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From the  
Department of Clinical Sciences, Malmö  
Lund University, Sweden

# TAKING CARE OF OTHERS – WHAT'S IN IT FOR US?

Exploring workplace-related health from a  
salutogenic perspective in a nursing context

Åsa Bringsén



LUND UNIVERSITY  
Faculty of Medicine

Malmö 2010

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Som, med vederbörligt tillstånd av Medicinska Fakulteten vid Lunds universitet, för  
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<b>Abstract</b> <p>The aim was to explore and make sense of salutogenic relationships between workplace, work and health, through an employee perspective in a Swedish nursing context. The aim was also to make sense of the role of a workplace health promotion (WHP) process and develop useful instruments for such health-related development work.</p> <p>The research process was characterized by salutogenesis, action and a mixed method approach. Three studies were carried out through a WHP process at a medical emergency ward and the fourth study was aiming for a development and quality assessment of a salutogenic health indicator scale (SHIS).</p> <p>The research process resulted in a focus on social and psychological resources for health, which interacted in complex mutual influential relationships. The findings indicated possibilities for more positive workplace-related experiences through focus on medical care activities, cognitive resources and experiences of flow among the healthcare workers. The participants were more or less achievement-oriented and therefore preferred two different characteristics of work and WHP processes. These diversities need to be identified and discussed in WHP contexts based on individual resources, group interaction and external support. A WHP process also needs valid, reliable and useful instrumental support. The SHIS is considered useful for measuring health indicators with a salutogenic and holistic perspective and is thus useful for WHP.</p> <p>The findings add knowledge to complex relations between workplace as a context, work as an activity, WHP with a salutogenic approach as a change process and health of healthcare workers as a goal. The findings can be used as support for an implementation of workplace-related health promoting structures and processes.</p>		
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From the  
Department of Clinical Sciences, Malmö  
Lund University, Sweden

# TAKING CARE OF OTHERS – WHAT’S IN IT FOR US?

Exploring workplace-related health from a  
salutogenic perspective in a nursing context

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LUND UNIVERSITY  
Faculty of Medicine

I samarbete med Högskolan Kristianstad



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To Anton and Vilma

Small stars also shine in the dark



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# Abstract

The aim was to explore and make sense of salutogenic relationships between workplace, work and health, through an employee perspective in a Swedish nursing context. The aim was also to make sense of the role of a workplace health promotion (WHP) process, in a salutogenic public health perspective, and develop useful instruments for this kind of health-related development work. The research process, which was predominantly carried out within the framework of a WHP process at a hospital ward, was characterized by a salutogenic perspective and an action and mixed method approach.

Four studies were carried out at a medium-sized hospital in the south of Sweden and the studies of papers I, II and III were conducted within the framework of a WHP process at the study ward. The development process started with a focus group study, to explore workplace-related resources and health, through the eyes of healthcare workers. The second study explored factors associated with the experience of flow during everyday nursing practice, through an experience sampling method. The third study within the framework of the project, was a focus group study attempted at making sense of the participating health care workers thoughts about the WHP process. The fourth study was a quantitative cross-sectional study aiming for a development and quality assessment of a salutogenic health indicator scale (SHIS).

The research process resulted in a predominant focus on social and psychological resources for and indicators of health. The identified workplace-related health resources interacted through a complex mutual influential relationship and they could be related to the reward, the team, the mission and the context. The resources of rewarding positive experiences and emotions were considered the core of a health promoting workplace. The findings indicated that there were possibilities for more positive workplace- and work-related experiences through focus on cognitive resources and medical care activities with adherent experiences of flow among the healthcare workers in general and among the assistant nurses in particular.

The participants were considered more or less achievement-oriented based on their preferring two rather different characteristics of work and WHP processes. More achievement-orientation was related to flexibility, reflection, learning and development of everyday practice. Less achievement-orientation was instead linked to stability, piece and quiet and WHP process-related social relations in general. These diversities were related to complexity and were considered useful for WHP practice. The diversities need to be identified and discussed in a WHP context that is characterized by individual resources, group interaction and external support. A WHP process also needs valid, reliable and practicable instrumental support. The SHIS is considered useful for

measuring health indicators with a salutogenic and holistic perspective in general and is thus useful for WHP with a salutogenic approach in particular.

The findings adds knowledge to complex relations between workplace as a context, work as an activity, WHP with a salutogenic and bottom-up approach as a change process and health of healthcare workers as a goal. The findings can also directly be applied in practice, as support for an implementation of workplace-related health promoting structures and processes.

*Keywords:* Workplace health promotion, flow, health care worker, salutogenesis, complexity, SHIS, instrument.

# List of publications

- I. Bringsén Å, Andersson I, Ejlertsson G, Troein M. Exploring workplace-related factors and health from a salutogenic perspective. Results from a focus group study among health care workers in Sweden. *WORK: A Journal of Prevention, Assessment & Rehabilitation* (Accepted 2010).<sup>1</sup>
- II. Bringsén Å, Andersson I, Ejlertsson G. Experience of flow during everyday practice in a medical hospital ward. Results from a study based on experience sampling method. (Submitted).
- III. Bringsén Å, Andersson I, Ejlertsson G, Troein M. Making sense of a workplace health promotion process. Lessons learnt from a Swedish nursing context. (Submitted).
- IV. Bringsén Å, Andersson I, Ejlertsson G. Development and Quality Analysis of the Salutogenic Health Indicator Scale (SHIS). *Scandinavian Journal of Public Health*. 2009; 37: 13-19.<sup>2</sup>

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# Preface

*Work creates opportunities for powerful and enjoyable moments, but is nevertheless something that people often try to avoid. – the paradox of work*

Mihalyi Csikszentmihalyi

We know quite a lot about why people dislike work and try to avoid it. Media have so far been filled with information concerning, for instance, the sickness absenteeism in the public sector in general, and within the health care sector in particular. The media picture of health care work did, however, not fit into my own, mostly positive experience of working as an assistant nurse. I was interested in exploring the positive side of work and learn more about the relationship between positive work-related experiences and health.

After some hesitation, mostly based on unawareness and insecurity, I was curious and unsophisticated enough to gratefully accept to be the coordinator of a WHP initiative in cooperation between Kristianstad University, the Central hospital of Kristianstad and the hospital of Hässleholm. The project, with adherent practice and research activities, was an interesting and challenging venture that progressed slowly based on the interaction between the different stakeholders. Within the function of coordination, my role also became that of initiating, stimulating and evaluating the WHP project at a medical emergency ward at the central hospital of Kristianstad. The project was characterized by a salutogenic perspective as well as an action and mixed method approach.

This thesis is at large a description of the WHP process, with adherent practice and research activities, findings and interpretations. I am not delivering a complete explanatory picture of salutogenic relationships between health care work as a context and the WHP project as the process, as well as the health of healthcare workers as the goal. The thesis is, however, a complementary contribution that delivers some of the answers to some of the questions within this complex field of research.

*The knowledge of the world is only to be acquired in the world, and not in a closet*

Lord Chesterfield

# Abbreviations

AR	Action Research
CA	Cronbach's Alpha
ESM	Experience Sampling Method
HP	Health Promotion
IAF	Inter Active Function
IPC	Intra Personal Characteristics
NHP	Nottingham Health Profile
OR	Odds Ratio
SF 36	Short Form 36
SHIS	Salutogenic Health Indicator Scale
SOC	Sense of Coherence
WEMS	Work Experience Measurement Scale
WHP	Workplace Health Promotion

# Definitions and descriptions of frequently used concepts

Experience Sampling Method	A quantitative research technique for randomly and repeatedly studying the context, content and quality of peoples' everyday lives, through the subjective experience of the individual
Flow	A psychological state, when individuals concurrently experience happiness, motivation and cognitive efficiency. In this thesis, the construct was defined as a challenge and skill estimation of five or higher on a ten-graded Likert scale (0-9), and an exact match between the two estimates.
Health	Health is a positive, subjective experience of oneself as a whole. Health can be measured by using individuals' feelings/experiences of physical, mental and social well-being as indicators, and health serves as a resource for the individual when dealing with the various strains of everyday life or pursuing individual goals. Health can be promoted through the individuals' positive experiences as well as emotions, and illness is important because it may restrict an individual's ability to act.
Health care staff/workers	Assistant nurses and registered nurses that are involved in health care work
Health promotion	A process that enables people to gain control over their health determinants in order to improve their health from a salutogenic perspective, with an adherent ability to live an active and productive life
Workplace Health Promotion	Workplace-related initiatives aiming to promote employees' health from a salutogenic perspective.

# Introduction

## Health

Health is a concept that has been described in many ways (Naidoo & Wills, 2000; Seedhouse, 2001; Strandmark, 2007). Public health research has traditionally had a pathogenic perspective, which focuses on risk factors, ill health, morbidity or mortality (Edlin & Golanty, 1992; Gabbay, 1999). The pathogenic perspective belongs to the Western scientific medical model of health. This model was developed with the rise of rationality and science, as a basis for knowledge development, and is recognized as bio-medical, reductionist, mechanistic and allopathic (Naidoo & Wills, 2000). The medical model has been criticized and is considered insufficient for today's health promotion practice (Edlin & Golanty, 1992; Gabbay, 1999; Naidoo & Wills, 2000).

The World Health Organization (WHO) instead considers health as complete physical, mental and social well-being and not just the absence of disease or infirmity (WHO, 1948). This definition of health is more holistic and includes three different dimensions of health or wellbeing. A holistic perspective with different dimensions of health, means focus on the interaction between the different dimensions and the whole (Edlin & Golanty, 1992; Ewles & Simnett, 1992). From a humanistic perspective, the individual can be regarded as a whole that needs to be understood through his or her experiences, relying on a specific cultural and social context (Tamm, 2002).

WHO states that health is related to disease but is something more than the absence of disease. Health promotion is thus not just about prevention of risk factors but also about promoting the different dimensions of health. A humanistic perspective leads to a belief in each individual's creative potential for self-realization (Tamm, 2002). Self-realization can be recognized by the action-theoretical approach that also belongs to the holistic and humanistic approaches to health. The action-theoretical approach defines health as equivalent to an individuals' ability to realize his or her realistic and vital goals under normal conditions (Nordenfelt, 1987).

Focus on positive aspects of health is often related to the concept of salutogenesis, which means focus on resources for health in a positive sense (Antonovsky, 1987; Bauer, Davies, & Pelikan, 2006). The concept of salutogenesis was launched by Aaron Antonovsky, who considered the individual as always existing on a continuum with the two end poles of health and ill health (Antonovsky, 1987; Tamm, 2002). The Sense of Coherence (SOC) theory is often referred to when focusing on health with a salutogenic perspective. SOC is a theory about health determinants that provides an explanation to the role of stress management for improvement of health. Management of



stress is, from this theoretical standpoint, dependent on the individuals' experience of comprehensibility, manageability and meaningfulness in life in general. A movement towards health is considered facilitated through the individual's experience of managing stressors throughout life (Antonovsky, 1987).

The SOC theory has been considered suitable for health promotion practice (Antonovsky, 1987; Eriksson & Lindström, 2005; Lindberg, Josephson, Alfredsson, & Vingård, 2006; Lindström & Eriksson, 2006). However, the theory has unfortunately often been used in studies focusing on low SOC as a risk factor for disease together with the concept of salutogenesis (Eriksson & Lindström, 2006). Therefore, there seems to be some uncertainty concerning the meaning of and the relationship between the concept of salutogenesis and the SOC theory. From my point of view, the use of the SOC theory is not equivalent to a salutogenic perspective, but can be used with a salutogenic and/or pathogenic perspective of health.

Salutogenesis can also be applied to analytical perspectives of health development in a more general sense, emanating from the WHO definition of health. Health development is thereby defined as a process of reproducing health through an individuals' self-regulation in a particular socio-ecological context (Bauer, et al., 2006). Health development is an integral part of everyday life where the individual, with more or less awareness, interacts with different contextual factors through a mutual influential relationship (Bauer, et al., 2006; Tones & Green, 2004). Health is thereby both an outcome of life and a resource for living. From this perspective, risk factors and salutogenic processes exist simultaneously, with adherent positive as well as negative health-related experiences of the individual (Bauer, et al., 2006; Milz, 1986; Tones & Green, 2004).

Well-being is one of the possible positive experiences of health and this concept is recognized by the WHO definition of health. Well-being is also a concept with a variety of interpretations. There seems, however, to be some consensus of the concept being constructed with the three components: life satisfaction, negative affect and positive affect (Seedhouse, 1995). Negative and positive affect is representative of an individuals' experiences, and have been related to health (Diener, Suh, Lucas, & Smith, 1999). Positive affect has been called the trademark of well-being (Lyubomirsky, King, & Diener, 2005) and has been associated with promotion of health through a number of diverse health-related resources (Fredrickson, 1998; Fredrickson & Joiner, 2002; Fredrickson & Losada, 2005; Haworth & Hill, 1992; Lyubomirsky, et al., 2005).

## Measuring health

Measuring health is important for health promotion practice and facilitates planning and evaluation of health promotion initiatives, justifies resource allocation based on health status and assists the development of practice in terms of practice efficacy (Naidoo & Wills, 2000). How to measure health is dependent on the health definition used. The fact that the concept of health is defined in so many different ways, therefore also results in a variety of health measurement instruments (Bowling, 2005; Naidoo & Wills, 2000). The pathogenic public health tradition has resulted in health measure-

ment instruments focusing on disease, ill health and infirmity through symptoms and signs of disease (Ejlertsson, 2009).

The WHO definition of health has been criticized for being too comprehensive and therefore difficult to use in relation to measurements of health in general (Last, 1988). So far measuring health, as a positive variable with focus on the subjective reality, has for instance been based on measures of physical and/or psychological well-being, social well-being and quality of life (Naidoo & Wills, 2000). There are broader measures of health status, like the batteries for measuring physical health, mental health, social health, General Health Perception and the Nottingham Health Profile (NHP) (Bowling, 2005). The NHP is a valid, reliable and widely used instrument for measuring health status, and the instrument is based on a layman perspective (Bowling, 2005; Naidoo & Wills, 2000). The NHP is an instrument that consists of 38 statements for measurement of physical, mental and social health problems in the general population (Hunt, Kenna, & Williams, 1981). The Short Form (SF) 36 has, however, been regarded as even more suitable for measuring health in a generally healthy population (Essink-Bot, Krabbe, Bonsel, & Aaronson, 1997). SF 36 measures health through eight multi-item dimensions covering functional status, well-being and overall health (Brazier, Harper, & Jones, 1992). Five of these are similar to the ones in NHP, but it is considered that the items in SF 36 are covering positive as well as negative states of health. Both instruments are widely used but dominated by questions focusing on health-related problems. The instruments usefulness when measuring health from a salutogenic perspective is thus questionable.

There is a need for a salutogenic definition of health, which facilitates measurement of health from this perspective (Bowling, 2005; Naidoo & Wills, 2000; Seedhouse, 1995). The need for a simple and clear definition has been emphasized (Bowling, 2005; Seedhouse, 1995) but health development is generally a complex phenomenon (Bauer, et al., 2006). Health-related complexity can be considered a problem in terms of confusion, conflicts of interest and differing interpretations of reality or a resource in terms of greater possibility of choice, flexibility, system reorganization and adaptive change (Antonovsky, 1993).

## Health promotion and the new public health

Health promotion (HP) has often been related to a paradigm shift within the field of public health. The philosophy and principles for HP were formulated in the Ottawa Charter in 1986, resulting in the new public health movement that began in the late 1980s (Naidoo & Wills, 2000). The concept of health promotion was, however, first used in 1974 when Marc Lalonde argued that environmental and individual behaviours and lifestyle factors were more important than biomedical characteristics in relation to public health issues. The development of the HP concept incorporated for instance economic, environmental, social and legislative initiatives into the public health arena (Bennett & Murphy, 1997).

The new public health movement focused on both disease prevention and HP. HP can be defined as the process, which enables people to gain control over their health determinants, in order to improve their health and thereby being able to live an active and productive life (WHO, 1986). The Ottawa charter is based on health defined as a positive concept and the framework for health promotion focuses on: building healthy public policies, creating supportive environments, developing personal skills, strengthening community action and reorienting health services towards promotion of health (WHO, 1986). The heart of the process is considered the respect for people as active participating subjects, and the enabling process is characterized by a mutual influential relationship between people, the setting and the enablers (Koelen & Lindström, 2005).

One of the problems in health promotion has been related to the absence of a sound and joint theoretical basis for action (McQueen, 2007; Seedhouse, 1995). There is still a growing emphasis on reinforcing the positive health promotion perspective within the field of public health research (Bauer, et al., 2006; WHO, 1986). Traditionally, health promotion has been considered an umbrella concept that takes the bonus effect of rehabilitation, medical care and disease prevention initiatives for granted (Edlin & Golanty, 1992). Health promotion is, however, not equivalent to disease prevention but is instead based on a salutogenic perspective and a focus for practice with justification beyond and besides the association with ill health or disease (Bauer, et al., 2006; Bauer, 2007; Tones & Green, 2004; WHO, 1986).

Health promotion shares many of the assumptions of the psychological perspective of humanism, through, for instance, personal growth, development and empowerment (Bennett & Murphy, 1997; Edlin & Golanty, 1992; Tones & Green, 2004). Within the field of positive psychology, the main focus is on qualities that help individuals to flourish. Knowledge of health protection and disease prevention can thus be considered a side effect of studying positive human traits (Seligman & Csikszentmihalyi, 2000). Positive psychology focuses on positive individual traits, institutions that improve the quality of life and highly valued, positive subjective experiences in general. Hope and optimism can be related to the future, well-being, contentment and satisfaction can be associated with the past and happiness as well as flow can represent positive subjective experiences in the present (Seligman & Csikszentmihalyi, 2000).

## **Flow**

Flow has been described as a psychological state, when individuals concurrently experience happiness, motivation and cognitive efficiency (Massimini, Csikszentmihalyi, & Carli, 1987). Flow is considered the most advantageous state for subjective experiences and is associated with an effortless action in situations that stand out as the best in people's lives (Csikszentmihalyi, 1975, 1997). Flow can be related to well-being and health due to for instance its association with enjoyment and happiness. Enjoyment and happiness are considered to be results of cognitive as well as affective evaluations of the flow

experience (Diener & Diener, 1996). Flow has also been found to mediate the relationship between work-related factors and well-being (Fullagar & Kelloway, 2009).

The construct of flow can be measured through individuals' estimates of their perceived challenge and skills in various everyday situations (Hektner, Schmidt, & Csikszentmihalyi, 2007). Different combinations of the two measures have been used, but they are all representing a perceived challenge and skill in balance and height (Csikszentmihalyi, 1997; Ellis, Voelkl, & Morris, 1993; Hektner, et al., 2007). The initial research focused on chess players, rock climbers, rock dancers, and surgeons, based on the assumption that their challenging activities required highly skilled practitioners, with adherent opportunities for flow (Csikszentmihalyi, 1975).

Studies have shown that flow among adults can be experienced more often in work situations than in leisure activities (Csikszentmihalyi & LeFevre, 1989; Haworth & Hill, 1992). However, studies of flow in work settings are still rare (Fullagar & Kelloway, 2009).

## Work and health

Work is an important part of a well-functioning society, and healthy workers have been associated with social and economic welfare by the European Union (European Network for Health Promotion, 1997). Work is also one of the most important areas of life in general (Muhonen, 1999). Our identity is characterized by our work, as it facilitates everyday structure and purpose and may even be one of the most important mutual aspects among adults in our society today (Gini, 2001). Work has been defined as a purposeful and expedient activity that requires mental and/or physical effort, is carried out in exchange for salary, is a public activity and is recognized as work for "official purposes", such as taxation and insurance (Ransome, 1996).

Work is considered an important environmental source for the health of the people (WHO, 1986), but occupational health research has traditionally had a pathogenic perspective and a focus on the physical work environment (Polanyi, McIntosh, & Kosny, 2005; Theorell, 2006). Holistic health has been associated with workplace health (Makrides, Heath, Farquharson, & Veinot, 2007). Research focusing on the psychosocial work environment has increased because of, for instance, the escalating stress-related disorders. Psychosocial risk factors have frequently been associated with imbalance between effort and reward (Siegrist, 1996), or imbalance between demand and control (Karasek & Theorell, 1990).

The effort and reward imbalance model is based on reciprocity where the effort of the worker needs to be balanced by socially defined rewards, like salary and job security (Siegrist, 1996). The demand control model is on the other hand based on assessment of psychological demands as well as decision latitudes for the worker. The model can result in four categories with various combinations of assessments. Active work, consisting of high demands together with high levels of control, has been considered advantageous in relation to avoidance of risk factors for ill health (Karasek & Theorell, 1990).

The model has also been enlarged with a social support dimension that helps balance predominant demands (Johnson & Hall, 1988).

The association between imbalance and ill health resulted in balance being considered as a resource for health (Karasek & Theorell, 1990; Siegrist, 1996). These conclusions may, however, be questioned because health is something more than merely the absence of disease (WHO, 1948), the determinants of health have been somewhat different than the ones of ill health, and risk factors have had stronger associations to ill health than the resources have had on excellent health (Mackenbach, Van Den Bos, Joung, Van De Mheen, & Stronks, 1994).

Studies of work-related determinants of health from a salutogenic perspective are increasingly common, but still rare in relation to the number of studies with a pathogenic perspective. The importance of a positive health promotion perspective in the field of organizational research has been emphasized (Theorell, 2006). The workplace can, under positively experienced conditions, function as a setting for a promotion of health (Kira & Forslin, 2008). From this perspective, work should be safe, stimulating, satisfying and enjoyable (WHO, 1986), indicating a focus on the positive experiences of the workers. Work does create opportunities for powerful and enjoyable moments but is nevertheless something that people often try to avoid – the paradox of work (Csikszentmihalyi, 1997).

## **Work and health in nursing**

Nursing has been described as a constant balance between strain and stimulation (Hallin & Danielson, 2007) or stress versus satisfaction (Prossner et al., 1997). Work in the healthcare sector is characterized by high demands, limited room to control the work situation, indistinct leadership, constant changes without employee participation, and numerous social relationships and responsibilities (Harder, Svärd, Wigfors, & Hedén, 2000; Lindberg & Vingård, 2002). These issues have been linked to work-related dissatisfaction, emotional exhaustion and strain among registered nurses and assistant nurses (Aiken, Clarke, Sloane, & Sochalski, 2001; Hallin & Danielson, 2007; Hertting, Nilsson, Theorell, & SätterlundLarsson, 2005). Studies have shown that negatively defined work related situations can be associated with ill health (Lipscomb, Trinkoff, Brady, & Geiger-Brown, 2004; Verhaeghe, Vlerick, Backer, Maele, & Gemmel, 2008), while positively defined situations were associated with resources for well-being at work (Laschinger, Wong, & Greco, 2006; Montgomery, 1997).

Good work has been related to securing fundamental needs of the patients and his/her next of kin, management of responsibilities and positive feedback through interaction with peers, and management (Christiansen, 2008). Social interaction at work is often related to social support, and there seems to be good opportunities for social support within the field of nursing practice (Josefsson, Sonde, Winblad, & Wahlin, 2007). According to the demand-control-support model, the presence of social support could balance the negative impact from other work-related risk factors. Many nurses have, however, expressed an intention to leave their nursing job (Gardulf et al., 2008), and

there is a need for improvement of the health care workers work-related experiences, with adherent promotion of their health (Aiken, et al., 2001; Harder, et al., 2000; Lindberg & Vingård, 2002).

## **Workplace health promotion**

Workplace Health Promotion (WHP) is a concept that has been used in a broad sense, for a variety of health-related initiatives focusing on work and/or workplaces. The concept has often been considered equivalent to workplace-directed disease prevention initiatives, focusing on improvement of employees' lifestyle (Clarke, Gatineau, Thorogood, & Wyn-Roberts, 2007; Pelletier, 2003; Wilson, Holman, & Hammock, 1996). Within this framework, WHP has produced a variety of health-related effects, including for example improved health-related behaviour, decreased disease incidences, increased health awareness, risk reduction and reduced use of health services (Bauer, 2007; Harris & Fries, 2002; Riedel, Lynch, Baase, Hymel, & Petersson, 2001).

WHP does, however, emanate from the concept of HP with an adherent salutogenic perspective. WHP is aiming for healthy employees in healthy organizations, and the ideal is the combined efforts of employers, employees and society (European Network for Workplace Health Promotion, 1997). The guiding principles for a WHP process emphasize the importance of involvement of all staff (participation), incorporation of health-related issues in all important organizational decision-making (integration), a sustainable cyclic process and finally the focus on individually directed as well as organizationally or environmentally oriented strategies (European Network for Workplace Health Promotion, 1997). It is considered difficult to put WHP initiatives into practice (Lipsey & Cordray, 2000), and health promotion practices have been criticized for using oversimplified approaches (Ziglio, Hagard, & Griffiths, 2000).

The complexity of a WHP context is considered a motive for examining interventions in terms of conceptualization, design and implementation, instead of solely focusing on causal connections (Griffiths, 1999; Harden, Peersman, Oliver, Mauthner, & Oakley, 1999). There is an identified need for a paradigm shift from disease prevention towards a focus on the creation of health from a positive frame of reference and recognition of the complexity of social systems in relation to health (Bauer, 2007; Griffiths, 1999; Kelloway, Teed, & Kelley, 2008; Lipsey & Cordray, 2000; Theorell, 2006; Ziglio, et al., 2000). Salutogenesis, together with participatory and action-oriented research, has been regarded as a useful, important and needed complement to the dominating pathogenic and often positivistic approach in public health, as well as work health research (Gabbay, 1999; Mackenbach, et al., 1994; Sparks, 2010; Foote Whyte, 1991).

To conclude, there is a need for research exploring salutogenic relationships between workplace-related factors and the health of workers in general, and in the health care sector in particular. It seems that this can be achieved through action research with interventions aiming for an increase in positive work-related experiences through a salutogenic WHP process in a nursing context. Besides, there is also a need for useful instruments for WHP initiatives with a salutogenic perspective.



# Aims

## General aim

To explore and make sense of salutogenic relationships between workplace, work and health, through an employee perspective within a Swedish nursing context.

## Specific aims

- To explore and describe workplace-related resources and health, through the eyes of healthcare workers (paper I).
- To describe factors associated with the experience of flow during the everyday nursing practice (paper II).
- To interpret and make sense of health care workers thoughts about a WHP process (paper III).
- To develop a measurement instrument, with an adherent description of health, useful for studying health from a salutogenic perspective (paper IV).
- To facilitate implementation of the results in the framework of a WHP project at a hospital ward.





# The research process

## Research perspective

Public health research in general, as well as work-related public health research, has traditionally been searching for relationships between exposure to health risks and ill health, morbidity or mortality (Gabbay, 1999; Mackenbach, et al., 1994). The role of research has often been characterized by the professional expert model, with research being considered objective and distant from the reality under scrutiny (Foote Whyte, 1991). This description fits Lincoln and Guba's (Lincoln & Guba, 2005) portrayal of a positivist paradigm. The positivist paradigm has been and is still dominating the field of work-related public health research, but critical voices have been heard in recent decades. The complex relationships between social systems and health initiatives have been associated with recommendations for context-focused research and action initiatives in health promotion in general, as well as in the field of WHP.

Performing WHP research in a hospital setting and in the field of public health was a challenging endeavour. It needed a theoretical research framework that supported the idea of combining different research paradigms, designs and methods. Inspiration for this type of research was found in the field of mixed method research, as well as action research (AR). AR has been described as a context-bound, holistic, cyclic and participatory research process resulting in practical solutions, problem solving and new knowledge through an integrated set of activities (Greenwood & Levin, 1998).

Johnson and Onwuegbuzie (2004) are like Greenwood and Levin (1998) linking mixed method research and AR respectively to the research philosophy of pragmatism. The philosophy of pragmatism is linking knowledge and learning with communication and reflection, related to interpretation and challenging of experiences, and a continuous relationship between thought and action (Dewey, 1997; Heron, 1996). The basic pragmatic maxim can be interpreted as "choosing the combination of methods and procedures that works best for answering research questions at hand, from an epistemological and methodological pluralistic position". Researchers are, thus, required to understand different research perspectives, promote communication as well as smooth the progress of collaboration (Johnson & Onwuegbuzie, 2004). A collaborative relationship means working together with the researcher in a management position, but the ultimate situation is, however, considered a collegiate relationship between researcher and participants (Cornwall & Jewkes, 1995).

Communication between the researcher and the participants can function as an enabling mechanism for learning and knowledge development (Koelen & Lindström,

2005). Communication, on the other hand, is promoted by a mutual linguistic use that emanates from a shared specific context (Greenwood & Levin, 1998; Lincoln & Guba, 2005). In this thesis, the research process was therefore characterized by interaction and communication between the researcher (ÅB) and the participants in the study context.

## Study context

All studies were carried out at an emergency hospital in the south of Sweden. It was a medium-sized hospital with approximately 300 beds and 2,200 employees. The studies of papers I, II, and III were conducted in one of the medical emergency wards at the hospital.

The study ward was part of a care unit with 14 other medical wards and outpatient clinics. The ward had a capacity for 24 patients and had two subdivisions specialising in gastroenterology and endocrinology. Permanent health care staff at the ward was 17 registered nurses, 21 assistant nurses and a receptionist (a trained assistant nurse), who also took part in the healthcare work. The presence of the doctors was characterized by them “visiting” the ward during rounds and whenever they were needed throughout the rest of the day. Administrative personnel consisted of one head nurse and two secretaries. The average age of the healthcare workers (registered nurses and assistant nurses) was 43 years. The mean age of the assistant nurses was 50 years and the registered nurses had a mean age of 32 years. During daytime, the health care workers were formally organized to work in pairs, consisting of one registered nurse and one assistant nurse. It was, however, more common that the registered nurses carried out their tasks individually, while the assistant nurses assisted each other with their specific tasks during everyday practice. The schedules were individually set up and the employees could influence their work hours over a period of five weeks at a time within a certain framework, based on the staffing requirements at the ward.

### **Workplace health promotion practice and research activities in relation to the study context**

A Workplace Health Promotion (WHP) project was initiated and implemented as part of the research process at the study ward. The project lasted from November 2002 to February 2005. The WHP project was characterized by the guiding principles for a WHP process (European Network for Workplace Health Promotion, 1997), with a bottom-up approach and a salutogenic perspective. The project, with adherent studies and activities, was also inspired by action research (Greenwood & Levin, 1998). In this particular context, the studies related to the WHP project were continuously discussed to make sure that they were useful and sufficient for the project, but also to ensure theoretical knowledge development in this research area. The project-related activities

and studies were divided into different phases or parts of the project, and these are presented in figure 1.

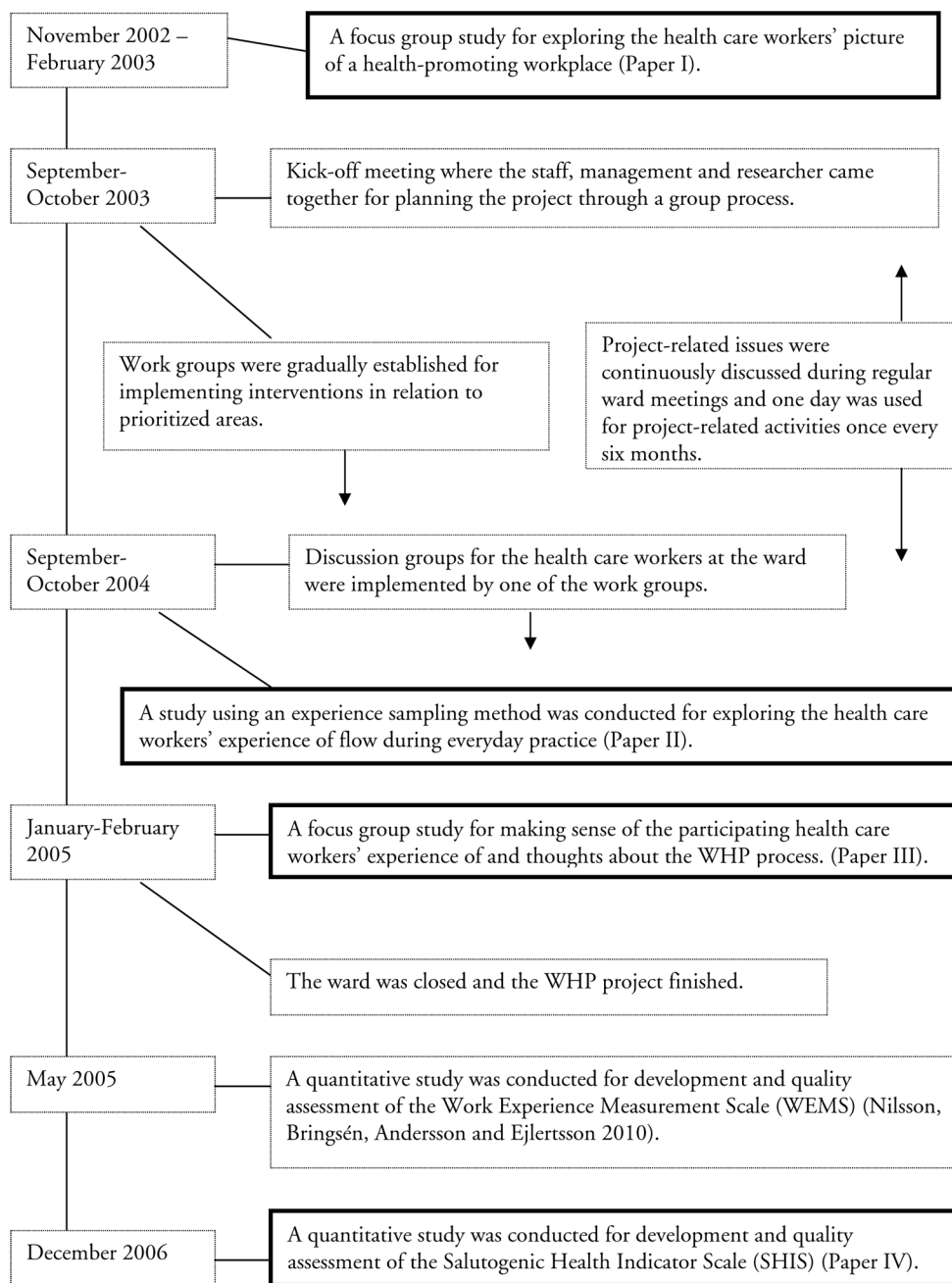


Figure 1: WHP research process with adherent activities and studies

The project started with an initial focus group study to explore the salutogenic relationship between work and health from the healthcare workers' point of view. This study is presented in paper I. The next phase of the project was represented by a kickoff meeting, where employees, management and researcher (ÅB) got together for two days to plan the focus and strategy of the WHP project through a group process. An external consultant led the planning process and the process was structured by a SWOT analysis. The SWOT analysis was characterized by an identification of the strengths, weaknesses, opportunities and threats in relation to the workplace at hand and the aim of the project (Houben et al. 1999). The planning process was based on the results from the initial focus group study. The project was then continuously discussed at regular ward meetings and one day was used for project-related activities, outside everyday practice at the ward, about once every six months. Project-related interventions were continuously progressing, based on five different work groups with responsibility for the development work of the priority areas. The priority areas were routine development, group climate, competence development, reconstruction of the ward and collaboration with the municipalities' health care units. Employees volunteered to participate in the different work groups, and supporting stakeholders, like the head nurse and the researcher, contributed when they were invited. One of the work groups implemented discussion groups for the health care staff at the ward and an experienced, external supervisor was moderating the discussions in these groups.

The relationship between the researcher and the participating health care staff varied between collegiate and collaborative. The researcher supported the WHP process in general, in a collegiate manner, but was also responsible for the planning and implementation of the evaluation activities throughout the project. The researcher's role was therefore to initiate and facilitate the WHP project, as well as to be in charge of the evaluation of the project.

The evaluation was planned through a collaborative decision process that emanated from the results of the initial focus group study and the SWOT analysis. The outcome of the project was to be evaluated through two to three studies of the health care workers experience of flow through an Experience Sampling Method (ESM). The results from one study of flow are presented in paper II. The WHP process was, on the other hand, to be evaluated through different qualitative methods throughout the implementation and progression of the project. The project was in the middle of the implementation phase when a large reorganization at the hospital resulted in the closing of the ward, and members of staff were transferred to other wards or clinics, and this put an end to the project.

Before the ward was closed, a final focus group study was conducted. The study focused on the healthcare workers experience of working at the ward, their experience of the ongoing reorganization at the hospital and their thoughts about the WHP process with adherent activities and studies. The results of the related WHP process have been under scrutiny in paper III.

The researcher was continuously searching for usable tools or instruments in relation to planning, implementation and evaluation of the WHP project. Many instruments

focused on measurement of health and/or the employees' experience of work, but most of them had a dominant pathogenic perspective or were not sufficient in relation to the focus of the project. An instrument development process was therefore initiated in parallel to the progression of the WHP project. This process resulted in the development and quality assessment of the Work Experience Measurement Scale (WEMS) (Nilsson, Bringsén, Andersson, & Ejlertsson, 2010) and the Salutogenic Health Indicator Scale (SHIS). The development and quality assessment of SHIS is presented in Paper IV.

## Design, methods and participants

Papers I and III presented the results from qualitative studies where focus group interviews were used for collecting the data. The study in paper IV had a quantitative cross-sectional design and the study of paper II was characterized by a combination of qualitative and quantitative research phases. In the research process of paper II, qualitative preparation activities were prerequisites for a quantitative study and analysis of the results. The combination of qualitative and quantitative research phases in one study can be recognized as a mixed model design, where the combined methods can be of equal importance, or one method can function as support for the other (Johnson & Onwuegbuzie, 2004). In the study presented in paper II, the qualitative studies facilitated the following quantitative analysis and increased the validity of the study.

The findings from all the studies were compared and interpreted as a whole within the framework of this thesis. The use of both qualitative and quantitative methods can result in more comprehensive knowledge, which is believed to be necessary for development of theory as well as practice in today's interdisciplinary, complex and dynamic world of research (Johnson & Onwuegbuzie, 2004).

### Focus group interviews (papers I and III)

Focus group interviews were used in the studies of paper I and paper III. The method has been defined as a research technique where qualitative data is collected through group interaction around a topic being decided on by the researcher (Morgan, 1997). The method was chosen because it aims for an identification of the participants' various opinions, without aiming for agreement, and it is useful for understanding the diversity in perceptions or exploring complicated topics with context-related points of views (Krueger & Casey, 2000; Morgan, 1997).

Small- or mini-focus groups have been used in both studies. Numbers of participants and interviews are always a balance between complexity of the study as a whole and the resources available (Krueger & Casey, 2000). A complicated topic means that fewer participants can be entered into each group (Krueger & Casey, 2000). A total of 16 registered nurses and 19 assistant nurses chose to take part in the study of paper I. These participants were divided into eight groups with 4-5 participants in each group.

The study of paper III included a total of five interviews where 19 of the WHP participants chose to participate. Two focus group interviews were done with a total of seven registered nurses. Another two interviews were performed with eight assistant nurses in total, and the final fifth focus group interview consisted of three assistant nurses and one registered nurse working night shifts. The two professional groups and the night staff were divided between different groups in order to improve the opportunity for identification of possible group-related divergence (Wibeck, 2010).

The interviews in both studies were semi-structured and started with an overall question emanating from the aim of the study. The focus of the interviews was maintained through the presence of the researcher (ÅB), who acted as a moderator. The interviews were conducted in a conference room outside the study ward and they lasted approximately one hour and thirty minutes in the study of paper I and roughly one hour in the study of paper III.

Focus group interviews result in a large amount of data that can be transcript- or tape-based in analysis (Krueger & Casey, 2000). The study of paper I started with a tape-based analysis that was followed by a condensation process. The condensation resulted in an abridged verbatim transcript, which was based on comprehensiveness with regard to the aim of the study. Five of the interviews were transcribed verbatim in this study. The analysis in the study presented in paper III emanated from verbatim transcripts of all the five interviews that were done within the framework of this study.

#### *Conventional qualitative content analysis*

The transcribed qualitative material in both studies was analysed through a conventional qualitative content analysis. Qualitative content analysis is generally useful for interpreting the meaning of qualitative data material, and conventional qualitative content analysis allows new insights to emerge from the data at hand, without the use of predetermined categories (Hsieh & Shannon, 2005). The transcribed interviews were first read through a few times to obtain an over all impression of the contents. An initial coding was then done followed by reading and reflection on the material as a whole again. This step resulted in the identification of different subordinated focus areas in the two materials as a whole. All the subordinated focus areas were used as a framework for the analysis in paper I. These focus areas were:

- What workplace-related resources did the participants consider to be health-promoting?
- How can the workplace-related resources be linked to the health of the healthcare workers?
- Is there any pattern of diversity in relation to the participating healthcare workers' opinions on the overall character of health-promoting work?

The subordinated focus areas in the study of paper III were used as a basis for condensing the material, maintaining data that focussed on the participants' thoughts about the WHP process. The software package ATLAS.ti (6.1.17) was used throughout the

analysis in paper III. Condensation has been considered a way for reducing the amount of material while still maintaining the core and not jeopardising the trustworthiness of the findings (Graneheim & Lundman, 2003).

The transcribed material in both studies was read, meaning units were coded, codes were categorized and categories were compiled into comprehensive themes based on their related content. The interpretation of the data was a result of the researcher (ÅB) continuously going back and forth between the material as a whole and the different parts of the text. In the study of paper I, the researcher also continuously went back to the tape-based material, but these interviews remained untranscribed with regard to the principle of saturation.

In order to stimulate reflection and facilitate credibility of the research findings, the results from the analysis were discussed on several occasions among the authors and in a larger research group at the university. One of the co-authors crosschecked the analysed results with the original data in order to enhance the credibility of the findings in paper I. The results in both studies were also presented to, discussed with and confirmed by the health care workers during regular meetings at the ward.

## **Measurement of flow through an Experience Sampling Method (ESM) (paper II)**

Flow has been described as a psychological state, where individuals concurrently experience happiness, motivation and cognitive efficiency (Massimini, et al., 1987). The construct can be measured through the individuals' estimates of perceived challenge and skills in various everyday situations (Hektner, et al., 2007).

The Experience Sampling Method (ESM) has been described as a research technique for studying the context, content and quality of peoples' everyday lives through the subjective experience of the individual (Hektner, et al., 2007). The advantage of the ESM is the possibility to directly capture respondents' experience of various daily life situations, like flow, and the focus of ESM has been on the interplay of psychological processes and cognitive functions (Hektner, et al., 2007). The immediacy is related to the participants' answering a mini-questionnaire or Experience Sampling Form (ESF) randomly and repeatedly throughout the day (Hektner, et al., 2007). A small booklet with several copies of an ESF was used in the study of paper II. The ESF was tested in a pilot study at the ward, and the final version consisted of questions about experienced challenges and skills, time of signal, social context, frame of mind, experience of cognitive performance indicators and activity. Activity was covered by an open question.

Fourteen registered nurses and 17 assistant nurses of the 39 health care staff at the ward chose to participate in the study (n=31, 79%) that was carried out at the study ward in September and October 2004. The participants completed an ESF, when they were randomly beeped through a preset wristwatch, once during each two-hour period of their time at work. Two-hour periods were results from the researcher's observations at the ward prior to the study and the time of signal, within each period, was based on a



random number table. The study period for each participant was one week, and during this week, the participants could be scheduled to work three to six days.

The study resulted in a total of 497 ESFs, so the respondents completed the ESF on average 16 times (range 6 - 24 times). The internal drop out was 7% of the ESFs.

Each participant was also asked to once complete a Sense Of Coherence (SOC) scale (Antonovsky, 1987). Twenty-five of the participating health care staff opted to do so.

### *Analysis*

A qualitative categorization of the participants' work-related activity descriptions was performed. The categorization emanated from 25 identified work-related activities from the observations at the ward. The activities were organized in five categories representing different types of work-related activities, which were found to be representative for the everyday practice at the ward and adequate for the forthcoming statistical analyses.

The statistical part of the data preparation and analyses were done using the Statistical Package for Social Science (SPSS) 16.0 for Windows. A response level data file (n = 497) was used when working with response level data, and an individual level data file (n = 31) made it possible to deal with the data in relation to the 31 participants. Differences between groups were tested with chi-squared test (categorical variables), and Mann-Whitney U-test (numerical variables). A logistic regression model was used to study the relationship to flow of the different variables. Variables with  $p < 0.25$ , when bivariately related to flow, were included in the analysis. Results were presented as odds ratios (OR) with 95% confidence intervals. Logistic regression models were applied to the observational data as a whole and to the observational data from the assistant nurses. The observations from the registered nurses were too few for a separate logistic regression analysis. The significance level was set to 0.05 for all tests.

A Principal Component Analysis (PCA) was done in order to explore the possibility for reducing the amount of variables but maintaining the content of the questions covering the participants' frame of mind and cognitive performance indicators. The respondents estimated their experience of being concentrated, inventive, interested, dedicated, efficient, brisk, joyful, relaxed and pleased with their personal achievements. The rating of all the indicators was done using a ten-graded Likert scale (0-9). The varimax method for orthogonal rotation was used for factor extraction, and Eigenvalue  $> 1$  was set as a criterion. Two indexes were constructed emanating from the result of the PCA. The internal consistency of the indexes was studied using Cronbach's Alpha (CA). The categorization of the index values into high and low was based on the median value.

### *Variable definitions*

**Flow** was defined as a challenge and skill estimation of five or higher on a ten-graded Likert scale (0-9), and an exact match between the two estimates (Ellis, et al., 1993).

**Time of day/Shift.** Daytime was represented by signals from 06.45 to 15.30, evening consisted of signals from 15.31 to 22.00 and the night shift included signals from 22.01 to 06.44.

*Social context.* Respondents marked if they were alone when they were signalled.

*Age.* The dichotomization of age was based on the median value of 39.

*Profession.* Assistant nurse or registered nurse.

*Sense of Coherence (SOC).* SOC scores were studied through the short version of Antonovsky's SOC scale (13 items) (Antonovsky, 1987) – the Swedish version. The scores for each question ranged from 1 to 7, thus the SOC value ranged from 13 to 91. The dichotomization of SOC was based on the median value of 61.

*The individual share of flow* was dichotomized using the median level of 11%.

## Development of a Salutogenic Health Indicator Scale (SHIS) (paper IV)

The contents of the Salutogenic Health Indicator Scale (SHIS) emanated from a gradually growing development process that focused on a salutogenic and holistic perspective, when measuring indicators of health. A description of health, emanating from the concept of health, positive health and well-being, was also a result of the development process. The instrument was a semantic differential (Osgood, Suci, & Tannenbaum, 1957) with 14 pairs of opposing statements. The instrument was first tested in a pilot study and then all variables included were given the same direction with a positive statement to the left and a negative statement to the right.

A preamble with an overall question was combined with a general introduction to all items in the instrument: *How have you been feeling during the past four weeks? (The further you mark your answer to the left the more you agree with the statement to the left and vice versa). During the last four weeks I have...* A four week time limit was a compromise between health indicators representing something more than transient emotional states (Fredrickson, 1998) and respondents being able to make a representative judgement back in time (Streiner & Norman, 1995).

A written questionnaire about work and health was sent to 790 of the employees at the hospital in November 2006. The response rate was 61.1% (n = 483). The respondents were doctors, nurses, assistant nurses, rehabilitation staff, administrators and service personnel. A separate test-retest study, with two weeks inbetween, was carried out with 95 health care staff, working at two other hospitals in the south of Sweden.

### *Analysis*

The result from the PCA formed the basis for a construction of two indexes, and a third total index was motivated by the holistic perspective. Internal consistencies were explored through CA and the significance level was set at  $p > 0.05$ . Criterion and discriminant validity were investigated through correlation (Spearman's rank order correlation coefficient) with self-rated health and self-rated sick leave. The stability of the variables was studied through weighted kappa values, and a factor analysis was done by means of a principal component analysis (PCA). Factor extraction emanated from the varimax method for orthogonal rotation, with an Eigenvalue of  $> 1$ .

Data analyses were carried out using Statistical Package for the Social Sciences (SPSS) 12.0 for Windows, but weighted kappa values were calculated in the Medcalc Software.

## Ethics

The health care staff at the ward was orally informed by the researcher about the study of papers I, II and III at regular staff meetings at the workplace a few weeks prior to each study. Posters with written information about the studies were also placed in the staff room of the ward. The information described the aim and focus of the present study and gave an explanation of voluntary participation as well as confidentiality. The researcher repeated the same information prior to each interview and when the participants were given their booklet and wristwatch in the study of paper III. The respondents in the study of paper IV received written information about the study in an accompanying letter together with the questionnaire.

Equal opportunities to participate in the studies were considered important, and all members of staff were therefore invited to take part in the studies of papers I, II and III during working hours. The head nurse made this possible, but precautions were made in order for the staff members to be able to decline the invitation with limited risk for the head nurse or co-workers knowing about it. True confidentiality is, however, not possible in focus group interviewing, when the participants know each other (Wibeck, 2010), and the researcher emphasized the importance of the participants not sharing each others' contributions with their colleagues afterwards.

Study I was accepted by the Research Ethics Committee of Lund University (LU141-03). Studies II and III were also approved by the Research Ethics Committee of Lund University (Dnr: 279/2004). Study IV was accepted by the ethics council at the department of Health Sciences, Kristianstad University (Dnr. 2006-60). The studies of paper II-IV were also carried out in accordance with the Swedish law of research ethics that became valid in 2003 (SFS 2003:460).

# Results and comments

## Workplace-related resources and health, through the eyes of healthcare workers (Paper I)

The analysis resulted in the identified workplace-related resources being placed in twelve categories that formed the base for the themes *the reward*, *the team*, *the mission* and *the context*. The reward was considered the core, indicative of the inner level, of a circular framework demonstrating the relation between the different resources and the health of the workers.

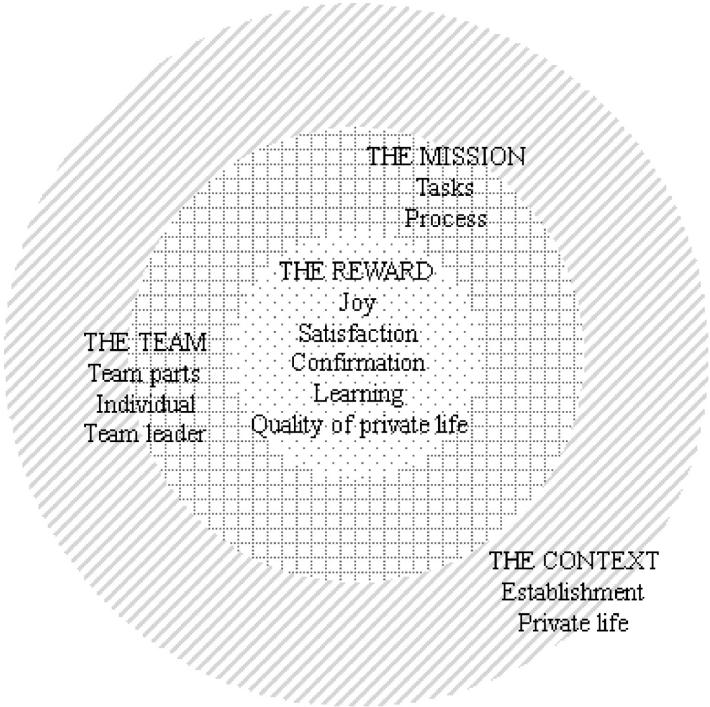


Figure 2: Circular framework representing the relationship between workplace-related resources and health among healthcare workers

The participants' feelings of reward were particularly dependent on their experience of the organization and function of the team, as well as the character of the mission.

The nature of the mission was, on the other hand, linked to the context of the establishment that represented the outermost level of the circular framework. The different levels of the circular framework were connected through a mutual influential relationship. The participating healthcare workers were in favour of two rather different overall characteristics of their work. Some of them wanted work to be characterized by variety, challenge, reflection, development work and work being adjusted to them as individuals. This type of work was labelled *Flexible*. The other type was called *Stable* due to its feature of stability, predictability, “peace and quiet” and adjustment of life in general to the characteristics of the work. Supporters of both patterns wanted to be in control of their work situation but their opinions on how to achieve this varied.

## Comments

The function of the identified workplace-related health resources could be linked to different components of, for instance, the effort-reward imbalance model (Siegrist, 1996), the demand-control-support model (Johnson & Hall, 1988) and the Sense Of Coherence theory (SOC) (Antonovsky, 1987). The results supported the idea of a mutual influential and complex relationship between workplace-related resources and health that were presented in the circular framework.

The identified pattern of diversity could be understood in a variety of different ways. Health promotion initiatives, aiming for flexible or stable work characteristics, could for instance promote the health of some workers while instead result in health deterioration among others. The characteristics of flexible work seemed, however, to have similar features with other work- and/or health-related theories (Antonovsky, 1987; Csikszentmihalyi, 1975; Karasek & Theorell, 1990), demonstrating that this work characteristics has a better chance to actually result in an improvement of the the workers' health. The diversity-related results could, however, also be associated with different theories of balance in relation to work (Karasek & Theorell, 1990; Siegrist, 1996). This association indicated a possibility for a health-promoting mixture of both positive and negative experiences of work. It was, however, reasonable to assume that positive experiences should prevail, since risk factors have a stronger association to ill health than the resources for health have on excellent health (Mackenbach, et al., 1994).

The pattern of diversity highlighted the importance of analysing the subjective opinions and/or needs of the target group at hand before implementing WHP initiatives in general. The identified health resources, as well as the circular framework, could function as a supportive framework of reference for WHP initiatives with a salutogenic perspective.

## Experience of flow during everyday nursing practice (Paper II)

Activities of everyday nursing practice were divided into five categories of work-related activities. The categories were named *Individual nursing care*, *Medical care*, *Administration and communication*, *Taking a break* and *Other activities*. The health care staff as a whole spent most of its work time in individual nursing care as well as administration and communication. The registered nurses were more often involved in administrative and communicative duties as well as performing medical care, while the assistant nurses were instead more frequently occupied in individual nursing care activities.

A PCA was performed in order to reduce the amount of experience variables, but still maintain the content of the items covering frame of mind and cognitive performance indication throughout the analysis. The PCA resulted in a two-factor model where one was labelled *cognitive resources* and the other was named *affective resources*. Cognitive resources consisted of the five variables concentrated, inventive, interested, dedicated and efficient, while affective resources was composed of the four variables brisk, joyful, relaxed and pleased with personal achievement. The two-factor model had a determinant value of 0.009, the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.84, Bartlett's test of sphericity turned out to be 0.00 and the model had an explained variance of 66,8%. The content of the two factors was used as a framework when constructing two indexes. The internal consistency of cognitive resources was 0.86 and that of affective resources was 0.82.

The psychological state of flow was registered during 11.5% of the 497 observations included in the study. On an individual level, flow varied between none (8/31) and 55% of the participants' total number of observations. There was no significant relationship between individuals' share of flow and individual variables such as age, profession or level of SOC. Flow was, however, positively related to medical care (OR = 3.21) and scoring high on cognitive resources (OR = 1.80). The assistant nurses also had a positive association between flow and taking a break (OR = 3.06).

### Comments

The empirical application of the flow construct resulted in 23 of the participants reporting flow at some point. The results indicated a potential for WHP through interventions that increase the opportunity for flow and work-related enjoyment among health care staff in general. The assistant nurses seem to have less opportunity for flow, as they are less often occupied in medical care activities than the registered nurses. The assistant nurses also had a positive association between taking a break and flow, indicating that their flow experience is more related to non-working situations.

The profession-related activity differences, as well as the positive association between flow and taking a break among assistant nurses only, were considered signs of occupa-

tional differences in experience of flow in this nursing context. These differences were regarded as more likely a result of work-related situational factors than of individual dispositional features, as there was no significant association between amount of flow and the individual variables used in the study. Prior research supports this conclusion with, for instance, 74% of the variance in flow being related to situational factors (Fullagar & Kelloway, 2009).

Refocusing the health care work towards more medical care activities and less administration seemed to be able to result in more flow experiences with adherent improved opportunities for work-related health among the staff. Work-related health could probably also be promoted through focus on healthcare workers' use of their cognitive resources during everyday nursing practice.

## Making sense of a workplace health promotion process in a nursing context (Paper III)

Resources related to the WHP process were divided into twelve categories that formed the basis for three comprehensive themes.

Table 1. Themes and categories with process-related workplace health promotion resources.

Themes	Individual Resources	Group Interaction	External Support
Categories	Positive, interested and committed	Influence Supportive climate	Endurance Progression
	Amused	Sense of belonging	Feedback
	Flexible	Social relations	
	Experienced	Reflection	

The participants' attitudes towards and experience of the WHP process belonged to the theme *Individual resources*. The participants wanted to be amused and have fun throughout a WHP process. The results also showed that positivism, interest, commitment, experience and flexibility were individual resources for the functioning of the process. Experience was related to competence, and flexibility was also linked to being young. The result indicated that some of the participants needed to be accustomed to the activities before they were able to find them amusing.

The theme *Group interaction* was represented by participants' interaction throughout the WHP process. Conversations about group interaction were dominated throughout the material as a whole. Some of the participants emphasized to a greater extent the social aspects of group interaction, while others focused on the benefit of reflection instead. Most of the participants appreciated the opportunities for reflection related to the WHP process, but some of them also found the WHP process somewhat demanding.

The third theme was labelled *External support* due to its focus on the role of the researcher and the external moderator of the discussion groups. The external resources

were associated with endurance as well as progression of the WHP process. Feedback was an important issue, and some of the participants sometimes seemed to find that it was difficult to understand the researcher. The participants wanted the feedback to be easy to understand, quickly presented, continuous and given in rather small doses at a time.

## Comments

The identified process-related resources were associated with different levels of the circular framework representing a complex mutual influential relationship between the health of an individual and the surrounding context in paper I. Individual resources were considered both emotional and cognitive assets for the functioning of the WHP process, but also for the health of the individual.

The function of group interaction can be interpreted as empowerment, social processes and reflection as well as learning. The characteristic of external support was, on the one hand, considered an indicator of a collegiate relationship between the participants and the researcher, but could on the other hand be indicative of a bottom-up approach. External support also consisted of endurance issues that illustrated WHP as a time-consuming process. Longterm investments are, however, crucial for an effect on the determinants of health in general (Ziglio, et al., 2000).

The resources could be directly related to the function of a WHP process, but also theoretically to the participants' possibilities for health. A WHP process can therefore be health-promoting because of its character and not just because of what it is aiming for. The results may function as support for the planning and implementation of WHP initiatives, focusing on health with a salutogenic perspective. The participants' differing focus highlighted the importance of recognising different needs for different participants and adjusting the WHP process accordingly throughout a WHP project.

## Describing and measuring health through salutogenic health indicators (Paper IV)

The instrument development process resulted in a description of health, emanating from a salutogenic and holistic perspective of health: *Health is a positive, subjective experience of oneself as a whole. Health can be measured by using individuals' feelings/experiences of physical, mental and social well-being as indicators, and health serves as a resource for the individual when dealing with the various strains of everyday life or pursuing individual goals. Health can be promoted through the individuals' positive experiences as well as emotions, and illness is important because it may restrict an individual's ability to act.* The Salutogenic Health Indicator Scale (SHIS) consisted of 14 variables that covered 10 health-related dimensions.



**Table II:** The underlying structure of the Salutogenic Health Indicator Scale (SHIS).

Dimension	Label <sup>a)</sup>	Indicator item	
		Positive wording	Negative wording
Perceived stress	Tension	felt calm, relaxed	felt uneasy, tense
Illness	Illness	felt well	felt ill
Energy	Energy experience	felt brisk	felt tired, exhausted
	Energy level	had a lot of energy	had little energy
Physical function	Physical function	felt that my body has been functioning well in relation to my way of living	felt that my body has been functioning poorly in relation to my way of living
State of morale	State of morale	felt merry	felt low-spirited, gloomy
Psychosomatic function	Sleep	slept well	had problems sleeping
	Appetite <sup>b)</sup>	had good appetite	had poor appetite
Expression of feelings	Expression of feelings	found it easy to show feelings	had difficulties to show feelings
Cognitive ability	Concentration	found it easy to concentrate	had concentration difficulties
	Creativity	been imaginative, creative	lacked imagination, creativity
	Resolution	been resolute	been irresolute, hesitant
Social capacity	Social capacity	been functioning well when in contact with other people	been functioning poorly when in contact with other people
Self realisation	Self realisation <sup>b)</sup>	had the opportunity to do what I want	had not the opportunity to do what I want

<sup>a)</sup> Labels represent a pair of opposite statements with one positive and one negative wording.

<sup>b)</sup> Items were later excluded for quality improvement of the model in Principal Component Analysis (PCA).

The final version of the SHIS was composed by 12 health indicator items covering nine health dimensions. Two factors were extracted and resulted in the distribution of the health indicators among two categories. The first factor, including tension, illness, energy experience, energy level, physical functioning, state of morale and sleep, was named *Intrapersonal characteristics (IPC)*. The second factor was labelled *Interactive function (IAF)* and consisted of the items expression of feelings, concentration, creativity, resolution and social capacity. The two-factor model had a determinant value of 0.001, the Kaiser-Mayer-Olkin measure of sampling adequacy was 0.92, Bartlett's test of sphericity turned out to be 0.00 and the model had an explained variance of 64.6%.

The content of IAF and IPC was used as a framework for constructing two indexes. The stability of the items, measured as weighted kappa values, had a range of 0.44-0.67, and the items in IPC had a higher range of values than the ones in IAF. IPC had a CA value of 0.90 and that of IAF was 0.84. A holistic index with all the twelve items was named *Health complete (HC)* and had an internal consistency of 0.92. The three salu-

togenic health indicator indexes was positively correlated with self-rated health status (IPC:  $r_s = 0.57$ , IAF:  $r_s = 0.44$  and HC:  $r_s = 0.56$ ) and negatively correlated with self-rated sick leave (IPC:  $r_s = -0.26$ , IAF:  $r_s = -0.14$  and HC:  $r_s = -0.24$ ).

## Comments

SHIS is a short semantic differential suitable for questionnaires with varying health-related foci. The SHIS, as well as the adherent description of health, derives from the theoretical framework surrounding the concept of health, positive health and well-being, which was recognized when comparing SHIS with other instruments measuring health or well-being (Bech, Gudex, & Johansen, 1996; Bowling, 2005; John, 2003; Ware & Sherbourne, 1992). The salutogenic perspective is, however, more salient in SHIS, and SHIS appeared to theoretically cover more health-related dimensions than the other instruments.

The items in IPC were more stable in the test-retest situation than the ones in IAF, which is in line with the content and labelling of the two indexes. The interpretation of the HC index representing the whole and the two indexes as two dimensions of health can be linked to an interactional perspective. The interactional perspective is based on the three cornerstones: a holistic point of departure (HC), individual-environmental interaction (IAF) and relationships between different subsystems within an individual (IPC) (Magnusson, 1988).

To conclude, the salutogenic health indicator scale (SHIS) seemed to be able to reduce some of the problems caused by the current lack of useful instruments for studying health from a salutogenic perspective. The psychometric properties were considered satisfactory, and further research to for instance explore the empirical relation between the content of the SHIS and health as well as the usefulness of the instrument would therefore be justified and motivated.



# General discussion

The instrument development process resulted in a description of health with the constituent health indicators of physical, mental and social well-being. These dimensions of health are also included in the WHO definition of health (WHO, 1948) and the European Community Health Promotion Indicator Development Model (Bauer, et al., 2006). The three dimensions are often associated with a holistic health perspective, and they are usually given equal weight in relation to descriptions of health and/or health development (Bauer, et al., 2006; Naidoo & Wills, 2000; WHO, 1948). However, the items in the SHIS emanate from nine diverse dimensions that are considered health indicators from a salutogenic and holistic perspective. One of these dimensions represents a pure physical element, while the others are based on psychological, social, psychosocial or psychosomatic health indicators. This may be questionable from an equal weight perspective, but may also be regarded as self-evident, based on the theoretical frame of reference that was found to be sufficient for a salutogenic and holistic perspective on health (Antonovsky, 1987; Diener, et al., 1999; Millar & Hull, 1997; Nordenfelt, 1987; Seedhouse, 2001; Whitbeck, 1981).

The distribution of the SHIS content can also be considered natural with regard to some of the empirical findings in this thesis. The results from the two exploring focus group studies with a salutogenic perspective are, for instance, also dominated by social and psychological health determinants. The empirical findings in papers I and III, and the results from the development process in paper IV, support each other and emphasize the importance of the social processes in relation to health promotion in general (Antonovsky, 1987; Arneson & Ekberg, 2005; Johnson & Hall, 1988; Lindberg, et al., 2006). The findings also support the relationship between psychological factors, such as positive subjective experiences and emotions, and health promotion (Fredrickson, 1998; Fredrickson & Joiner, 2002; Fredrickson & Losada, 2005; Haworth & Hill, 1992; Lyubomirsky, et al., 2005). The predominant social and psychological focus on health determinants are thereby likely to be related to the salutogenic focus of the empirical studies in this particular nursing context, but also to a salutogenic perspective in general due to the comparability with other empirical findings and the combined supportive theoretical frame of reference.

The empirical findings are, however, also dependent on the cultural context. WHP with a psychosocial focus has previously been emphasized and linked to a European perspective, when focus on individual behaviour has been criticized and related to major North American companies' health promotion practices (Milz, 1986). A psychosocial work-related focus in research may also be a result of stress, which is currently one of the major work-related health problems in general (Woo & Postolache, 2008), and

within the health care sector in particular (Demerouti, Bakker, Nachreiner, & Scaufeli, 2000; Hertting, et al., 2005; Josefsson, et al., 2007). The traditional focus on preventing physical disorders has thus been exchanged with, or at least complemented with, a focus on the prevention of mental health disorders (Bennett & Murphy, 1997).

In this thesis, health-related positive experiences and emotions have frequently been associated with cognitive ability and resources. Mental health consists of a cognitive and an affective dimension, and the affective dimension contains an individual's emotions and feelings (Tones & Green, 2004). The participating health care workers wanted to have the possibility to reflect on, learn and develop skills and practices through interaction with co-workers and patients. Other examples are the significant cognitive resources and the positive relationship to flow, with an adherent link to health and well-being (Diener & Diener, 1996; Fullagar & Kelloway, 2009). Cognitive resources were also identified in the qualitative findings of paper I. The findings showed that having the cognitive skills to be in control of the work during everyday practice was related to the health-promoting and rewarding experience of satisfaction. Satisfaction was also experienced due to self-reflection on the work performance after having finished the work for the day.

It is thus reasonable to assume that positive work-related experiences and health can be promoted through a focus on the health care workers' cognitive resources and medical care activities with adherent experiences of flow. The participants in the study of paper II experienced flow during 11,5% of the observations and 25% of the participants did not have any flow experience at all during the study period. Flow has previously been related to well-being through a mediating function between work-related factors and employee well-being in general (Fullagar & Kelloway, 2009).

In paper II, there was no direct and significant relationship between individual share of flow and age, SOC level or profession. The registered nurses seemed, however, to have better opportunities for flow since they were more occupied in medical care activities, which were related to flow. Previous research also showed that female white collar workers related flow to work and non work situations, while blue collar workers experience of flow was related to non work situations only (Allison & Duncan, 1987). There seems to be possibilities for an increase in flow experiences, for instance through refocusing health care work towards more medical care activities and less administration. This conclusion is supported by the findings in paper I, where immediate caring of the patients were related to meaningfulness and considered more health promoting than, for instance, administration. Medical care being related to flow indicate, however, that the immediate caring tasks needs to be more advanced than individual nursing care activities in order to result in health promotion through an increase in flow experiences.

The findings in paper II emanated from an analysis with a cross-sectional character and the explanations to the identified relationship between medical care activities and flow is thus unknown. The circular framework with workplace-related resources being related through mutual influential relationships can, however, function as a support for the activities and the experience of the workers "feeding into one another" in a positive

spiral towards health. Further studies are needed to elaborate more on the salutogenic relationships between workplace activities, cognitive resources, flow experience, other positive and rewarding experiences and measurement values of the less stable items in IAF and the somewhat more stable items in IPC.

Flow has previously been associated with an autotelic personality trait (Csikszentmihalyi, 1975) and achievement-orientation (Eisenberg, Jones, Stinglhamber, Shanock, & Randall, 2005). In the study of paper III, achievement-orientation was related to some of the participants more than others focusing on reflection, learning and development of everyday practice. In paper I, achievement-orientation may also be related to the group of health care staff that was in favour of work being characterized by flexibility. This conclusion is based on flexible work being characterized by variety, challenges, reflection, learning and development work at the ward. A flexible work characteristic may theoretically be linked to health promotion because it conforms with the health-promoting experience of flow (Csikszentmihalyi, 1975), active work (Karasek & Theorell, 1990) and high SOC (Antonovsky, 1987). In paper III, flexibility was also related to a positive experience of a well-functioning WHP process.

Some of the other participants were considered less achievement-oriented, since they were more focused on the social aspects of the WHP process. They found the reflection process somewhat demanding and preferred peace and quiet before participating again in reflection and development of practice. Peace and quiet can be recognized from the health-promoting stable characteristic of work in paper I. The less achievement-oriented healthcare workers in this context are thus to a greater extent in favour of stability, predictability, peace and quiet and WHP process-related social relations. The less achievement-oriented employees had therefore fewer possibilities for health promotion with regard to reflection and learning. The process of reflection is dependent on the social context (Peltier, Hay, & Drago, 2005), but also on cognitive skills like the ability to describe, critically analyse, synthesize and evaluate the situation at hand (Atkins & Murphy, 1993). Health promotion due to reflection has previously been related to a WHP process towards empowerment through a learning process (Arneson & Ekberg, 2005). Due to the project-related social processes and relationships, and regardless of the issue of reflection and learning in relation to the development work at the ward, the less achievement-oriented participants had, however, possibilities for health-promoting positive experiences.

The identified diversity is considered a sign of complexity behind the salutogenic relationship between workplace-related health resources, the WHP process and the health of the healthcare workers (Antonovsky, 1993; Ziglio, et al., 2000). Complexity can be considered a problem in health development research (Antonovsky, 1993) and simplicity has, for example, been preferred in relation to a measurable definition of health from a salutogenic perspective (Bowling, 2005; Seedhouse, 1995). Broadness and complexity were, however, considered useful for the health description that formed the basis for the development of the SHIS. Complexity can also be related to the mutual influential relationship that characterized the varying interaction between the identified workplace-related health resources and the health-promoting core of rewarding experiences

among the healthcare workers in paper I. Complex patterns of relationships between different environmental factors, positive experiences and health can also be recognized from previous research in this field (Diener, et al., 1999; Fredrickson & Losada, 2005; Lyubomirsky, et al., 2005).

Traditionally, different theories of balance have been dominating the psychosocial work environment research (Karasek & Theorell, 1990; Siegrist, 1996). A balance association is however not considered applicable when it comes to subjective experiences and health from a salutogenic perspective. It seems more likely that dominating positive experiences may result in a promotion of health. This conclusion is based on the empirical findings, which emphasized the positive subjective experiences with adherent positive emotions. This view is also based on previous research where risk factors had a stronger association to ill health than the salutogenic determinants had to excellent health (Mackenbach, et al., 1994).

The diversity-related findings are of great interest with regard to the implications for WHP practice in general. How can we practise WHP towards healthy employees in healthy organizations when the employees express preference for two different characteristics of work and WHP processes? There are, of course, numerous possibilities for further amplification concerning making sense of the complex and context-related relationships, patterns and diversities that are presented in this thesis. It is, however, from my point of view and on the basis of previous research (Bauer, 2007; Sparks, 2010) unlikely that there will ever be one particular type of workplace, work or WHP process, which fits the health development needs of each and every work environment with an adherent unique mission and team composition of employees. The question is more about how we move forward, in order to manage, make sense of and make use of the diversities and the complexity to promote the healthcare workers' health in particular and employees' health in general. WHP practice has previously been associated with action and participation (Hugentobler, Israel, & Schurman, 1992; Polanyi, et al., 2005; Springett, 2001).

Participation has often been related to an unproductive debate adjoining the quantitative versus qualitative divide, with participatory research representing "soft" methods (Cornwall & Jewkes, 1995). However, participatory research is about research for action (Cornwall & Jewkes, 1995), which can be related to pragmatism (Greenwood & Levin, 1998) and methodological pluralism (Johnson & Onwuegbuzie, 2004). The SHIS was developed for quantitative measurement of health from a salutogenic and holistic perspective. Measuring health is important for health promotion practice and research in general (Naidoo & Wills, 2000), and there has been a lack of instruments for measuring health from a salutogenic perspective (Bowling, 2005; Naidoo & Wills, 2000; Seedhouse, 1995). The findings in paper IV show that the SHIS is a valid, reliable and useful instrument for measuring health from a salutogenic and holistic perspective. With regard to the WHP process-related findings, it is crucial that the SHIS is used in a participatory context characterized by interaction, social processes and reflection. It is equally important that the SHIS is used with a salutogenic focus. Otherwise, there may be an unfortunate and confusing use of the salutogenic concept within the framework

of pathogenic health research. The SHIS has so far, together with the Work Experience Measurement Scale (WEMS) and a structured dialogue, functioned well in support of a salutogenic and participatory WHP process in a hospital setting (Nilsson, 2010).

In this thesis, a well-functioning WHP process was empirically related to individual resources, group interaction and external support from other important people. The process is thus basically relying on human resources, social processes in general and interaction in particular. The process of interaction has previously been associated with the psychological and physiological experiences of the individual (Milz, 1986). The project-related changes were planned and implemented through stakeholder interaction as a flexible adjustment to the ecological and social conditions that were to be changed (Milz, 1986; Polanyi, et al., 2005; Sparks, 2010). People in organizations create their own subjective reality through interaction and sense-making processes, which begin when there is some change or diversity that leads to disturbance of the participants' experiences (Choo, 1996). The diversity is thereby an asset, which can be identified and discussed through participation, with the aim of knowledge development and/or action (Cornwall & Jewkes, 1995; Koelen & Lindström, 2005; Springett, 2001).

The WHP project-related activities for interaction and participation resulted in positive and rewarding health-promoting experiences among the participants. Participation was found health-promoting through its relationship with positive emotions (Fredrickson, 1998), social processes (Antonovsky, 1987; Arneson & Ekberg, 2005; Johnson & Hall, 1988), empowerment, reflection and learning (Arneson & Ekberg, 2005). The WHP process-related participation varied between a collaborative and a collegiate relationship. A participatory planning process enabled the researcher to evaluate the WHP project with adherent collaborative relationship. A collegiate relationship is, however, considered ultimate in terms of knowledge development for action (Cornwall & Jewkes, 1995). A participatory planning process may thus result in a less appropriate relationship with regards to knowledge development. On the other hand, the WHP process-related findings also indicated a bottom-up approach where the participants, for instance, wanted the researcher's feedback entirely adjusted to their needs. The findings indicated that the participants were striving for responsibility for the WHP process. This can also be called a collaborative relationship, but with the participants in a managing position.

Participation is considered a way of managing uncertainty, emanating, for instance, from complexity. Thus, it can facilitate making sense of and making use of workplace-related diversity and complexity in health promotion practice and knowledge development (Polanyi, et al., 2005; Potvin, 2007; Sparks, 2010). The participatory planning process of the WHP project at the study ward resulted in a useful mixed method approach, particularly suitable for this kind of WHP initiative (Hugentobler, et al., 1992) and for knowledge development in relation to the complexity of the research world in general (Johnson & Onwuegbuzie, 2004).



## Methodological considerations

Performing WHP through action and mixed method research was an interesting but challenging venture, where the needs and possibilities within the framework of the WHP project met the demands for quality criteria in research. Action research and a multi-method approach have been related to efficiency in terms of meeting both action and research goals within the framework of a WHP project (Hugentobler, et al., 1992).

Evaluation of quality in research has to emanate from the epistemological bearing of the research studies done (Fossey, Harvey, McDermott, & Davidson, 2002). In this thesis, two studies were based on qualitative data (papers I and III), one study emanated from quantitative data (paper IV) and one study was characterized by qualitative planning and preparation phases prior to quantitative data collection (paper II).

### Quality assessment of the qualitative studies (papers I and III)

All the health care staff was invited to, and given equal opportunities to participate in the focus group interviews, as participation is one of the guiding principles for WHP (European Network for Workplace Health Promotion, 1997). Confidentiality is an important issue, but full confidentiality is thus not possible in focus group interviewing when the participants know each other (Wibeck, 2010). Emphasizing the importance of not sharing each other's contribution afterwards, as well as limiting the possibility for outsiders to know who took part in the interviews, have hopefully contributed to confidentiality as much as possible.

The identification of differences in opinions among the participants indicates that they felt secure enough to share them with the others in the focus groups. The identified variety could also be related to the study method, as focus group interviewing is an established method for identifying the participants' opinions without the purpose of reaching an agreement (Morgan, 1997). Variety is, however, also about creating a study context that supports and encourages an open climate (Wibeck, 2010). This was considered particularly important in the study of paper III, since the participants were interviewed about a WHP process, which they had been creating with support from the researcher/moderator. The subjectivity could be considered a negative impact in relation to dependability, as research often aims for objectivity and distance from the reality under scrutiny (Foote Whyte, 1991). However, the closeness between researcher and participants throughout the WHP process provided an opportunity for interaction, trust and confidence, which is an important foundation for research credibility in a study context influenced by action research (Pettersson, 2009). Subjectivity is therefore considered a positive factor in relation to the aim and the context of the study presented in paper III.

The decision to focus on health-care workers at only one ward may be a limitation with regard to study credibility and transferability of the findings in paper I. However,

the focus on health-care workers at the study ward presented an opportunity to get a more in-depth picture of a health-promoting workplace, and this was useful in relation to the exploring nature of the study, as well as for the planning and implementation of the WHP project. Focusing on the WHP project participants was a necessity in the study of paper III, since participation was a prerequisite for being able to express any WHP process-related ideas.

The possibility to reflect on the results in relation to the climate and the interaction in the different focus groups, could have been facilitated through an assistant observer (Wibeck, 2010). However, limited resources called for other priorities, and the moderator tried to capture the specific characteristics of the different groups while interviewing. The alternative way of condensing the material in study I prior to the transcription may be considered a limitation with regard to the credibility of the findings. This method was, however, considered subsequent to reflection on some of the interviews being similar in content. Going back to the non-transcribed interviews throughout the analysis has hopefully limited the risk of missing something important.

The two studies and the results of papers I and III have been discussed on several occasions in the research group in order to promote reflection, creativity and the improvement of credibility. A co-authors confirmatory analysis in the study of paper I, as well as the participants' confirmation of the study results in both papers, has also contributed to the reliability of the results. We have also tried to describe the research processes thoroughly, in order to enable the readers to judge the credibility and transferability of the findings.

## **Validity and reliability of the quantitative studies**

Assessment of quality in research using quantitative data has been rather consistent, and is usually discussed through the concepts of validity and reliability.

### *Paper II*

The design of the study of flow resulted in a mix of quantitative and qualitative planning and preparation phases. The observations increased the validity in terms of making sure that the participants' everyday practice was covered, categorized and labelled in an adequate way. The qualitative steps, with adherent researcher-subjective interpretation, could be considered a limitation of the study reliability. However, the participants' verification of the observational findings has increased the reliability.

The ESM is considered a valid and reliable method for measuring various dimensions of experience (Csikszentmihalyi & Larson, 1987) and is useful for studying everyday life in general (Hektner, et al., 2007). The research process was, however, a complicated and challenging endeavour, and we have tried to describe the process thoroughly in order to enable the readers to judge the credibility of the findings.

The internal context character of ESM studies reduces the risk for recall bias, and the ecological validity is strengthened by the habituation process due to the respondents'

repeated completion of the Experience Sampling Form (ESF) (Hektner, et al., 2007). Repeated measures are, however, also a problem because they counteract the assumption of observation independence (Hektner, et al., 2007). In this study, the problem was handled by analysing data at an individual level and response level separately.

The flow definition used was chosen because it recognizes individual differences in the data and is in line with a match between challenge and skill estimation from a layman perspective (Ellis, et al., 1993). In this thesis, flow is considered a relatively rare state since it is described as a subjective experience of enjoyment and complete absorption, but also a situation where capabilities are being challenged in order to facilitate learning, increase self-esteem and personal complexity (Csikszentmihalyi, 1997; Csikszentmihalyi & LeFevre, 1989).

#### *Paper IV*

The quality measures belonging to the PCA of the SHIS indicate reliability in terms of division of items between the two extracted factors (Field, 2005; Hair, Anderson, Tatham, & Black, 1998). The reliability and internal consistency of the two indexes, emanating from the extracted factors, as well as the third index representing the whole, were considered acceptable due to CA values above 0,7 (Hair, et al., 1998). Test-retest stability was found to be appropriate because the values were in line with the interpretation and labelling of the two health indicator dimensions, as well as the content of the adherent description of health. Items of IAF are accepted as less stable because they are more dependent on the situation or context than the ones in IPC.

Investigation of the correlation with other health-related questions in the questionnaire resulted in a positive conclusion regarding the validity of the SHIS. A positive but rather weak correlation to self-rated health status indicated satisfactory criterion validity because of the similarity regarding its relationship to health while not measuring the same thing. The negative and weaker correlation to self-rated sick leave was, instead, considered to indicate a satisfactory discriminant validity. This conclusion was due to the SHIS representing a salutogenic perspective where illness is important, but health is not the same thing as the absence of disease.

## Conclusions

The research process resulted in a predominant focus on social and psychological resources for health. The identified workplace-related health resources interact through complex mutually influential relationships that are linked to the core of health-promoting positive experiences and emotions among the participating healthcare workers. The findings indicate that there are possibilities for more positive work-related experiences through focus on medical care activities, cognitive resources and the experience of flow among healthcare workers. The registered nurses seem to have better opportunities for experiencing flow than the assistant nurses. Experiencing flow at work, with adherent

opportunities for health, may be facilitated by refocusing healthcare work towards more medical care activities, as well as focusing on the workers' cognitive resources.

The participants were considered more or less achievement-oriented based on their being more focused on flexibility, reflection, learning and development of everyday practice or more in favour of stability, peace and quiet as well as WHP process-related social relations in general. More or less achievement-orientation means varying opportunities for health promotion through differing characteristics of work and WHP processes. These diversities are considered useful for WHP practice, but need to be identified and discussed in order to support reflection, learning and development of nursing practice within this framework.

The diversity-related findings are related to complexity, and WHP is a complex process that can be supported by action research and participation. Positive experiences from participation in a WHP process are associated with human resources such as individual resources, group interaction and external support. A WHP process with a salutogenic perspective also needs the support of valid, reliable and useful instrument. The SHIS is considered suitable for measuring health from a salutogenic and holistic perspective in general, and is therefore particularly useful for WHP processes.

The salutogenic perspective, the exploring nature and the methodological pluralism have contributed to a theoretical knowledge development within the field of work and health research. The findings add knowledge to and support making sense of a complex relationships between the workplace as a context, work as an activity, WHP with a salutogenic and bottom up approach as a change process, as well as positive, subjective experiences and the health of health care workers as the goal. The findings may also be applied in practice directly, as support for an implementation of workplace-related health-promoting structures and processes.



# Populärvetenskaplig sammanfattning på svenska

Studier av arbetsförhållande inom sjukvården har under lång tid varit förknippade med stress och sjukfrånvaro. Ett sådant problemorienterat perspektiv hänger samman med hälsa definierat som avsaknad av sjukdom (patogenes). Hälsa kan dock definieras på många olika sätt och motsatsen till patogenes är salutogenes. Ett salutogent perspektiv innebär en mer positiv syn på hälsa, som framhåller faktorer vilka skapar hälsa. Det finns flera typer av insatser som görs för att påverka människors hälsa i positiv riktning. Dessa insatser kallas för hälsofrämjande arbete och kan till exempel fokusera på de anställdas hälsa vid olika arbetsplatser. Idag vet vi en hel del om de negativa hälsoeffekterna av arbete, inom till exempel sjukvården, men det är betydligt mer sällsynt med arbetsrelaterad forskning som har en salutogen utgångspunkt.

Syftet med denna avhandling var att utforska och skapa mening kring den salutogena relationen mellan arbetsplats, arbete, hälsofrämjande arbete och sjukvårdspersonalens hälsa. Tre av studierna genomfördes därför i samband med ett för personalen hälsofrämjande arbete på en medicinsk vårdavdelning vid ett medelstort sjukhus i Skåne. Syftet var även att ta fram användbara instrument för denna typ av hälsofrämjande arbete och därför genomfördes en enkätstudie på sjukhuset som helhet. Det hälsofrämjande arbetet på avdelningen präglades av aktionsforskning, delaktighet och en blandning av kvantitativa och kvalitativa forskningsmetoder.

Forskningsprocessen visade på betydelsen av sociala och psykologiska resurser för sjukvårdspersonalens hälsa. Hälsoresurserna samverkar på olika sätt och kan medföra hälsofrämjande positiva upplevelser bland deltagarna. Resultaten visade att det fanns möjlighet för fler positiva upplevelser av arbetet på vårdavdelningen genom till exempel mer kvalificerade medicinska arbetsuppgifter, koncentration på personalens tankemässiga (kognitiva) resurser samt upplevelser av flow. Flow innebär en ultimat upplevelse av att den individuella kompetensen matchar stora utmaningar i en given situation. Sådana situationer ger upphov till glädje, motivation och kognitiv effektivitet samt bidrar till hälsa.

Resultaten visade också att projektdeltagarna var mer eller mindre prestationsorienterade och därför också fokuserade på och uppskattade arbete eller hälsofrämjande arbete med olika karaktärsdrag. De mer prestationsorienterade deltagarna värderade flexibilitet, reflektion, lärande och utveckling av det dagliga sjukvårdsarbetet. De mindre prestationsorienterade föredrog istället stabilitet, förutsägbarhet, lugn och ro samt trivsam social samvaro.

Skillnader som dessa behöver identifieras och diskuteras för att de ska fungera som en resurs för hälsofrämjande arbete på arbetsplatser. Hälsofrämjande arbete behöver enligt resultaten präglas av individuella resurser, möten mellan projektdeltagarna och stöd från externa personer. Förutom mänskliga resurser behövs också väl fungerande instrument som är anpassade för denna typ av hälsofrämjande arbete. Den framtagna SalutogenaHälsoIndikator Skalan (SHIS) är ett tillförlitligt instrument för att mäta hälsa utifrån ett salutogent perspektiv och är därför användbart för hälsofrämjande arbete på arbetsplatser.

Forskningsresultaten bidrar till kunskapsutveckling om salutogena relationerna mellan arbetsplatsen som miljö, arbetet som aktivitet, hälsofrämjande arbete som förändringsprocess och sjukvårdspersonalens positiva upplevelser och hälsa som mål. Denna kunskap kan direkt tillämpas för att utveckla mer hälsofrämjande arbetsplatser och förändringsprocesser inom sjukvården specifikt, men även i arbetslivet generellt.

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