in Sweden. *Gender and Society*, 15(3), 407-428.
- Federation of Swedish County Councils. (2002). *Swedish health care in the 1990s - Trends 1992-2000*. Stockholm.
- Feeney A. N. F., Head J., Canner R. & Marmot M. (1998). Socioeconomic and sex differentials in reason for sickness absence from the Whitehall II Study. *Occup Environ Med*, 55(2), 91-8.
- Ferrara L. R. (1998). Lay-off survivor sickness: How to cope when you do not lose your job. *Journal of Perianesthesia Nursing*, 13, 236-238.
- Ferrie J. (1999). *Change in employment status and health in white-collar workers*. (Diss). London: University College London.
- Ferrie J. (2001). Is job insecurity harmful to health? *Journal of the royal society of medicine*. 94
- Frankenheusser M., Lundberg U. & Chesney M. (Eds) (1991). *Women, work and stress*. New York: Plenum.
- Freeman S. & Cameron K. S. (1993) Organisational downsizing: A convergence and reorientation framework. *Organisational Science*, 4, 10-29.
- Gardell B. (1971). *Technology, alienation and mental health*. Stockholm: Personaladministrativa rådet.
- Granroth P. O. (1997). *Laurells. Klinisk kemi i praktisk medicin*. [Clinical Chemistry in practical medicine.] Lund: Studentlitteratur.
- Greenhalgh L. & Rosenblatt Z. (1984). Job insecurity: Towards conceptual clarity. *Academy of Management Review*, 9, 438-48.
- Greenglass E. & Burke R. (2000). The relationship between hospital restructuring, anger, hostility and psychosomatics in nurses. *Journal of Community & Applied Social Psychology*, 10(2), 155-61.
- Goine H. & Edlund C. (2003). *Regionala skillnader i försörjningskostnader, för sjukpenning, förtidspension, arbetslöshetsersättning och socialbidrag i 52 kommuner*. [Regional differences in costs for support in sick leave compensation, early retirement, unemployment benefit and social welfare.] The Insurance Board: Arbete och Hälsa (submitted).
- Gustafsson R. Å. (1985). *Traditionernas ok inom sjukvården*. [The yoke of tradition.] Stockholm: Liber.

- Gustafsson R. Å. (1999). Den nya ekonomistyrningen och arbetsmiljön. [The new financial control and the work environment.] In *Appendix 1, SOU 1999:66. Report from The Committee on Funding and Organisation of Health Services and Medical Care HSU 2000.*
- Hall E. (1989). Gender, work control, and stress: A theoretical discussion and an empirical test. *International Journal of Health Services, 19(4), 725-745.*
- Hallman T. (2003). *Gender perspective on psychological risk factors. Conditions governing women's lives in relation to stress and coronary heart disease.* (Diss). Stockholm: Karolinska Institutet.
- Haynes S., Feinleib, M. & Kannel, W. (1980). The relationship of psychological factors to coronary heart disease in the Framingham study. (Part III). *American Journal of Public Health, 111(1), 37-58.*
- Hedberg A. & Sätterlund Larsson, U. (2003). Environmental elements affecting the decision making process in nursing practise. *Journal of Clinical Nursing* (in press).
- Hellgren J. (2003). *The times they are a-changin'. Job insecurity and the flexible labour market.* (Diss.). Stockholm: Department of Psychology, Stockholm University.
- Hertting A., Hagberg L. & Theorell T. (2001). *De anställda i vården har blivit färre och allt äldre – vilka hälsovinster ger väl fungerande arbetsplatser.* [The employees in health care have decreased and become older – what are the gains from well-functioning worksites?]. Stockholm: Swedish Council for Working Life and Social Research.
- Hertting A. & Swift A. (1996). *Personalen är vårdens ryggrad. [The personnel are the backbone of the health care service.* Örebro: The fond of working life.
- Herzberg F. (1999). *The motivation to work.* London: Transaction Publisher.
- Hojat M., Nasca T., Cohen J., Fields S., Rattner S., Griffiths M., Ibarra D., Alcorta de Gonzales A., Torres-Ruiz A, Ibarra G. & Garcia A. (2001). Attitudes toward physician-nurse collaboration: A cross-cultural study of male and female physicians and nurses in the United States and Mexico. *Nursing Research, 50(2), 123-128.*
- Härenstam A., Aronsson G. & Hammarström A. (2001). The future of gender inequalities in health. In P. Östlin, M. Danielsson, F.Diderichsen, A. Härenstam & G. Lindberg (Eds). *Gender inequalities in health. A Swedish Perspective.* Cambridge: Harvard Centre for Population and development studies.
- Härenstam A., Karlqvist L., Bodin L., Nise G. & Scheele P. (2003). Patterns of working and living conditions: a holistic, multivariate approach to occupational health studies. *Work & Stress, 17(1), 73-92.*
- Joelsson L. & Wahlqvist L. (1984). Mental health and loss of job. *Journal of Community Health Care, 8.*

- Joelsson L. (1993) *Uppföljning och utvärdering av personalneddragningar inom Televerket, Region Stockholm*. [Follow-up and evaluation of staff reductions within the Swedish Telecommunications Administration, Region: Stockholm].
- Joelsson L. & Thomsgård-Joelsson B. (2000). Creative crises: The individual and the organisation in change. At a crossroads - An anthology about change processes in lean organisations. [Individ och organisation i förändring. In K. Barklöf (Ed). *Vägval? En antologi om förändringsprocesser i magra organisationer*]. Stockholm: Rådet för arbetslivsforskning.
- Johnson J V. & Hall E M. (1988) Job strain, work place social support, and cardiovascular disease: a cross-sectional study of a random sample of the Swedish working population. *Am J Public Health*, 78, 1336-1342.
- Johansson G., & Lundberg I. (2003). Adjustment latitude and attendance requirements as determinants of sickness absence or attendance. Emp. tests of the illness flexibility model. *Social Science and Medicine* (in press).
- Kaminski M. (1996). *Making change happen: Six cases of unions and companies transforming their workplaces*. Washington, DC: Work and Technology Institute.
- Karasek R. & Theorell T. (1990). *Healthy work. Stress, productivity and the reconstruction of working life*. New York: Basic Books Inc.
- Karasek R. & Theorell T. (2000). The demand-control-support model and CVD. In P. L. Schnall, K. Belchic, P. Landsbergis & D. Baker (Eds). *Occupational Medicine: The workplace and cardiovascular disease*. Philadelphia: *Hanley & Belfus*, 15(1), 78-83.
- Ketz de Vries M. & Balazs K. (1997). The downside of Downsizing. *Human relations*, 50(1).
- Kivimäki M., Vahtera J., Pentti J. & Ferrie J. (2000). Factors underlying the effect of organisational downsizing on health of employees. Longitudinal cohort study. *British Medical Journal*, 320, 971-5.
- Kivimäki M., Vahtera J., Ferrie J., Hemingway H. & Pentti J. (2001). Organisational downsizing and musculoskeletal problems in employees: a prospective study. *Occup Environ Med*, 58, 811-817.
- Kivimäki M., Elovainio M., Vahtera J. & Ferrie J. E. (2003). Organisational justice and health of employees: prospective cohort study. *Occupational Environ Med*, 60(1), 27-34.
- Kelloway E. K., Gottlieb B. H. & Barnham L. (1999). The source, nature, and direction of work and family conflict: A longitudinal investigation. *Journal of Occupational Health Psychology*, (4), 337-446.
- Kolk A., Bekker M. & Van Vliet K. (1999). (Eds) *Advances in Women and Health Research. Toward Gender-Sensitive Strategies*. Tilburg: Tilburg University Press.
- Kristensen T. (1995). Sickness absence as coping. *Socmed. Tidskr.* (1), 12-17.

- Kreitzer M., Wright D., Hamlin C., Towey S., Marko M. & Disch J. (1997). Creating a healthy work environment in the midst of organizations' change and transition. *Journal of Nurse Administration*, 27(6), 35-41.
- Landsbergis P., Cahill J. & Schnall P. (1999). The impact of lean production and related new systems of work organization on worker health. *Journal of Occupational Health Psychology*, 4(2), 108-30.
- Larsson S. (1999). Kvinnorna och folkhälsoskulden. In A Hertting Stressens olika ansikten. [*The different faces of stress.*] Stockholm: The National Public Health Institute.
- Lindberg K. & Trädgårdh B. (2000). *Lean-concept i magra vårdorganisationer.* [The lean concept in the health care organisation.] Stockholm: National Council of Work and Life research (RALF).
- Level of Living Surveys. (2000). Stockholm: The Social Research Institute (Sofi).
- Lindgren G. (1999). *Klass, kön och kirurgi.* [Class, gender and surgery.] Stockholm: Liber.
- Locke E. & Latham, G. (1990). Work Motivation - The high performance cycle. In U. Kleinbeck, H. Quast, H. & Thierry (Eds.). *Work motivation* (pp. 3-25). Hillsdale, New Jersey: Erlbaum.
- Lundberg U. & Frankenhaeusser M. (1999). Stress and workload of men and women in high-ranking positions. *J of Occup Health Psych*, (4), 142-151.
- Lundgren S. & Segersten K. (2001). Nurses' use of time in a medical-surgical ward with all RN-staffing. *Journal of Nursing Manag*, 9(1): 13-20.
- Mason J.W. (1968). Organisation of psychoendocrine mechanisms. *Psychosomatic Medicine*, 30, 565-808.
- McEwen B. S. & Stellar E. (1993). Stress and the individual: Mechanisms leading to disease. *Archives of Internal Medicine*, (153), 2093-2101.
- McEwen B. S. (1998). Stress, Adaptation, and Disease. Allostasis and Allostatic load. New England: *Journal of Medicine*, (153), 2093-2101.
- Magnusson L. (2000). *Den tredje industriella revolutionen - och den svenska arbetsmarknaden.* [The third industrial revolution - and the Swedish labour market] Stockholm: Prisma.
- Malterud K. (2001) The art and science of clinical knowledge: evidence beyond measures and numbers. *The Lancet*, 358(9280), 483-8.
- Maslach C., Schaufeli W. B. & Leiter, M. P. (2001). Job Burnout. *Annual Review of Psychology*, (52), 397-422.
- Miller W. L. & Crabtree B. F. (1994). Clinical research. In N. Denzin & Y. Lincoln (Eds.). *Handbook of Qualitative Research* (pp. 340-352). London: Sage.
- Mägi A. (1988). Intervjuer med 31 bröstcancerbehandlade kvinnor i Örebro län. [Interviews with 31 women in Örebro treated for breast cancer.] In C Boalt & I. Ålsäter (Eds). *Bröstcancer behandlade kvinnors situation.* Stockholm: Bröstcancerföreningarnas riksorganisation (BRO).

- National Insurance Board. (2002) *Statistics information*. Is-I 2002:4.
- Nilsson K. (2003). *Mandat - Makt - Management. En studie av hur vårdenhetschefers ledarskap konstrueras*. [Mandate -Power -Management. A study of how the leadership of first-line nurses is constructed.] (Diss). Göteborg: Acta Universitatis Gothoburgensis.
- Orth-Gomer K., Vamala S., Horsten M., Schenk-Gustavsson K., Schneiderman N. & Mittleman A M. (2000). Marital stress worsens prognosis in women with coronary heart disease - The Stockholm female coronary risk study. *JAMA*, (284), 3008-3014.
- Palme J., Bergmark Å., Bäckman O., Estrada F., Fritzell J., Lundberg O., Sjöberg O., Sommestad L. & Szebehely M. (2003). A welfare balance sheet for the 1990s. Final report of the Swedish Welfare Commission. *Scandinavian Journal of Public Health, Supplement*, 60, 7-143.
- Parker S. K., Chemiel N. & Wall T. D. (1997). Work characteristics and employee well-being within a context of strategic downsizing. *Journal of Occupational Health psychology*, 4, 289-303.
- Pettersson I-L. (1997). *Health care in transition - Threat or opportunity? Psychosocial work quality and health for staff and organisation*. (Diss). Stockholm: Karolinska institutet.
- Pettersson I-L (1999). Vårdens arbetsmiljöer under 1990-talet – en översikt över genomförda studier. [The work environment in health care in the 1990s – An overview of accomplished studies.] In *Appendix 1, SOU 1999:66. Report from The Committee on Funding and Organisation of Health Services and Medical Care HSU 2000*.
- Pfeffer J. (1998). *The human equation: Building profits by putting people first*. Harvard business school press, Boston.
- Pincus I. (2002). *The Politics of Gender Equality Policy*. (Diss). Örebro: Department of Social Sciences, Örebro University.
- Pousette A., Jacobsson C., Thylefors I. & Hwang C. The role of feedback in Swedish human service organizations. *Community, Work and Family* (in press).
- Pruessner J. C., Helhammer D. H. & Kirschbaum, C. (1999). Burnout, perceived stress, and cortisol responses to awakening. *Psychosom Med*, 61(2), 197-204.
- Quinlan M., Mayhew C. & Bohle P. (2001). The global expansion of precarious employment, work disorganization, and consequences for occupational health: A review of recent research. *Int. Journal of Health Services*, 31(2), 335-414.
- Sachs L. (1983). *Evil eye or bacteria: Turkish migrant women and Swedish health care*. (Diss). Stockholm: Department of Social Anthropology, Stockholm University.
- Schaufeli W. & Enzmann D. (1998). *The Burnout Companion to study and practice: A critical Analysis*. London: Taylor & Francis Ltd.
- Selye H. (1950). *Stress*. Montraeal: Acta Press.

- Shelley E., Klein L., Lewis B., Grunewald T., Gurung R. & Updegraff J. (2000). Bio-behavioural responses to stress in females: tend and befriend, not fight and flight. *Psychological Review*, 107(3), 411-29.
- Siegrist J. & Peter R. (2000). Stressors at the workplace: The effort-reward-imbalance model. In P. Schnall, K. Belkic', P. Landsbergis & D. Baker (Eds.). *The workplace and cardiovascular disease* (pp. 83-87). Philadelphia, Hanley & Belfus.
- Siegrist J. (2000). Psychosocial factors and stress. In *Encyclopaedia of stress. Academic press: Volume 3*.
- Silverman D. (2001). *Interpreting Qualitative Data. Methods for Analysing Talk, Text and Interaction*. London: Sage publication.
- Statistics Sweden (2001). *Arbetsmiljön*. [The work environment reports] Stockholm: Statistiska Centralbyrån (SCB).
- Svensson P.G. (1996). Förståelse, trovärdighet eller validitet. In P.G. Svensson & B. Starrin (Eds). *Kvalitativa studier i teori och praktik* [Understanding, reliability or validity.] Lund: Studentlitteratur.
- Spitze G. (1988). Women's employment and family relations: A review. *Journal of marriage and the family*, 50, 595-618.
- Stark A., Regnér Å. (2002) In whose hands?: work, gender, ageing and care in three EU-countries. Volume 2. Linköping: Linköpings University, Theme gender
- Starke D. & Niedhammer I. (2002). Gender and effort reward imbalance at work. In S. S. Wamala & J. Lynch J. (Eds). *Gender and Social Inequities in Health - A public health issue*. Lund: Studentlitteratur.
- Theorell T., Orth-Gomer K. & Eneroth P. (1990). Slow reacting immunoglobulin in relation to social support and changes in job strain. A preliminary note. *Psychosomatic Med*, 52, 511-516.
- Theorell T. (1997). Psychosocial factors in the work environment - an occupational medicine perspective. In H. A. Waldron & C. Edling (Eds). *Occupational Health Practice*. London: Butterworth Heinemann.
- Theorell T. & Karasek, B. (2000). Stressors at the workplace: The demand-control-support model and CVD. In P. Schnall, K. Belkic', P. Landsbergis & D. Baker (Eds.). *The workplace and cardiovascular disease* (pp. 78-83). Philadelphia: Hanley & Belfus.
- Theorell T., Alfredsson L., Westerholm P. & Falck, B. (2000b). Coping with unfair treatment at work - What is the relationship between coping and hypertension in middle-aged men and women: An epidemiological study of working men and women in Stockholm. *Psychotherapy and Psychosomatics* 69(2), 86-94.

Appendix

Interview guides

The interview topics are designed to cover the informants' experiences of daily working life, and how they manage their work tasks, as well as their individual well-being. The questions are open, but at the same time, the concepts of stressors and motivators are in the back of the interviewer's mind. The interviews have the character of a conversation with feedback in terms of summaries and extended questions. The purpose of the open-question style is to obtain rich descriptions of concrete events and opinions (feelings).

The interviews in 1997

These subjects constitute the basis for the conversational interviews:

How are you? – Such as health, mood, vigour and self-esteem.

Can you describe a normal working day?

How are things at your workplace?

What work tasks do you have, and how are they decided?

What can you decide by your self?

What has been altered in your work situation in conjunction with the staff layoffs?

How do you see the ongoing restructuring (redeployments)? How did you feel about the whole process of staff reductions?

How would you describe the character of the nursing-, caring-, and administrative work in your department today? What are the demands, in terms of development (progress), challenges, workload or strain?

What is the cooperation and work climate like within your own occupational group, and in relation to other co-workers, and your managers (first- and second-line superiors)? What kind of recognition do you receive?

What about your private life and time off? Does your work influence your private life sphere, or vice versa.

Do you do anything in particular for the benefit of your own health, well-being or fitness?

How do you see the future? What visions do you have with regard to the future of the health care service sector, your occupational group and yourself as an individual?

The interviews in 1998

The basis was the same as in 1997 with some additional aspects:

How are you today?

How is your work situation today?

Is your situation different (or the same) compared with the interview occasion in 1997? What has contributed to the situation being different or the same?

What has got better or worse?

What do you do in order to feel better (coping and lifestyle questions)?

How do you see the downsizing period from the perspective of 1998?

Follow up interviews in 2000, and in 2001

The more funnelled interview was used in order to illuminate which challenges give the female informants a feeling of energy, vigour or pleasure/good mood, and conversely which factors seem to function as drainers.

Can you tell me what motivates you to go to work?

What gives you job satisfaction?

What makes your work interesting? What are the incentives to learn new things, and to be able to influence your work?

What strengthens your self-esteem, and makes you feel capable (competent) and proud of being a medical secretary (2000), registered nurse or assistant nurse (2001).

What is recovery and relaxation for you...?

Can you tell me what takes you down at work?

What tires you out and drains you of energy?

What makes you irritated, frustrated, and what takes the pleasure out of work?

What takes away your motivation to learn new things and to get involved in your work?

What can lower your sense of self-esteem, and what makes you feel worried?

What can make you think about your work in your free time?

How are you today? What has changed since the interviews in 1998?

How do you see the downsizing period from the perspective of year 2000/2001?