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**NURSING MANAGEMENT AT A
SWEDISH UNIVERSITY
HOSPITAL**

**LEADERSHIP AND STAFF
TURNOVER**

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**Karolinska
Institutet**

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“Alice, would you tell me, please, which way I ought to go from here?”
“That depends a good deal on where you want to get to,” said the Cat.
“I don` t much care where,” said Alice.
“Then it doesn` t matter which way you go,” said the Cat.
“So long as I get SOMEWHERE,” added Alice as an explanation.
“Oh, you` re sure to do that,” said the Cat, “if you only walk long enough.” (Caroll L,
1865)

To my parents
Ingrid and Gillis Albinsson

ABSTRACT

High turnover rate among nursing staff is a global problem and important for nurse managers to deal with. In order to help health care leaders to retain competent staff, it is important to improve the knowledge of the ways and the extent to which leadership behaviour relates to nurse job satisfaction and staff turnover. The nurse manager is as the head of the unit, a leader over part of the health care staff.

The aim was to study the relationship between leadership behaviour of nurse managers and staff turnover considering creative work climate and intrinsic factors of job satisfaction.

All four studies were conducted at the Karolinska Hospital in Stockholm. At the time of the study the hospital had about 5000 employees working with nursing care. There were 92 nurse managers and 77 of these were included. Ten subordinates of each included manager were randomly selected and invited to participate (n=770). All data for Studies I-III were collected at the same time in 2003. Leadership behaviour (I) was studied with a questionnaire called Change, Production and Employee (CPE). It's relation to creative work climate and job satisfaction was explored on individual level in study II. Two different questionnaires regarding creative work climate and job satisfaction were used together with the data from the CPE instrument. In Study III register data of actual staff turnover were used together with data from studies I and II. Analyses were related to each included manager based unit level. Study IV, conducted in 2004 explored perceptions about staff turnover. Five focus group discussions included 29 participants (head of departments, nurse managers and staff) were conducted and the statements analyzed in order to identify categories of opinions. The categories were related to register data of actual staff turnover from the hospital follow up system (PREDO)

The correlation between leadership behaviour and staff turnover was weak (-.12, Study III). Leadership behaviour of the nurse manager significantly correlates both on individual (II) and unit level (III) to creative work climate (.60, Study III) and job satisfaction (.60, Study III). When controlling for creative work climate the result showed only weak correlation between leadership behaviour and job satisfaction (.12, Study II). In turn, there is a relationship between job satisfaction and staff turnover (-.30, Study III). Three main groups of profiles were identified, "invisible" leader, "middle of the road (middle)" leader and "super" leader (I,II,III). In Study IV four major factors were identified as having a possible influence on staff turnover: "intrinsic values of motivation", "workload", "unit size" and "leadership". Smaller units had lower staff turnover as well as out patient units and day care.

In this context of nursing the direct relationships between leadership behaviour, including the dimension of change, and actual staff turnover was weak. The relationships between leadership behaviour and creative work climate, between creative work climate and job satisfaction and between job satisfaction and actual staff turnover indicate that the nurse manager plays a key role in developing a creative work climate that might increase nurses' job satisfaction and by extension decrease staff turnover. According to the results it seems easier to achieve group cohesion, recognition and participation in units where a manager works close to the staff.

Key words: leadership behaviour, nursing management, work climate, job satisfaction, staff turnover

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LIST OF ABBREVIATIONS

CCQ	Creative Climate Questionnaire
CPE	Change Production and Employee instrument
EOM	Essentials of Magnetism
FGD	Focus Group Discussion
HD	Head of Department
KI	Karolinska Institutet
KS	Karolinska Sjukhuset (Karolinska Hospital)
LPN	Licensed Practical Nurse
NM	Nurse Manager
PREDO	Patient related report
RN	Registered Nurse
SD	Standard Deviation
SN	Staff Nurse
SPSS	Statistical Package for the Social Sciences

1 PROLOGUE

The process that led to this thesis began very early in my life. I have dedicated this thesis to my parents Ingrid and Gillis Albinsson. The reason for this is not only because they have supported me during my entire life, but also for some quite particular reasons.

Already as a small child I was involved in discussions about health policies and leadership in health care. My father worked his entire adult life at county councils and in the last 20 years of his career he worked as Director of the county council in Halland. My mother worked, in addition to her daily work in the community as a politician. The discussions about health care management and politics were frequent at our dinner table and my two younger brothers and I could not avoid hearing about this and later take part in the discussions. This founded my great interest for public organizations and policies.

After I grew up my father arranged my first summer job as a post messenger at Halmstad Hospital in 1965. This was my first experience of a hospital from the inside. Two years later after my high school graduation, I worked as an aid at an internal medicine ward. Three old men for whom I was caring for died within a week, and I was additionally terrified of the head nurse. This was a traumatic experience and I decided then and there not to work one more day in the health care sector! My father insisted that I should stay another three weeks and if I still had the same feeling it was all right to leave the work. During these three weeks I began to love the work and caring for patients, and I saw that the head nurse's main focus was good care for the patients. I had also decided to apply for nursing school. I was accepted and graduated in 1970 and have never regretted my choice to be a nurse. So my gratitude goes to my father for more or less forcing me to stay on that medical ward.

As a nurse I have worked for seventeen years in an intensive care unit in Växjö, a mid-sized town in the south of Sweden. In intensive care you never know what the next moment will bring. I think this was a valuable experience for me that made it easier to work with changes, wherever they appear in life. During my working life, I have experienced a lot of changes in organizations and also in the leadership roles of nurses. The head nurses in the 1970s were very authoritative and were very involved in direct patient care themselves. There was also always a nurse called "sjukvårdsföreståndare" at the top management of the hospital, leading the nursing staff and managing nursing care.

As time has passed, nurse managers on the units had received more and more administrative tasks and had gotten further away from direct care. Nurses lost their top management positions and most hospitals were managed without the nursing perspective. Nowadays, nurse managers have more of a coaching role and are not as much involved in the care of patients on the units. The nurse managers today are very well-educated and well-prepared to take responsibility for staff, quality of care and finances of the unit. Some hospitals in Sweden have again realized that it is necessary to have the knowledge and experience of nursing in the hospital top management.

During the last twenty years, there have been problems with high staff turnover in nursing both nationally and internationally. I have faced that problem many times in my work as Director of Nursing at Karolinska Hospital, both as an acute problem and as a more long-term problem for the future. The problem appears to be complex with many different dimensions that have to be explored in order to meet the future. If we are able to understand these dimensions, perhaps our new nurses will stay in a profession that is so important for human beings and that can be so very stimulating for an individual.

2 INTRODUCTION

Nurses and nursing staff are essential to any health care system and staff turnover among nurses is a global problem. There is at present a shortage of active nurses in the European Union and this is projected to worsen over the next 20 years (Hasselhorn et al. 2003). In the US, the turnover rate is estimated to reach a level of 29 percent by the year 2020 (The HSM Group 2002). High turnover rates are not only a waste of money; they also affect the quality of care, patient safety and patient satisfaction (Newman et al. 2002, Kramer & Schmalenberg 2004a). Most health care organizations are well aware of the need for successful recruitment strategies; however, it does little good to select competent, professional staff if you can not keep them. It can in fact do irreparable harm.

The cost of turnover extends well beyond the fiscal costs of losing an individual nurse (Manion 2004). Aiken et al. (2002) reported that a low nurse patient ratio was associated with a higher risk for adverse events and even patient death. Dealing with the nursing shortage now and into the future is a huge challenge for managers and decision makers in health care organizations. Consequently, it is very important to study the ways and extent leadership behaviour relates to nurse's job satisfaction and staff turnover. Improving this knowledge could help health care leaders become more efficient and effective in attracting and retaining talented staff.

2.1 A Global perspective

Health care workers are at the core of any health care system, without these the system would collapse. The World Health Organization (WHO) estimated that in 2005 there were a total of 39.5 million full-time paid health service workers world wide. Europe has about 18.9 health care workers per 1000 inhabitants while Africa has 2.3. Sweden had in 2003 10.3 nurses per 1000 inhabitants compared to Norway (14.4), Netherlands (13.9), Denmark (7.0) and Portugal (4.2) (Sveriges kommuner och landsting 2007) and Tanzania 0.4 (WHO 2006). The Americas, with 10 percent of the global burden of diseases, has 37 percent of the world's health workers and spends 50 percent of the world's health financing, whereas Africa spends only 1 percent. There is also a gender imbalance among health care workers with 70 percent of the doctors being men and 70 percent of the nurses being women. Fifty-seven countries have a critical shortages equivalent to a global deficit of 2.4 million doctors, nurses and midwives (WHO 2006).

There is not only a shortage of available workers, but there is also an inappropriate mix of skills. New technologies and more specialized care require a well-educated workforce. This have in high income countries such as Sweden, with a low nativity and a large population of elderly people with high care demands, led to a growing gap between the need for well-skilled health care professionals and what is available in the workforce.

As LEE Jong-wook, former Director General of the World Health Organization stated 2006, "We have to work together to ensure access to motivated, skilled, and supported health worker by every person in every village everywhere" (WHO 2006 p 3). To achieve this goal,

health care leaders must “act now, anticipate the future and acquire critical capabilities” (WHO 2006 p 3).

2.2 The Swedish health care system

Sweden is number seven in the world regarding expenditure per capita on health care (WHO 2006). Health care uses about 9.2 percent of the gross domestic product (GDP) compared to the US (13.7%). Sweden with its approximately 9 million inhabitants has a life expectancy at birth for females of 81.9 years (WHO 2000). There are about 30 000 doctors and 115 000 registered nurses and midwives, of which 80 percent are now women (Socialstyrelsen 2007).

A fundamental principle behind the Swedish health care system is that all citizens have the right to good health and health care on equal terms, regardless of where they live or their economic circumstances as stated in the Health and Medical Services Act (Hälso och sjukvårdslagen 1982).

The Swedish health care system (Jakubowski 1998):

- Is mainly a public responsibility
- A public responsibility that belongs to regional political authorities – the county councils – whose members are elected every fourth year concurrent with the general election
- The county councils levy taxes directly on the population; other sources of income are national government grants and dues charged by the county councils for certain services
- The health care system is supported by a national health insurance system and other social welfare services

To guarantee a minimum level of quality there is an educational system with various professional licensing and quality regulations, including the National Medical Disciplinary Board, the National Board of Health and Welfare which monitors activities and various county council committees dealing with patient information and complaints.

The National Board of Health and Welfare is responsible for monitoring the health and medical services regardless of whether these services or activities are organized by the county council, local authorities, or private companies (Jakubowski 1998, Håkansson & Nordling 1995).

Under the Health and Medical Services Act, the 21 county councils are given great freedom to plan and organize their own services and impose taxes in order to finance them. Every county is governed by a local county council, elected every fourth year. The main source of revenue for the counties is a direct local income tax, which the residents must pay (Jakubowski 1998, Håkansson & Nordling 1995).

At the basic level of health care - primary care - the aim is to improve and maintain the health of the people and to treat illness and injuries not requiring hospitalization. At the next level, Sweden has about 90 hospitals for emergency care, which are divided into regional hospitals, central county hospitals, and district county hospitals. To provide highly specialized care, the

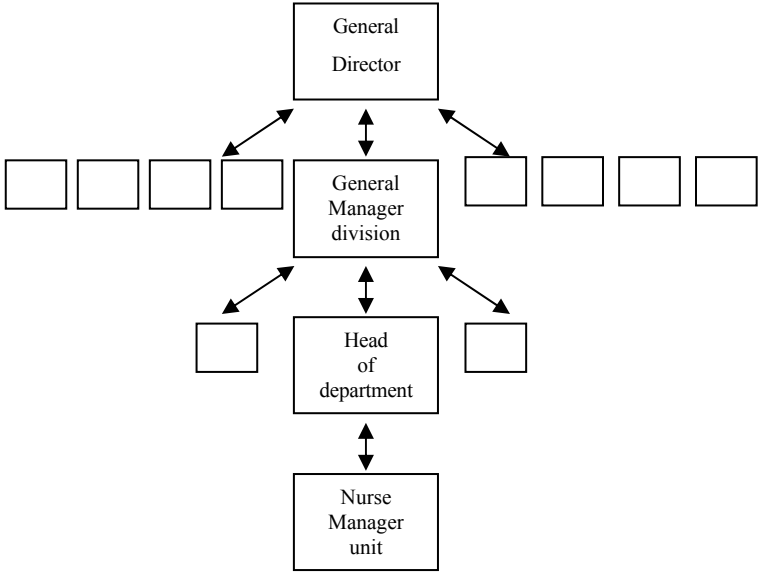
county councils cooperate in six medical care regions each serving a population averaging more than one million (Håkansson & Nordling 1995). The Stockholm county council is responsible for health care of about 1.7 million individuals.

At the time of the study, there were nine regional hospitals (university hospitals). The regional hospitals are highly specialized hospitals affiliated to medical schools and also function as research and teaching hospitals. One of these, the object for this thesis, was the Karolinska Hospital in Stockholm.

2.3 Karolinska Hospital

Karolinska Hospital (KS) entered into a merger together with Huddinge University Hospital in 2004. The main part of this thesis was conducted at the Karolinska Hospital immediately *before* the merge. The main aim of the merger was to minimize duplication of highly specialized medicine and to reduce financial cost. The hospital was reorganized after the merger and involved new divisional content, nearly totally new members of the hospital board, and every manager had to apply for a new managerial position, the number of which was cut-down considerably. Karolinska University Hospital is (as was KS) affiliated to the Karolinska Institutet for education of all medical professions and for medical and nursing research. The overall hierarchical structure was kept the same and so was also the number of units.

Figure 1. The hierarchical structure of Karolinska Hospital at the time of the study



The organization described here in Figure 1 is from the time of the study, prior to the merger. At that time, KS was divided into 9 divisions. One of the divisions was managed by a nurse (the thorax division), one by a human resources specialist (the laboratory division), and the rest by medical doctors. Each division consisted of several medical departments, totalling 60 at the start of the study. The departments were led by medical doctors with the exception of the central surgery department, led by a nurse. Each medical department had at least one inpatient unit. The department head was also the superior manager over the nurse managers

and had the ultimate responsibility for the entire clinical work, including nursing within the department.

Each unit, in total 92, was lead by a nurse manager in charge of a staff between 10-100 people. At the time of the study the Karolinska Hospital had approximately 9000 employees (2 950 nurses and 1 489 aids) and the number of nursing staff per bed was about 1.5/bed (PREDO 2003). The nurse managers had, and still have, a delegated responsibility for staffing and everything concerning nursing in the unit.

The financial model for the hospital, referred to as the “Stockholm model” was created in 1992 in order to improve productivity and effectiveness and to strengthen the position of the patient. In the model an internal market was created for hospital services. Health care is negotiated every year in a contract between the county council and the hospital. The county council pays for hospital services on behalf of the population. Hospitals are paid according to their activities, measured as Diagnosis Related Groups (DRG) (Berleen et al. 1992). In addition, there is an internal price system for X-ray, laboratories and other services.

2.4 Leadership and Management

Management compared to leadership

Kotter (1990) stated that management seeks to produce predictability and order by:

- setting operational goals
- establishing action plans
- allocating resources
- organizing and staffing
- solving problems
- monitoring results

Leadership on the other hand seeks to produce necessary changes by developing a vision of the future and strategies to reach that vision. This includes communicating the vision and motivating and inspiring the staff to attain the vision (Pinder 1984). Managers do things but leaders give the things meaning (Zalecnik 1977). Yukl (1989) describes a leader as a person who does the right things and a manager as a person doing things right. A person can indeed be a leader without being a manager and a person can be a manager without leading (Yukl 1989) but success as a manager in modern organizations necessarily involves leading (Yukl 2002). The manager’s role is today seen more as a coach, considering relations to staff, high quality in nursing and efficiency (Collins 2001, Zimmerman et al. 2001). The manager’s ability to lead affects the staff’s ability to achieve stated visions and goals (Bass 1985, Yukl 2002). This thesis is focused on the leadership part of the managers’ work.

Leadership behaviour and leadership styles

The term leadership behaviour as in the sense of a manager’s way of influencing subordinates arose at the universities of Ohio and Michigan in the USA (Fleishman & Harris 1962, Likert 1967). The research focused on the behaviour and attitudes of managers and supervisors in

contrast to earlier research that had mainly been looking for inborn personality and intellectual traits.

Research on leadership has usually been based on a theory that there are specific behaviours, which together build leadership style dimensions (Likert 1967, Fleishman & Harris 1962, Burns 1978, Bass 1985, Ekvall 1992). The individual leader generally has a basic operating style, emanating from personality, experiences and how they learned about leadership (Ekvall 1992). Personal attributes such as intelligence and temperament have been identified as limitations to learning about leadership, according to Smith & Petersson (1988).

The Michigan (Likert 1967) and Ohio (Fleishman 1962) researchers studied leadership styles in relation to outcome criteria such as productivity, motivation, morale and turnover. These studies included leaders of various organisations, such as military, manufacturing company and insurance company. The Michigan researchers identified two “orientations of supervision”, production centred and employee centred, while the Ohio researchers identified two styles which they called initiating structure and consideration. Both Michigan and Ohio researchers came to the same conclusion, that effective leadership is dependent on an interaction between employee orientation (consideration) and production orientation (initiating structure) (see box 1).

The classical leadership styles of “production/task oriented” and “employee/relation oriented” were later transposed into new dimensions called transformational leadership contra transactional styles (Burns 1978, Bass 1985). Burns (1978) described transformational leadership as a process that motivates subordinates by appealing to higher ideals and moral values. The transformational leadership style can be seen as a combination between the employee/relation-oriented and the change-oriented leadership styles. A transformational leader can be characterized as a “gardener”, shaping a developing and growing culture through stimulating and empowering the staff toward creative thinking and giving freedom for innovation and individual growth. The following four components are highly valued in transformational leadership:

- inspirational motivation
- idealized influence
- intellectual stimulation
- individualized consideration (Ward 2002, Bass & Avolio 1985).

A literature review performed by Elkins and Keller (2003) suggested that transformational project leaders were more often associated with project success. An American study shows that this leadership style is seen a little more often among women leaders (Bass et al.1996). A transactional leader is more focused on structure, role expectations and possibilities to reward the staff. Every extra effort has to be rewarded, as you won't get anything from anybody if you don't give him or her something in exchange (Bass & Avolio 1985). Hersey and Blanchard (1977) suggest that a manager should be flexible and adapt his/her behaviour according to the maturity of subordinates.

A lot has happened since the Ohio and Michigan studies, and continuous change is today the natural state in many private companies, as well as in the public sector and leadership is more focused on renewal and change and less on stable efficiency (Ekvall 1992). New leadership behaviour has developed that is more focused on change within the company. This style, called change oriented leadership behaviour, had not been necessary before the mid-1980s (Ekvall, 1988, Ekvall & Arvonen 1991). A change orientated leader is primarily concerned with development, increasing flexibility and innovation, gaining commitment to the changes, and has a creative attitude and visionary qualities (Kotter 1995, Yukl 2002) (see Box 1). Leadership today can be seen as a combination of three dimensions: change, production and employee/relations orientation (Ekvall & Arvonen 1994, Yukl 2002).

Box 1. Representative behavioural components for the three leadership dimensions

Production oriented	Employee oriented	Change oriented
<ul style="list-style-type: none"> - Plans carefully - Gives clear instructions - Is very exact about plans being followed - Defines and explains the work requirements 	<ul style="list-style-type: none"> - Shows regard for the subordinates as individuals - Is considerate - Is just in treating subordinates - Relies on subordinates - Allows subordinates to decide 	<ul style="list-style-type: none"> - Offers ideas about new ways of doing things - Pushes for growth - Initiates new projects - Gives thoughts about the future - Likes to discuss new ideas

Source (Ekvall & Arvonen 1991)

The theoretical base for this thesis is that leadership behaviour, besides the classical dimensions of production and employee orientation, also involves the dimension of change orientation (Ekvall & Arvonen 1994, Yukl 2002). In particular, there is a lack of leadership research that includes the dimension of change when studying managers in health care.

Nursing management

Swedish hospitals are organized in a hierarchical structure and in this structure nursing managers are placed quite low (Figure 1). There is some movement towards new organizational forms such variations of matrix organizations where the medical professionals are organized across the nursing organization and the nursing organization has its own path all the way up to the hospital board. Thus far, it seems as if these types of organizational variations have yet to succeed. The hospital organization in Sweden has made the head of a department manager of the entire health care process, including nursing care. This is different in comparison to many other countries where nursing has its own organization.

Nursing is the responsibility and domain of nurses (SOSFS 1993:17) and includes both clinical work and science. While there is no internationally recognized definition of nursing, the National Board of Health and Welfare in Sweden (SOSFS 1993:17) has adopted the well-known definition of Henderson (1966, p 15):

"The unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery (or to peaceful death) that he would perform unaided if he had the necessary strength, will, or knowledge. And to do this in such a way as to help him gain independence as rapidly as possible."

Henderson (1966) categorized nursing activities into 14 components, based on human needs. She described the nurse's role as *substitutive* (doing for the person), *supplementary* (helping the person), or *complementary* (working with the person), with the goal of helping the person become as independent as possible.

Nursing as a profession is people oriented and with an emphasis on humanism, and this probably influences leadership behaviour (Bondas 2006). The nature of health care at a university hospital where you deal with life and death every day probably has its own demands within leadership in comparison with the industrial sector. It is not possible to know what is going to happen the next minute, the next hour or the next shift. This places demands on the nurse manager to be flexible and resistant to stress in order to motivate and support the staff in difficult situations.

The nurse manager, besides being the head and manager of the unit, is also a leader over part of the health care staff. The tasks of nurse managers as in all managerial positions independent of area require different competencies. One is the managerial role which includes competencies such as analytical thinking, basic management knowledge, work environment analysis, and business knowledge (Wallick 2002). These competencies relate to the production dimension. The other role is leadership that includes visioning, goal setting and supporting. Mahoney (1994) stated some qualities essential to becoming a nurse leader: competence, confidence, courage and creativity. The continuous changes in health care like mergers, major medical innovations, increasing possibility for advanced outpatient care, etc, place demands on the different competencies of nurse managers, such as, social awareness, the ability to see the “big picture”, and interpersonal relationship building (Wallick 2002). These competencies relate to the dimensions of change and employee.

Based on Bass' theory (Bass 1985), Prenekert and Ehnfors (1997) studied whether nurse managers who expressed both transactional and transformational behaviour are more organizationally effective. They did not find any evidence for this hypothesis, but they did notice a higher correlation between transformational leadership and nursing quality and a lower correlation between transactional leadership and nursing quality.

Being a professional nurse, the nurse manager is often seen as a role model both as a nurse and as a manager. Larsson et al. (2005) found evidence supporting the influence of being a role model as an important part of leadership in a study in the military context. The nurse manager is also supposed to be the one who knows best about direct patient care and she is the most important link between higher organizational levels and the subordinates.

To be able to deal with everyday management where behaviour is adapted to the situation (contingency leadership) is important. The integrated leader who combines different aspects of leadership to different situations is in studies by Cook (2001) found to be more effective in nursing today (Cook 2001). In situations of crisis one type of leadership is needed and in times of stability another. Managers, who are able to improvise when dealing with situations beyond their control, who evaluate and then plan for similar events in the future, have the greatest potential for success in their leadership (Tyrstrup 2006). However, situations beyond one's control often occur in health care. The nurse managers should be able to support and

deal with staff anxiety due to, for example, patient death or acute and difficult situations such as cardiac arrest. Competence in improvising and how to cope with difficult situations is needed. Managers need to be aware of their leadership profiles and limitations in order to be able to improve leadership performance (LaMonica 1990).

The importance of supportive leadership behaviour for job satisfaction and the intention to stay in nursing has been described previously (Albaugh 2003, Blanchard & Waghorn 1997, Taunton et al. 1997), as well as the fact that poor supervision by nurse managers leads to job dissatisfaction (Taylor et al. 1999). Cook (2001) identified five attributes that characterize effective clinical nursing leaders: highlighting, respecting, influencing, creativity and supporting. Cook also identified five different types of effective leaders: discoverer, valuer, enabler, modifier and shaper. Cook's research points out a component of leadership style, creativity, and two leader types, discoverer and shaper, findings that indicate the need for the dimension of change to be included in nursing leadership. To be able to deal with change, such as major clinical or organizational changes or continuous improvement, it is necessary to shape a work climate that supports new ideas that can adapt new knowledge and that translate these into clinical practice.

2.5 Work climate

Organizational climate has been discussed simultaneously with organizational culture (Schneider 1990) and some writers argue that the two topics overlap and encompass each other (Denison 1996). Culture is defined as the normative beliefs, norms and values, and shared behavioural expectations in an organization and is the property of the work unit (Ashforth 1985, Verbeke et al. 1998); thus, it affects the strategies for management. This thesis defines climate based on the work of Verbeke et al. (1998): climate is the way people perceive their work environment. The organizational climate is regarded as a conglomerate of the attitudes, feelings and behaviours which characterise life in an organization (Glisson & James 2002, Isaksen & Ekvall 2006). Every individual in the organization perceives the climate and can describe it on a basis of his or her own perceptions. The climate of an organization can therefore be studied by way of these perceptions. The climate can equally well be studied by external assessors or observers. The way individuals perceive the work climate influences their attitudes towards the organization where they work and it extends into their work motivation (Brown & Leigh 1996).

A climate must be more innovative for the focus to be on renewal and change. According to Ekvall et al. (1983), a climate that emulates innovativeness (creative work climate) includes:

- maintaining support for ideas
- open relationships
- mutual trust and confidence
- challenge and motivation
- commitment to the goals and operations of the organization
- freedom to seek information and show initiative
- maintaining pluralism in views, knowledge and experiences
- open exchange of opinions and ideas

A recent study of mental health service organizations showed that both culture and climate impact on work attitudes and subsequent staff turnover (Aarons & Sawitsky 2006). A study by Hellriegel and Slocum (2004) clearly indicate the existence of a relationship between work climate and job satisfaction.

2.6 Job satisfaction

Job satisfaction can be considered from a global perspective, such as the feelings and emotions perceived by the individual employee based on work experiences (Price 2001, Spector 1997). It can also be explored through a “facet approach”, studying employee attitudes towards various aspects (facets) of their jobs. Among other researchers Sansone & Harackiewicz (2000) and Taris & Feij (2001) describe two aspects of values, *intrinsic* and *extrinsic* where intrinsic values refer to immaterial aspects of the job such as job variety and autonomy, and extrinsic values refer to material work aspects such as salary and opportunity for promotion. Job satisfaction decreases when intrinsic work values are not met (Hegney et al. 2006, Taris & Feij 2001). Maslow (1970) developed the well-known ‘Hierarchy of Needs’, writing that human beings are motivated by unsatisfied needs. The model comprises five layers, and Maslow (1970) stated that needs on one level must be satisfied before an individual become aware of needs on a higher level, something which is often criticized. Maslow’s theory focuses on needs and need deficiencies and how they stimulate the internal drive.

Herzberg et al. (1959) studied what motivates people to work. Out of this they developed the ‘Two-factor’ theory of work motivation. The “hygiene” factors are extrinsic to the work itself and must be met in order to prevent dissatisfaction, while the “motivators” are qualifiers of the task that make it possible for the individual to develop and achieve personal goals. Herzberg’s theory has been questioned by recent research that, in contrast to Herzberg, has shown that satisfied external factors such as salary and reward not only prevent job dissatisfaction, but can also promote motivation (Theanderson 2000).

Vroom (1995) has developed a theory of motivation which states that motivation relies on the individual’s and the organization’s values, expectations and goals. The individual perceives a relation between certain behaviour and its consequences, and expects that certain behaviour will give certain reward. Vroom states that everyone has a unique combination of motivational factors such as values, incentives, attitudes and expected utility.

Theories of motivation have been used as a tool for making health care staff, which is the most expensive resource to its most valuable resource (Shortell & Kaluzny 2000). The main theme of these earlier studies, mostly conducted in areas other than health care, is that job satisfaction is the result of whether one’s job meets one’s needs – if one feels dissatisfied, searching for and accepting another place to work will likely occur. Recent studies within nursing have reported relationships between job satisfaction and specific components such as pay (Chan & Morrisson 2000, Cowin 2002), control, autonomy and responsibility (Chan & Morrisson 2000, Cowin 2002, Larrabee et al. 2003) and satisfaction with professional opportunities (Cowin 2002). Work group cohesion is also important (Tourangeau & Cranley 2006). McNeese-Smith (1996) found that the perceptions of staff nurses toward the leadership behaviour of their manager were significantly related to their job satisfaction. Supportive leadership behaviour include creating opportunities that lead to

staff perceiving their work as meaningful and stimulating and giving a sense of coherence (Antonovsky 1979). Gilbreath and Benson (2004) showed in their study of employees working in different organizations (including health-care) in the US that leadership behaviour statistically impacts on psychological well-being.

This thesis focuses on motivators, the intrinsic factors of job satisfaction. The management focus in health care has for many years been more on effectiveness and productivity and less on what is important for developing job satisfaction (Newman et al. 2002, Kimball & O'Neil 2002). However, job satisfaction has been described as the most important predictor for nurses' intention to remain employed and since nurse staff turnover is one of the major problems in health care (Cavanagh & Coffin 1992, Cowin 2002, Larrabee et al. 2003, Shader et al. 2001) this is a very important issue.

2.7 Staff Turnover

Staff turnover, besides increasing the hospital costs, also affects the quality of nursing care, job satisfaction, group cohesion, job stress, and morale (Bruffey 1997, Jones 1992, MacRobert et al. 1993, Tonges et al. 1998). The turnover of good staff members is shown to lead to decreased morale and a sense of rejection in those left behind (Manion 2004). Mc Gillis et al. (2004) reported more wound infections resulting from care provided by the less experienced nurses, indicating a risk for a decrease in the quality of care with a high turnover rate.

Turnover is commonly defined as the percentage of employees that have quit within a given time period, usually one year (Newman et al. 2002, The HSM Group 2002). Another definition is the balance of new employees and employees that have quit during a specific period in percent of the total number of employees. The latter definition is used in this thesis and takes into consideration that if a person leaving work is not replaced the turnover rate will be lower (PREDO 2003). In a London study of four hospitals with high staff turnover rate, the average rate was 16 percent compared to the expected 12 percent (Newman & Maylor 2002). A study of turnover in the United States showed a rate of 21.3 percent (The HSM Group 2002). The estimated cost for every new nurse recruitment was USD 10 000 per registered nurse (RN). Another study estimated the total cost of one medical-surgical nurse turnover to USD 42 000 (Kerfoot 2000).

There is no published evidence for what the optimal target rate of staff turnover should be. It is hardly expected, nor even desirable, that the rate of staff turnover should be zero. Some turnover will exist if employees move up in their careers or go back to school. New knowledge, thoughts, and ideas must be brought in to develop the work and the workplace, and new staff members can provide this. The staff turnover target rate at the Karolinska Hospital was <12%, but why this specific rate was chosen is unknown. The actual mean turnover rates in nurse-led units were 23% (2000), 19% (2001), 17% (2002) and 14% (PREDO 2003). The turnover rate differed considerably between units (0 – 24%). The falling trend is explained by the fact that the hospital rented a lot of nurses from temporary staff recruitment companies during 2002 – 2003, and these are not included in the statistics.

Studies in nursing show that there seems to be a strong connection between job dissatisfaction and intent to leave (Shader et al. 2001, Irvine & Evans 1995, Gauca Borda & Norman 1997, Larrabee et al. 2003). In a study by Newman and Maylor (2002), interviews

demonstrated that a critical factor for nurses to experience job satisfaction is the “ability to give quality care”. Hence, nurse job satisfaction may be linked to patient satisfaction. Other factors such as career-related issues, skill acquisition and “the people I work with” are also important determinants of perceived satisfaction. Feelings of dissatisfaction with one’s work might be related to staff shortages, and negative media comment (Newman & Maylor, 2002). Aiken et al. (2002) showed in studies among 168 acute care hospitals in Pennsylvania USA, that job dissatisfaction among nurses increased by 23 percent if the patient:nurse ratio increased from 4:1 to 8:1. A survey study in Sweden (Gardulf et al. 2005) showed that the most important factors for nurses’ intention to leave were dissatisfaction with salary, stressful work, and the desire to try something new.

In the 1980s, during a period of nursing shortage in the US, a group of hospitals was identified that managed to attract and retain professional nurses. These hospitals were called “magnet hospitals” and studies were done to find out the characteristics of the hospitals (Kramer & Hafner 1989, Aiken & Patricia 2000). Eight essentials of magnetism (EOM) were described by staff nurses for building and maintaining a good nurse (Aiken & Patricia 2000, Kramer & Schmalenberg 2004a, 2004b):

- physician relationship
- autonomous nursing practice
- a culture in which concern for the patient is paramount
- working with clinically competent co-workers
- control of nursing practice
- perceived adequacy of staffing
- support for education
- nurse management support

Some studies focus on nursing leadership and how first line management impacts employees’ intention to leave. Fischer et al. (1994) found that managerial environment was predictive of intention to stay. A literature review showed that lack of collaborative support from management was an important factor contributing to dissatisfaction (Albaugh 2003). Other nurse satisfiers were participative management styles, and shared governance and leadership, which promoted group cohesion (Albaugh 2003).

3 STUDY RATIONALE

The question of staff turnover is one of great importance to any major hospital. Given my position as Director of Nursing, I was curious as to how the leadership of nurse managers could affect this among nurses.

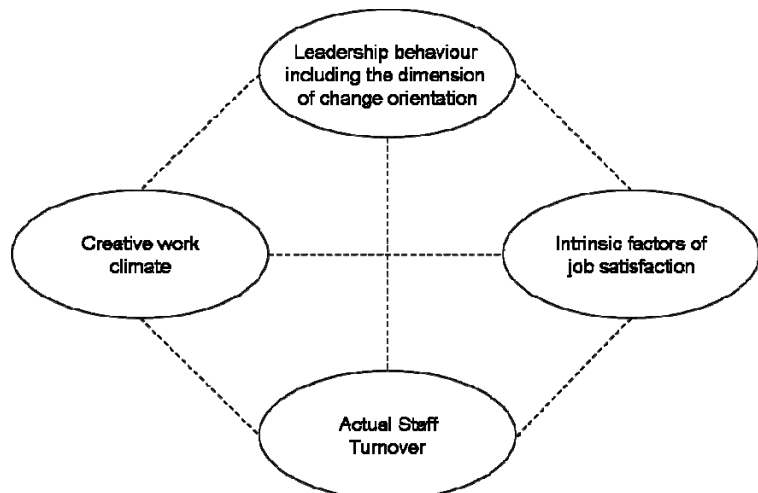
In the exploratory literature review that formed the basis for this thesis, I gained a deeper understanding about what was already studied both in and outside health care and identified areas where further research could add new knowledge. Certain terms, such as leadership behaviour, staff turnover (as measured with intent to leave), extrinsic and intrinsic motivational factors, and job satisfaction kept coming up (for example: Allbaugh 2003, Cook 2001, Fischer et al. 1994, Kramer 1990). Looking at the relationship between these terms, I came across a study that linked leadership behaviour to job satisfaction via “work climate” (Ekvall 2002) and recently, another study that links work climate with staff turnover has been published (Aarons & Sawitsky 2006).

I found that,

- Leadership styles have been poorly studied in nursing
- There was a lack of research on the relationship between leadership behaviour and actual staff turnover in health care
- Most studies in nursing used “intention to leave” as an indicator of staff turnover instead of actual staff turnover
- There were no studies found that explored the relationships between leadership behaviour, work climate, job satisfaction and/or staff turnover.
- More is written about the impact of extrinsic rather than intrinsic motivational factors in nursing.

Based on the review of the field as presented in the introduction, the gaps in knowledge identified above, and the discussions with my advisors and others, a model emerged that could be used to explore the relationships between leadership behaviour, work climate, intrinsic factors of job satisfaction and actual staff turnover. These concepts are presented below in Figure 2. The studies that form the basis of this thesis looked at the relationship between these concepts as dashed lines.

Figure 2. The model



4 AIMS AND OBJECTIVES

The overall aim of the thesis was to study the relationship between nurse managers' leadership behaviour and staff turnover, considering the intermediate and/or influencing factors of creative work climate and intrinsic factors of job satisfaction.

4.1 Specific objectives

1. To study nursing leadership regarding what nurse managers and subordinates see as important and to explore subordinate's opinions of their nurse managers' performance (I).
2. To study how the perceived leadership behaviour of nurse managers relates to job satisfaction and to a creative work climate (II).
3. To study the relationship between leadership behaviour of nurse managers and staff turnover in relation to intervening factors of job satisfaction and creative work climate (III).
4. To explore opinions on individual needs and other factors that may influence rates of nursing staff turnover in units lead by nurses (IV).

5 METHODOLOGY

5.1 Participants

Quantitative studies

The quantitative data collection was conducted in October 2003. At the time of the study there were 92 nurse managers at the hospital, representing a wide variety of health care units; 77 of these met the inclusion criteria. Inclusion criteria for the managers were: responsibility for the budget of the unit and for recruiting staff, having ten or more subordinates, having been in charge for at least six months, and having not given notice to resign. Ten subordinates of each nurse manager were invited to participate in the study, providing 770 potential participants from a total population of about 3000 subordinate staff. Included were registered nurses, assistant nurses and various administrative staff. Only staff members actually working at the time of the study were involved in the randomization process; if a nurse manager had ten subordinates, all were asked to participate in the study. When a manager's team consisted of more than ten subordinates, each subordinate received a number that was then randomly drawn from a box by an assistant independent of the hospital and the study. Excluded from the sample were staff members with time-based or temporary employment (about 100 in total) since these nurses primarily work night shifts or weekends when the manager is not in charge and therefore would not be able to respond to the questionnaire on perceived leadership behaviour.

The 77 managers were invited to take part in study I and 66 (86%) responded (Table 1).

Table 1. Basic facts of invited nurse managers compared to responded

Basic facts	Invited managers	Responded
<i>Number</i>	77	66
<i>Gender</i>		
Men	3 (3.9%)	3 (4,5 %)
Women	74 (96%)	61 (92,4%)
<i>Age</i>		
20-30	0	0
31-40	9 (11.7%)	6 (9,1%)
41-50	30 (39%)	25 (37,9%)
51-60	33 (43%)	28 (42,4%)
>60	5 (6.5%)	5 (7,6%)
Internal dropout		2

No significant difference was found regarding basic facts between the invited nurse managers and those who responded. Following a dropout of 344 invited respondents, the total number of participating subordinates in the study was $n = 426$ (55%). The non responders were asked to send e-mail or to phone the assistant of the study and give an explanation as to why they did not want to participate. Some of the drop outs ($n=127$) gave some explanation, but most of the dropouts (217) provided no explanation as to why they did not respond. Explanations given were being on sick leave (6), on maternity leave or pregnant (10), or on leave for some other reason (15). Nine had resigned. Only six gave the explanation that the questionnaires were too extensive to go through. Of the 426 respondents, seven did not answer the questions on basic data attached to the questionnaires.

When analysing the background variables, there was a statistically significant under-representation among the respondents of age 31–40 years as compared with the entire sample. There was a tendency toward over-representation of respondents in the age of 41–50 years, but this is not statistically significant. No other differences can be shown in comparison between the invited and the respondents (Table 2)

Table 2. Basic facts of the invited nursing staff compared to facts of the responded

	Invited		Responded	
Gender				
Men	43	(6%)	28	(7%)
Women	727	(94%)	391	(93%)
Age (years)				
20-30	139	(18%)	73	(17%)
31-40	259	(34%)	121	(29%)
41-50	196	(25%)	121	(29%)
51-60	148	(19%)	88	(21%)
>60	28	(4%)	16	(4%)
Profession				
Registered nurse/midwife	464	(60%)	272	(65%)
Nurse practitioner/child nurse practitioner	261	(34%)	126	(30%)
Others (secretary, administrative assistant, social worker, technician/transporters)	45	(6%)	21	(5%)
Internal dropout			7	(1.5%)

Table 3 shows how the number of participants is distributed into the four different sub studies.

Table 3. Participants in the four studies

Study	Managers	Subordinates
I	66	426
II		426
III		353 (from 52 units)
IV	12	17

In a part of Study I, the sample consisted of units with at least five respondents for the questionnaires on subordinates' opinions of perceived and preferred leadership behaviour and in Study III the sample consisted of the same units including questionnaires on creative work climate, job satisfaction and register data of staff turnover. There were 52 (67%) units with five or more employees (in total 353 persons) responding to all the questionnaires. The results in Study III are based on data from these 52 units. A chi-square analysis was done according to number of subordinates of the included 52 units compared to the invited 77 units. No significant difference was shown. Parts of Study I and the whole of Study II are based on data on individual level and all 426 respondent subordinates were included.

Focus group discussions (FGD)

To explore opinions on individual needs and other factors that may influence staff turnover focus group discussions (FGD) were conducted in May 2004 (Study IV). Both staff nurses and managers with responsibility for hiring and managing nursing staff were included in the study. An invitation letter was distributed by the author of this thesis, describing the purpose of the study and asking nurses and managers interested in the subject to volunteer for participation. The author also made the final decision for distributions of participants into the different focus groups based on 34 entries. Barbour & Kitzinger (2001) suggest that the ideal number of participants in a FGD is between 3 and 6. The aim of the study was for a group size of 4-8 participants. In this study there were initially planned for five groups, one with head of departments, two with nurse managers, and two with staff nurses (Table 4). If considered that more data were needed more groups were planned to be added. This was however not found to be needed as nothing new appeared in the fifth FGD.

Table 4. Participants in the focus group discussions (FGD)

	FGD1 Head of departments (HD)	FGD2 Nurse managers (NM)	FGD3 Nurse managers (NM)	FGD4 Staff nurses (SN)	FGD5 Staff nurses (SN)
N of participants	3	3	6	9	8
Professions	2 MD 1 RN	3 RN	6 RN	9 RN	6 RN 2 LPN
Age	46-56	52-53	27-59	35-61	33-59
Sex	2 male, 1 female	All female	All female	1 male 8 female	All female

HD = Head of department

RN = Registered nurse

LPN = Licensed practical nurse

NM = Nurse managers

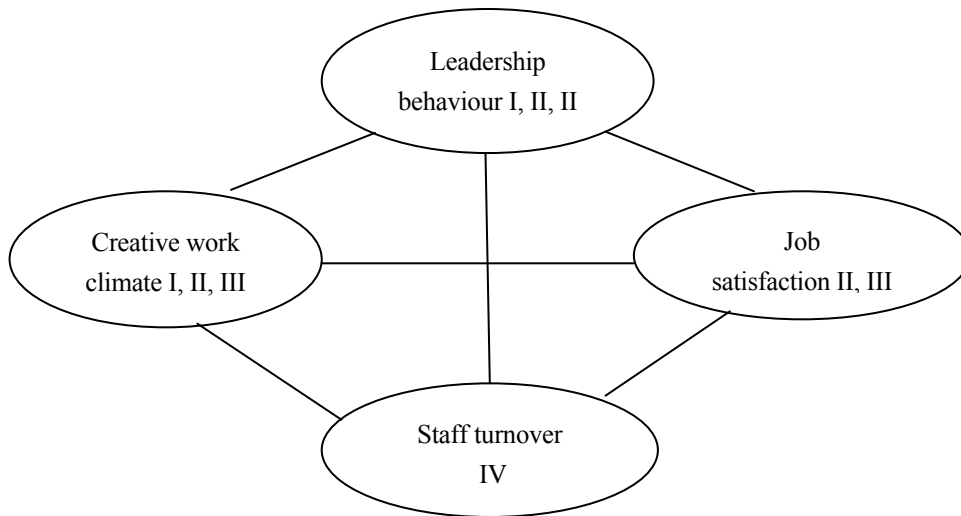
SN = Staff nurses

One head of departments was ill on the day we conducted the FGD and had to cancel her participation. In one of the groups with managers, one manager did not show up. Hence, these two groups only had three participants.

5.2 Study design

The research model (Figure 3) is developed considering the identified gap in knowledge explained by Figure 1. Dimensions of leadership behaviour including the dimensions change orientation, production orientation and employee orientation (Ekvall & Arvonen 1994, Yukl 2002) - both preferred and perceived - was explored with a questionnaire (I). In study II, the results from the questionnaire on perceived leadership behaviour were used on an individual level, together with questionnaires on creative work climate (Verbeke et al.1998, Ekvall et al.1983) and intrinsic factors of job satisfaction (Herzberg et al. 1959, Taris & Feij 2001). In addition to the answers from the three different questionnaires, now used on unit level, register data for the included unit on staff turnover for the year 2003 were used (PREDO 2003) in Study III. To explore staff turnover more deeply a qualitative approach with Focus Group Discussions was used and analyzed together with register data on staff turnover for 2002-2003 (IV).

Figure 3. Research model



5.3 Instruments (Study I-III)

The reason why questionnaires were used to measure leadership behaviour, job satisfaction and creative work climate was that with this method it is possible to obtain a large amount of data within a limited amount of time. The data collection is structured to avoid interviewer bias. It was also possible to obtain a high degree of anonymity (Polit & Hungler 1999). Given the position of the author this was deemed particularly important. The questionnaires were also sent from the academic affiliation and not from the workplace. There are several well documented, validated and reliability tested instruments available well suited for this type of research.

The questionnaires were distributed at the same time to all 770 subordinates. Attached were questions regarding basic data on the respondents, such as gender, age and profession. The questionnaires were distributed by a research assistant to the subordinates' home addresses, and the assistant sent reminders after two weeks to those participants who had not responded. The answers were sent directly to the research assistant at KI and the author of this thesis had no access to information identifying any individual.

The CPE (Change Production and Employee) instrument

A questionnaire, based on the "change, production, employee" model (CPE), was used to assess preferred and perceived leadership behaviour. This questionnaire was developed and validated by Ekvall & Arvonen (1991, 1994) and consists of 30 items covering the three dimensions of change, production and employee (relations), with 10 items for each dimension. Factor analyses (principal factors, varimax rotations) and component analyses were used to identify the three dimensions of leadership behaviour. These three fundamental dimensions can then be combined into leadership profiles (Yukl 2002). The questionnaire was reliability-tested using Cronbach's alpha both in earlier and in this thesis (Arvonen & Ekvall 1999, Arvonen 2002), and its validity has been demonstrated in several large studies (Ekvall & Arvonen 1991, 1994). The CPE tool was chosen because it is reliability-tested

and validated in Swedish and has been widely used both in Sweden and in other countries (Arvonen & Ekvall 1999), but never before in health care.

The respondents' answers are rated 1–6 on a Likert (summated rating) scale (ranging from “do not agree at all” to “agree totally”).

Example questions from this questionnaire include:

My manager:

- “initiates new projects” (measures change)
- “gives clear orders and instructions” (measures production)
- “is friendly” (measures relation)

Reliability

Cronbach's alpha of the CPE instrument - subordinate opinions of their managers' leadership behaviour:

	Change	Production	Employee
3168 employees in different organizations	.87	.89	.86
1173 employees at the county councils dentist org.	.93	.94	.91
426 nursing staff at Karolinska Hospital	.93	.94	.95

Cronbach's alpha of the CPE instrument – Subordinate opinions of preferred leadership behaviour:

	Change	Production	Employee
426 nursing staff at Karolinska hospital	.85	.87	.86

The Creative Climate Questionnaire (CCQ)

The questionnaire used for self-assessing work climate, the Creative Climate Questionnaire (CCQ; Ekvall 1995), consists of 50 items, five in each of the following ten variables: challenge, freedom, idea support, trust, dynamism, playfulness, debate, conflict, risk taking, and idea time. Factor analyses (principal factors, varimax rotations) and component analyses were used to identify the variables of climate. Based on the factor structures indices of items were composed into measures of the dimensions of climate (Isaksen & Ekvall 2006). The questionnaire is widely used both nationally and internationally for assessing creative climate (Ekvall 2001, Ekvall 2002, Isaksen & Ekvall 2006, Talbot et al. 1992), but never before in health care. Answers are rated 0–3 on a Likert scale (in terms of applicability, from “not at all” to “to some degree” and “fairly” to “to a high degree”). Low rates indicate that the climate is perceived as stagnated and high rates indicate that the climate is perceived as creative. For the variable “conflicts” it is the opposite.

Example statements from this questionnaire include:

- “New ideas are supported and encouraged” (measures support for ideas)
- “You are allowed to make your own decisions” (measures freedom)
- “There's always something going on here” (measures dynamism)

Reliability

Cronbach's alpha was used to determine reliability of variables in the CCQ:

	230 engineers from ten companies (Schou 1991)	426 nursing staff at Karolinska hospital
Challenge	.85	.81
Freedom	.77	.79
Idea support	.91	.90
Trust	.84	.81
Dynamism	.89	.81
Playfulness	.88	.89
Debate	.78	.79
Conflict	.84	.89
Risk taking	.77	.69
Idea time	.84	.83

The Job Satisfaction Questionnaire

The tool used for self-assessing job satisfaction, the Job Satisfaction Questionnaire, consists of 20 items covering 5 different variables: competence (5 items), feeling (5 items), autonomy (3 items), initiative (4 items) and relation (3 items). Factor analyses (principal factors, varimax rotations) were used on two different material (n=806 and n= 1961), showing identical factor structures (Ekvall 2001). The questionnaire has been used earlier in studies of different organizations in Sweden (Arnö & Tunving 2002); its reliability has been tested both in the study by Arnö and Tunving (2002) and in this thesis. Answers to the questionnaire are rated 0-3 on a Likert scale from “mostly negative” to “somewhat more negative than positive” and “somewhat more positive than negative” to “mostly positive”. There is no “middle” answer (neither/nor) so the respondent is required to take a standpoint.

Example questions from this questionnaire:

How does your work and the circumstances at work affect your possibility to:

- “feel secure” (measures feeling)
- “feel appreciated” (measures relation)
- “be more competent” (measures competence)

Reliability

Cronbach's alpha was used on variables of the Job Satisfaction Questionnaire:

	1961 employees at a state owned company in a technical area (Ekvall 2001)	426 nursing staff at Karolinska hospital
Competence	.89	.88
Feeling	.88	.88
Autonomy	.83	.81
Initiative	.88	.85
Relations	.79	.74

5.4 Focus group discussions (Study IV)

The objective of study IV was to explore opinions on individual needs and other factors that may influence rates of nursing staff turnover in units lead by nurses. Focus interviews with groups, focus group discussion (FGD) is a qualitative method suitable for obtaining information within a social context about a specific topic. FGDs are particularly suited for the study of attitudes and experiences around specific topics (Barbour & Kitzinger 2001). FGDs can be used in the latter stage of quantitative projects in order to help in understanding the findings (Barbour & Kitzinger 2001).

The group interaction can help the participants explore their opinions, feelings, attitudes, and previous experiences (Krueger 1994, Barbour & Kitzinger 2001). While individual interviews are more effective for tapping into individual biographies they can often be time consuming. To understand a group culture, more in-depth ethnographic methods like participating observation is more suitable (Morse & Field 1996). However, the focus of this thesis was not on culture, it was more about feelings and opinions; therefore the focus group discussions were deemed sufficient to provide additional information about the answers to the three questionnaires used in this thesis.

The members of the FGDs are often selected so that groups are as homogenous as possible. Heterogeneity may be obtained by using several groups of varying composition (Barbour & Kitzinger 2001). The idea behind the use of homogenous groups is that participants in the individual groups feel less inhibited and to avoid that minority opinion may not be expressed. This risk could otherwise be seen as a disadvantage with FGDs. By ensuring heterogeneity between groups, the researcher safeguards that a range of views will be captured (Ovretveit 2002). A global question is usually used to stimulate the discussion (Morse & Field 1996). The questions used in this thesis were:

- Why do nurses leave?
- Why do nurses stay?

The moderator, a researcher at the KI (PhD and RN), with some experience of interview technique, and unknown to the participants, conducted the FGDs. Two observers took turns assisting and taking notes at the group discussions (Krueger 1994). The observers were managers of nursing development at the actual hospital, but they were not observing groups that contained staff members from their own divisions. There was an open discussion during which the moderator posed follow-up questions and attempted to include all participants. At the end of the discussion, the observer made a short summary and gave an opportunity to add comments and correct misunderstandings.

The FGDs took on average 90 minutes. FGDs were tape-recorded and transcribed in parts as written language and used together with the observer's notes. The aim was to employ a judicious mixture of written and tape-recorded sections, because it would sometimes be difficult to identify every person and every voice on the tape. This data processing method is descry-bed by Wibeck (2000) and Barbour & Kitzinger (2001).

Register data (Study III-IV)

Register data of staff turnover for the year 2003, gathered from PREDO (Patient related report), the KS computerized official system for information control and follow up were used for each of the included 52 units in Study III.

To broaden the exploration of factors that might influence on staff turnover available register data about actual staff turnover were used in study IV in addition to the FGDs. The data of staff turnover were for the purpose related to factors of the unit, such as number of staff nurses, inpatient or outpatient clinic, and medical speciality. The mean turnover rate for each included unit for the years of 2002 - 2003 was gathered from the system.

The definition of staff turnover used in this study is the balance between new employees and employees that have left during a given period (PREDO 2003).

5.5 Analyses

Statistical analyses

The distributions of the variables were assessed for skewness by traditional tests and no signs of severe skewness were found. All tests were done in Statistical Package for the Social Sciences (SPSS 2006).

Study I

Significance testing was applied with t-tests of mean differences between perceived and preferred leadership style and between managers' and subordinates' ratings on each of the three dimensions.

Study II

For analysing the relationship between the leadership dimensions and job satisfaction, correlation analyses were employed with a pre-chosen significance level of 0.05. The relation between job satisfaction and leaders perceived as "super" (≥ 1 SD beyond the mean in all three dimensions), "middle" (within 1 SD of the mean in all three dimensions), or "invisible" (≤ 1 SD below the mean in all three dimensions) was studied through analysis of variance, with Duncan's *post hoc* test with a pre-chosen significance level of 0.05. Likewise, the relation between job satisfaction and the quartiles of total work climate (mean value of all ten variables) was studied in the same manner. The relationship between the work climate variables and job satisfaction were studied with correlation analyses. A partial correlation analysis was done between the leadership dimensions and job satisfaction, controlling for total work climate.

Study III

All analyses were done on the unit level, i.e., for each manager the responses of their staff were averaged for each variable and these averages were then used for analyses. Correlation analyses were performed between leadership dimensions and staff turnover, as well as deriving the partial correlation coefficients between leadership behaviour and staff turnover, controlling for work climate and job satisfaction. Statistical significance was tested at the 5 percent level. The same analyses were also performed using the means of leadership behaviour (including all three dimensions).

The units were divided into five groups based on their staff turnover. These groups were used to examine the three leadership dimensions in a one-way analysis of variance (ANOVA) with Duncan's *post-hoc* test.

Staff turnover was related to four leadership profiles. The association between the mean staff turnover and the leadership profiles; "invisible" (≤ 1 SD below the mean in all three dimensions), "middle" (within 1 SD from the mean in all three dimensions), "super" (≥ 1 SD over the mean in all three dimensions), and "odd" (quite different ratings in the three dimensions) was calculated in a one-way analysis of variance with Duncan's *post-hoc* multiple comparisons test at the 5 percent level.

The associations between leadership profiles and work climate (after the variable "conflicts" was converted to provide uniform polarity) and job satisfaction were examined using one-way analysis of variance.

Finally two linear regression analyses were performed, one with the ten work climate variables as predictors and staff turnover as the dependent variable and another with the five job satisfaction scales as predictors and staff turnover as the dependent variable. In both of these analyses the stepwise forward selection method was employed.

Study IV

Registerdata

One way analyses of variance were used to compare data of staff turnover rate (mean of 2002-2003) on unit level between number of nursing staff and type of unit (out or inpatients). A *posthoc* test was done on a significance level of 0.05. T-test was used to compare data between staff turnover and medical speciality.

Analyses of the focus group discussions

After five FGDs the research group decided that saturation was achieved and that the fifth FGD did not add any new aspects. The FGDs in Study IV generated a large amount of rich data and much of the focus of the analyses was on the group as a whole to identify consensus as well as individual voices within the group context that expressed oppositional opinions.

Initially, the entire material was read and listened through several times by the author, the moderator and the two observers to give an overall idea about the content. Statements were coded and labelled with possible theme headings that were identified individually by the researcher, the moderator and the observers. The themes were then grouped into categories. This was followed by a process where categories were compared and discussed by the researcher and the moderator until consensus was reached. The process resulted in categories of statements and opinions from the FGDs about the "why nurses leave" and "why nurses stay". (Morse & Field 1996, Barbour & Kitzinger 2001, Ovretveit 2002).

Triangulation

The analyse process continued with a comparison of the categories found in the FGDs and the results of the statistical analyses of register data. This process is commonly called triangulation, which broadly refers to the use of multiple methods in research, in our case data triangulation (meaning using different sources of data) (Fullop et al. 2002). Through this process, we identified certain factors (including needs/values) that may influence nursing staff turnover rates in units lead by nurses. This comparison led to a consensus on factors that may have an influence on staff turnover, including the results of both methods. These factors were then discussed and agreed upon by the author, the moderator, and the two supervisors. The final list of factors was then compared to factors identified in earlier studies of job satisfaction and motivation.

5.6 Ethical considerations

Confidentiality and anonymity was guaranteed. Participation was voluntary and informed consent was obtained. The anonymity and the confidentiality were particularly important as the author of the thesis was working at the hospital as nursing director at the time of the study. The study was approved by the ethical committee of the Karolinska Institutet (Dnr 03-348).

6 KEY RESULTS

6.1 Leadership styles in nursing management: preferred and perceived (I)

Preferred leadership behaviour

The mean values of the three dimensions of opinions on preferred leadership were compared between managers and subordinates. The preferences of leadership behaviour differed between managers and subordinates. The subordinates scored each dimension higher than the managers. The most statistically significant differences between managers and subordinates ($p < .001$) were in the dimensions production orientation and employee orientation. The difference for the dimension change orientation was $p < .05$ (Table 5).

Table 5. Preferred nursing leadership behaviour in mean values between managers and subordinates

Dimension	Managers		Subordinates		t – value	P-value
	Mean	SD	Mean	SD		
Change orientation	5.07	.437	5.14	.512	-1.01	<.05
Production orientation	4.76	.547	5.08	.598	-4.13	<.001
Employee orientation	5.19	.377	5.44	.487	-3.96	<.001

Perceived leadership behaviour compared to preferred

Answers of subordinates on the questionnaires of preferred leadership behaviour were compared with answers of opinions on perceived leadership behaviour. The total number of respondents that could be compared was 420. The mean values in perceived leadership behaviour of the managers are, as rated by subordinates, far below the level of their preferred leadership. The differences between preferred and perceived leadership behaviour can be found in all three dimensions and are statistically significant $p < .001$.

Perceived leadership profiles

The mean values for the three dimension were 4.51 (relation orientation), 4.40 (change orientation) and 4.24 (production orientation) and SD was between .620 - .702 .Three different major leadership profiles were identified “middle of the road”, “super” and “invisible”.

The leadership profiles “invisible” and “super” were related to number of subordinates managed by the nurse manager. There is no significant difference between “invisible” leaders and “super” leaders according to number of subordinates (unpublished results).

Summary

The results show that subordinates wish nurse managers would be more distinct about demands in relation to work and more employee-oriented. Three majorly different leadership profiles were identified as “super”, “middle of the road”, and “invisible”.

6.2 Leadership behaviour of nurse managers in relation to job satisfaction and work climate (II)

Relationship between leadership behaviour and work climate

Correlation analyses were done between the ten variables of creative work climate and the three leadership dimensions, and between the mean value of total creative work climate and the leadership dimensions. The correlations at the variable level showed a variance between .28 (“debate” to production orientation) and .58 (“idea support” to change orientation). All of the correlations are significant ($p \leq .001$).

The correlations between each of the three leadership dimensions and creative work climate (as a total mean value) were: change orientation .54, production orientation .48, and employee orientation .56. The p-value is significant ($< .001$) in all of the variables.

Relationship between leadership behaviour and job satisfaction

The correlations between leadership dimensions and variables of job satisfaction ranged between .22 and .51. All of the correlations were significant. The strongest correlation was between the job satisfaction variable “feeling” and the leadership dimension employee orientation; the lowest correlation was between the variable “autonomy” and the dimension change orientation. Overall, the correlations between the job satisfaction variable, “autonomy”, and all three leadership dimensions were lower than the other correlations. The correlations with employee orientation are somewhat stronger than the correlations with the other leadership dimensions. The strongest correlation with production orientation is the variable “feeling”, and with change orientation the strongest correlation is with “initiative”.

The results of the analyses of variance show that the mean values of job satisfaction among staff with “invisible” managers were significantly lower than the mean values among those who had “middle” managers or “super” managers. Further, the mean values between staff with “middle” managers were lower and significantly different than those with “super” managers, with one exception, “autonomy” (Table 6).

Table 6. Analyses of variance between job satisfaction of staff that perceived their manager as super leader (> 1SD beyond mean, middle within 1 SD of the mean and invisible < 1SD below mean)

	Invisible <i>n</i> = 32	Middle <i>n</i> =53	Super <i>n</i> =23	<i>p</i>	<i>post hoc</i> *
Competence	1.61	2.09	2.78	***	1 < 2 < 3
Feeling	1.56	2.23	2.85	***	1 < 2 < 3
Autonomy	1.40	1.73	2.33	***	1 < 2 ,3
Initiative	1.57	2.05	2.77	***	1 < 2 < 3
Relation	1.89	2.33	2.77	***	1 < 2 < 3

*** = $p < .001$

* The *post hoc* test is done due to Duncan with a significance level of .05

Relationship between creative work climate and job satisfaction

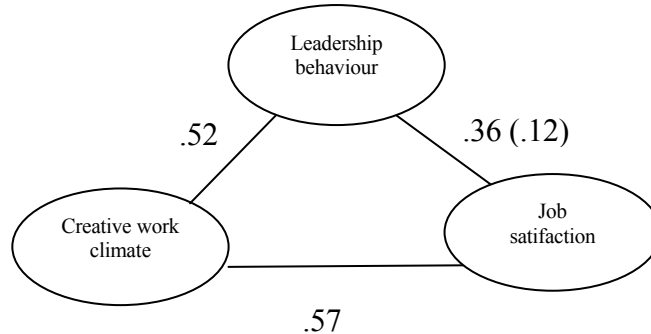
Correlation analyses were performed both between each variable, ten of creative work climate and five of job satisfaction, and between the mean value of the total creative work climate and job satisfaction variables. The correlation analyses of variables showed a range between -.15 (“conflict” to “autonomy”) and -.68 (“idea support” to “initiative”). All correlations apart from “conflict” to “autonomy” are significant.

Correlations between total mean value of all creative work climate variables and the five variables of job satisfaction were, “competence” .55; “feeling” .60; “autonomy” .41; “initiative” .64; and “relation” .65. All these correlations were significant ($p \leq .001$). The sample was divided into four quartiles according to the mean values of total creative work climate and related to the mean values of the five variables of job satisfaction. The differences in mean values between each of the four groups are significant in all the variables except “autonomy”.

Correlations between leadership behaviour, job satisfaction and creative work climate

When looking at mean values of correlations (based on total scores), it is clear that there is a stronger relationship between leadership behaviour and creative work climate and between creative work climate and job satisfaction than between leadership behaviours and job satisfaction. A partial correlation analysis controlling for total creative work climate resulted in a less strong correlation between job satisfaction and leadership behaviour (Figure 4).

Figure 4. Mean correlations between job satisfaction, leadership behaviour and creative work climate (n=426). The mean partial correlation (controlling for climate) between leadership behaviour and job satisfaction is shown within parentheses.



Summary

The result show significant correlation between leadership behaviour and creative work climate and between creative work climate and job satisfaction. It also shows that the mean values of job satisfaction among staff with “invisible” managers were significantly lower than the mean values among those who had “middle” or “super” managers. Further, the mean values between subordinates with “middle” managers were lower and significantly different than those with “super” managers, with one exception, “autonomy”.

6.3 Nursing staff turnover: does leadership matter? (III)

Staff turnover

Register data of staff turnover were collected from the hospitals computerized follow up system (PREDO 2003). The mean staff turnover rate in nurse-managed units at the hospital in our study was 23% (2000), 19% (2001), 17% (2002), and 14% (2003). The data of turnover used in this study was from the time period of the data collection (2003) and the turnover rate differed considerably between units (0–24%) (PREDO 2003).

Leadership related to staff turnover

Correlation analyses were performed between each of the three leadership dimensions and the staff turnover (for the year of 2003) at the unit level i.e., the means of each dimension for each manager ($n = 52$) were compared with the staff turnover in their units. The correlation coefficients were -.33 for employee orientation, -.22 for change orientation and -.15 for production orientation.

After controlling for job satisfaction and work climate, the partial correlation coefficients between the leadership dimensions and staff turnover did not show any statistical significance, being -.23 (employee orientation), -.10 (change orientation), -.01 (production orientation), and -.12 (the mean of leadership behaviour).

When dividing the units into five groups according to staff turnover (1 = 0%, 2 = 0.5-5%, 3 = 5.5-10%, 4 = 10.5-15%, and 5 = >15% staff turnover) the analysis of variance showed significant differences between group 1 and 5 in employee orientation and between group 2 and 3 in production orientation.

No statistically significant differences in turnover were found for the four different groups of leadership profiles. Means for staff turnover were “invisible” 10 %, “middle” 7.38 %, “super” 7.17 %, and “odd” 6 %

Leadership profiles related to creative work climate

In all climate variables except “risk taking”, the results of the analyses of variance between leadership profiles and work climate variables showed significant differences between the ratings for “super” managers and the other three leadership profiles (Table 7). Managers that were perceived as “invisible” had significantly lower ratings than the other three groups in the variables “challenge”, “idea support”, “debates”, and “idea time”. The mean of all work climate variables showed that “super” managers had higher ratings (2.15) than the other three groups of managers and that “middle” managers had significantly higher ratings (1.82) than managers with “invisible” (1.56) and “odd” leadership profiles (1.48). The analyses showed a correlation of .60 ($p < .001$) between the means of leadership behaviour and work climate.

Table 7. Analysis of variance between mean of the factors of creative work climate and leadership styles (n=52)

	Invisible(n =8)	Middle (n=32)	Odd (n=3)	Super (n=9)	Post hoc
Challenge	2.00	2.23	2.04	2.52	4 > 1,2,3, 2 > 1
Freedom	1.51	1.76	1.14	1.96	4 > 1,3, 2 > 3
Idea support	1.44	1.77	1.29	2.28	4 > 1,2,3, 2 > 1,
Trust	1.50	1.69	1.53	2.14	4 > 1,2,3
Dynamism	1.86	2.02	1.67	2.35	4 > 1,2,3
Playfulness	1.91	2.07	1.86	2.53	4 > 1,2,3
Debates	1.50	1.76	1.38	1.99	4 > 1,3, 2 > 1
Conflicts	1.30	1.05	1.22	.60	4 < 1,2
Risk taking	1.27	1.55	1.14	1.70	4,2 > 1,3
Idea time	.91	1.35	1.02	1.61	4 > 1,3, 2 > 1
Total climate	1.56	1.82	1.48	2.15	4 > 1,2,3, 2 > 1,3

The *post hoc* test is done due to Duncan with a significance level of .05.

Leadership profiles related to job satisfaction

The results of the corresponding analyses of variance between leadership profiles and job satisfaction variables (Table 8) showed significant differences between “super” managers and the other three leadership groups in all variables except the variable “autonomy”. “Middle” managers and “super” managers had significantly higher ratings (2.34) in the variable “competence” than “invisible” (1.71) and “odd” managers (1.84). Overall, apart from the variable “autonomy”, “middle” managers had significantly higher ratings than “invisible” managers. The total mean of all the variables of job satisfaction showed significant differences between, “super” managers (2.36) and the other three styles and between “middle” managers (2.14) and managers with an “invisible” leadership profile (1.75). The analyses showed a correlation of .60 ($p < .001$) between the means of leadership behaviour and job satisfaction.

Table 8. Analysis of variance between mean of the factors of job satisfaction and leadership profiles (n=52)

	Invisible (n=8)	Middle (n=32)	Odd (n=3)	Super (n=9)	Post hoc
Competence	1.71	2.23	1.84	2.34	4,2 > 1,3
Feeling	1.73	2.23	2.02	2.50	4 > 1,2,3, 2 > 1
Autonomy	1.51	1.76	1.62	1.85	n.s.
Initiative	1.72	2.15	1.99	2.39	4 > 1,2,3, 2 > 1
Relation	2.09	2.34	2.12	2.71	4 > 1,2,3, 2 > 1
Tot job satisf.	1.75	2.14	1.92	2.36	4 > 1,2,3, 2 > 1

* The *post hoc* test is done due to Duncan with a significance level of .05.

The inter-correlation between the mean of the two intermediate constructs, job satisfaction and work climate was .83 ($p \leq .001$).

The association between creative work climate and staff turnover

When stepwise forward selection multiple regression analysis was done including all of the 10 climate variables only three of the variables entered into the model and were significantly related to staff turnover. The variables “challenge” and “debates” showed a negative correlation with staff turnover; for each unit increase of the mean value of “challenge”, staff turnover decreased by 14% ($\beta = -14, p \leq .001$); for each unit increase of the mean value of “debate”, staff turnover decreased by 7.5% ($\beta = -7.5, p \leq 0.5$). The variable, “playfulness”, showed a positive correlation for each unit increase of the mean value of “playfulness”, staff turnover increased by 15% ($\beta = 14.8, p \leq .001$).

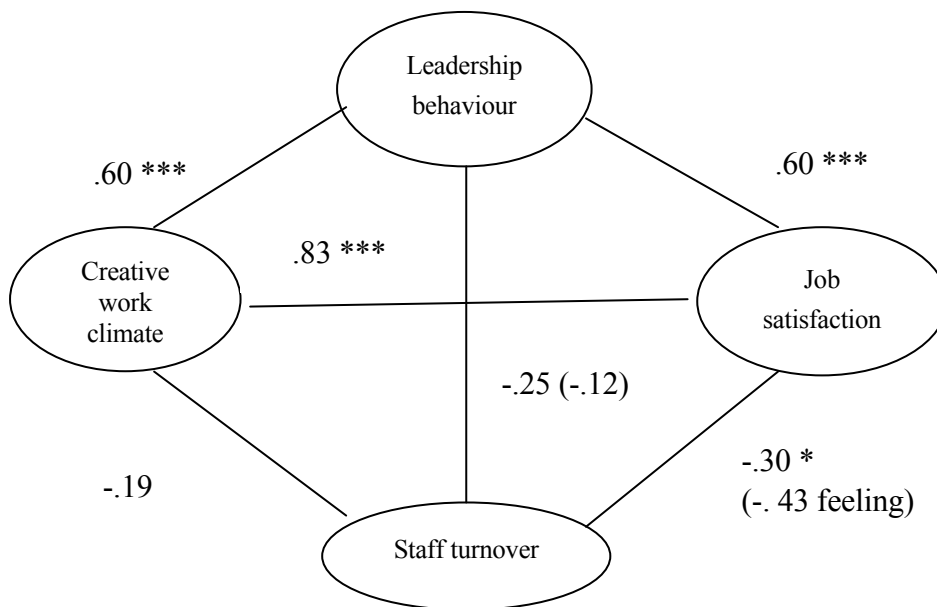
The association between job satisfaction and staff turnover

In stepwise forward selection multiple regression analysis with all of the 5 climate variables only “feeling” entered the model and had a negative correlation with staff turnover. For each unit increase of the mean value of “feeling” staff turnover decreased by 6.5 % ($\beta = -6.52, p \leq .005$)

Correlations between leadership, creative work climate, job satisfaction and staff turnover

An overview of all correlations between the total means for dimensions of leadership behaviour, total means for variables of creative work climate, total means for variables of job satisfaction and staff turnover is shown in the research model (Figure 5). The strongest correlations are shown between leadership behaviour and work climate and job satisfaction, and between work climate and job satisfaction. No significant correlation exists between leadership behaviour and staff turnover when controlling for the influence of the intervening variables.

Figure 5. Correlations between means of leadership behaviour, job satisfaction, creative work climate and staff turnover (n=52). The partial correlation (controlling for the influence of work climate and job satisfaction) between means of leadership behaviour and staff turnover is within parenthesis.



* = p < .05, *** = p < .001

Summary

The relation between leadership behaviour and staff turnover is mediated by job satisfaction. There are quite strong correlations between leadership dimensions, job satisfaction and creative work climate, and between creative work climate and job satisfaction. There are significant negatively correlations between staff turnover and two of the work climate variables, “challenge” and “debate”, and between staff turnover and the job satisfaction variable “feeling”. The different leadership styles show statistically significant differences in rates of creative work climate and job satisfaction variables, but no significant differences with respect to staff turnover.

6.4 Nursing staff turnover – An exploratory study at a Swedish university hospital (IV)

The coding process resulted in an agreement on ten categories of arguments that appeared in the FGDs, concerning reasons about nurses’ intentions to stay in or leave current work positions. In alphabetic order these were *competence development, confirmation/recognition, group cohesion, leadership, participation, resources, salary, spirit of the time, work content* and *workload*. The categories could not be separated neatly into groups in terms of intention to leave or to stay. Most of the categories relate to both questions, so that if certain conditions are met, one intends to stay, but if not, one might leave. Neither was it possible to rank the categories according to degree of importance based on the material from the FGDs. Some categories only consist of a short discussion and few statements, but that might be due to total accordance in the group. The results of the statistical analyses resulted in significance

according and type of care (Table 9) and to unit size (Table 10). When analysed together with the categories from FGDs the following areas that might influence turnover rates of nursing staff in units lead by nurses were identified. The quotations are marked with the current FGD and with SN = staff nurse, NM = nurse manager and HD = head of department.

Intrinsic (immaterial) values of motivation

The identified factor “intrinsic values of motivation” include categories such as *confirmation /recognition, participation, work content and competence development*. Receiving confirmation that your work is important and being seen as an individual were discussed and emphasized in every FGD.

FGD 4 SN “ I feel very satisfied working in a small unit where people really see you, know each others’ names, and take responsibility for each other.”

These categories point out the importance of feeling valued and included that many nurses felt a lack of positive acknowledgement (“being seen”) and that they had little impact on decisions concerning their own working conditions.

There was a lot of discussion in all five groups about changes, and all the groups felt that it was important to be informed about important changes at work. A hospital merger took place only a few months before this study and the way this was communicated was lively discussed. To feel uninformed about changes that affect one’s clinic or any nursing issues, without the possibility of participating in and influencing the process, can be a reason for leaving.

FGD 4 SN “Our hospital is too big, it is more difficult to feel part of a big hospital.”

Nursing in a large, acute care hospital involves great variation in working tasks. This was mentioned in the groups of staff nurses, as well as in the groups of managers as a motivational factor to stay.

FGD 2 NM “Dynamic environment, no two days are alike.”

Opportunities for continued education and professional growth were perceived as being motivating factors and lack of these opportunities were associated with the intention to leave. Acquiring more knowledge also involves being given more responsibility.

FGD 4 SN “Education is inspiring and fosters personal growth. I don’t want to get stuck – I want new work tasks.”

Workload

Workload could be an individual perception (intrinsic) but could also be due to a real shortage (extrinsic). Staff workload is perceived as high, particularly in 24-hour care units. Some participants argued that inpatients are sicker today due to the rationing of beds and shorter hospital stays. There is no time for reflection and discussion among the team members. High workload, leads to exhaustion and according to the opinions in the FGDs heavy workload could influence on turnover.

FG 5 SN “Every thing goes so fast – never peace and quiet, never time for reflection. This may influence why people leave”.

FGD 3 NM “To heavy ...some hours in the evening the workload is far too heavy”.

FGD 3 NM “To work every third weekend is tiring”.

Also the statistical analyses showed that “seven days” inpatient care was associated with higher staff turnover than outpatient care and day care.

Table 9. One-way analysis of variance between mean of staff turnover in relation to type of care

Units grouped according to type of care	Number of units	Mean of staff turnover	<i>Post hoc</i> *
Outpatient care	11	4.45	1, 2 < 3
Treatment (day care)	23	5.74	
Inpatient care	36	10.17	
In- and outpatient care	7	7.07	

The *post hoc* test is done due to Duncan with a significance level of .05.

Participants in the FGD linked heavy workload to lack of financial *resources* and perceived lack of resources was animatedly discussed in every group.

FGD 4 SN “We only save and save...patients suffer and we lose staff.”

FGD 1 HD “Lack of resources is toiling...don’t make the organization anorectic”

Unit size

The quantitative analyses of register data showed that staff turnover was lower in small units with a number of ≤ 25 staff members. When the staff members exceed a number of 75 the significant difference disappeared (Table 3). In these large units the staff members are mostly organized into work teams led by a team leader. The statements in the FGDs indicated that it might be easier to get recognition, to participate, to get closer to your manager or leader, and to develop valuable *group cohesion* in a small unit or in smaller work teams.

Many participants argued that it is easier to be recognized as a person in a smaller unit (smaller work groups) and easier to achieve good group cohesion.

FGD 4 SN “I really like working in a small unit where one is counted for and where we feel responsibility for each other”.

FGD1 HD “Rotation inside the big unit resulted in that the work team was split up. The small group is important”

In the focus group discussions, there was unanimous agreement that relationships to co-workers, including those in other professions, were important for the feeling of satisfaction and the intention to stay.

FGD 5 SN “I have stayed because of getting on well with my colleagues.”

Someone’s decision to leave, on the other hand, puts pressure on the whole group.

FGD 5 SN “It puts pressure on those left behind if someone leaves”.

Table 10. One-way analysis of variance between mean of staff turnover in relation to number of employees

Units grouped according to number of employees	Number of units	Mean of staff turnover	<i>Post hoc</i> *
< 25	29	5.64	1 < 2, 3
26 - 50	30	9.32	
51 – 75	9	9.44	
> 75	9	7.61	

The *post hoc* test is done due to Duncan with a significance level of .05.

Other factors that might be better met in smaller units or work teams is the above identified categories of *participation* and *confirmation/ recognition*, referred to as intrinsic values of motivation.

Leadership

The influence of nurse managers' *leadership* behaviour on staff turnover was discussed in every FGD. The manager's behaviour was said to have great impact on work climate, satisfaction, and intention to leave or stay. According to the staff nurses, a manager should be honest, clear, and able to push the unit forward. She should apply structure and set work-related goals while simultaneously supporting and listening to the staff.

FGD 2 NM "If the boss is unsure about her role, the feeling will be spread among the staff, and it will make the climate bad."

FGD 4 SN "The manager is very important for the work climate and for developing a good group cohesion"

Several participants in the FGD argued for the need for more structure and clear goals and poor management were stated as a main reason for intention to leave.

FGD 5 SN "A strong leader will tell us what counts."

There were several opinions on the importance of management organization to change to a greater sharing of responsibilities.

FGD 2 NM "The manager should work towards shared responsibilities where the subordinate for example jointly feel responsible for planning the summer vacation".

Factors with diverging opinions

There were two other factors discussed in many of the FGDs, *salary* and *spirit of the times*. However, the discussion about how those factors influenced on staff turnover diverged. Some participants feel that salary is more important today than it was ten years ago. In the FGDs salary seems to have limited influence on intention to leave.

FGD 4 SN "Loyal staff members stay in spite of low salaries"

FGD 5 SN "Salary is an important factor"

FGD 1 HD "The young nurses value their salary, while the older ones value competence development."

The fact that the "world has become smaller" and that everything is easier to reach was pointed out as having an impact on one's intention to stay in one place for a longer time. The younger nurses in the FGDs were seen as "being more on their way".

FGD 3 NM "We have charter tourist nurses".

FGD 5 SN "The entire life is moving fast for many people".

The labour market when you get more pay if you are employed by a temporary staff recruitment company also influences the possibility to leave or stay. The studied hospital decided in the middle of 2003 not to use nurses employed by those companies any longer but other hospitals continued to use them.

In the opposite direction are the opinions that place value on working near home. This opinion was more common among the older nurses.

FGD 5 SN "I want to work near where I live. I do not want to spend all my time travelling."

We could not find any studies about the impact of "spirit of the times" on turnover in health care, and this issue needs to be addressed in future.

Patients

A surprising finding from the FGDs was that there was little discussion about the patients' influence on the intention to stay or leave in any of the focus groups. Two participants in two different FGDs mentioned patients, but a follow-up discussion did not occur. These findings

could be due to the fact that if you leave your current place of work, you can still work with patients elsewhere.

Summary

Four major factors were identified as having a possible influence on staff turnover: “intrinsic values of motivation”, “workload”, “unit size” and “leadership”. Two categories from the FGDs showed diverging results “salary” and “spirit of the time”. A surprising finding, there was little discussion about the influence of patient care on staff turnover. Intrinsic values of motivation seem to be better met in small units or in small work teams. Inpatient care is perceived as heavy. Managers that also act as leaders, and have clear vision and work towards shared responsibility are more likely to retain their staff and decrease turnover.

7 DISCUSSION

Given the model used in this thesis (see Figure 3), the same *leadership profiles* that have been identified in studies conducted in other areas and using the same instrument (CPE) were not found (Ekvall & Arvonen 1994, Ekvall 2002). Instead, there were three main groups of profiles identified among nurse managers: “invisible” leader, “middle of the road” leader (or “middle” leader) and “super” leader. Each individual leader in these three groups had about the same assessed value in all the three dimensions of change, production and employee orientation (I, II, III). The relationship between these leadership profiles, actual staff turnover, creative climate, and the intrinsic factors of staff turnover has not been studied before and this makes a contribution to leadership in nursing.

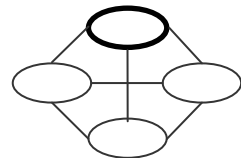
The results show a weak correlation between *leadership behaviour* and actual *staff turnover* and are even weaker when controlling for the influence of job satisfaction and work climate. The only construct with a direct correlation to staff turnover is job satisfaction. The results indicate that there is a relationship between staff turnover and how people feel at work, as measured by the job satisfaction variable “feeling”. Two creative work climate variables, “challenge” and “debate”, showed significant correlation to staff turnover.

There is a significant relationship between *leadership behaviour* of the nurse manager and *creative work climate* and *job satisfaction* (II, III). In turn, job satisfaction seems to be related to staff turnover (III). The nurse managers that were perceived as “super” leaders showed higher mean values in nearly all variables of both creative work climate and job satisfaction. The result of the qualitative part of Study IV indicates that leadership behaviour, creative work climate and intrinsic factors of job satisfaction were stated to be essential for the decisions to stay or leave.

The number of subordinates seems to have an influence on *staff turnover* (IV). Units with 25 or less employees have lower staff turnover than units with 26 – 75 employees. Group cohesion, confirmation/recognition leadership behaviour, and the feeling of participation were identified in the FGDs as important factors easier to achieve in smaller units or in smaller work teams. However, no significant difference was found between units with 25 or less employees and units with over 75 employees. This could perhaps be due to the appointment of middle managers or team leaders, creating an organizational environment similar to those with small units.

7.1 Leadership profiles

Only three major leadership profiles (over 5%) were identified, “invisible leader”, “middle of the road” (or “middle”) leader and “super” leader. This can be compared with seven profiles which represent over 5% of those identified using the CPE instrument in other types organizations (Ekvall & Arvonen 1994). Since employees rated their nurse managers equally high in each dimension, the leadership styles that focused on only one or two dimensions were absent.



All the nurse managers in this study have the same professional background; fostered in the nursing profession. Fanslow (1984) has described leadership style as being related to a

personal value system that has been formulated by culture, society and life experience. This could explain why 73% of the managers are identified as “middle of the road” or “super” leaders (I) compared to 38% in a study by Ekvall and Arvonen (1994).

Compared to other studies with the CPE instrument, the majority of the managers studied in this thesis were women. The majority of their subordinates were also women. Because the nursing profession in Sweden has been dominated by women for a long period of time, most nurse managers are also women since managers are almost entirely recruited from within the profession. This has possible implications on leadership style as earlier research has suggested that gender matters. Women may be more inclined to use a transformational leadership style (Bass, Avolio & Atwater 1996, Eagly & Johannesen-Schmidt 2003).

However, transformational leaders (gardeners) were not identified (Study I). This could be due to the fact that previous studies have not focused specifically on health care, which implies that health care might foster or require another type of leadership.

The fact that managers scored equally in all dimensions could be seen as an expression of a leadership style which adapts to the changing needs of the situation (Hersey & Blanchard 1977, Tyrstrup 2006). This need to improvise and match different aspects of leadership based on the situation has been found to be effective in health care (Cook 2001).

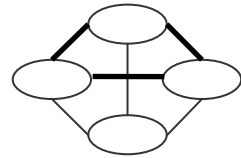
Nine managers expressed a more “invisible” leadership style. This is similar to a “laissez-faire” style, something that Bass (1985) considers not to be adequate in any situation.

There was a difference between the leadership that employees prefer and how the nurse managers prefer to be, especially regarding the dimensions of employee orientation and production orientation. The difference in production orientation could mean that subordinates prefer a leader with more clear leadership than the manager themselves believe to be suitable. In a study of nursing staff (Bass 1995), it was found that the staff desired their leaders to take a more active leadership role. This interpretation was reinforced in the qualitative part of the study where several participants argued for the need for more structure and clearer goals. However, this could be seen as an individual reaction to the uncertainties of the merger process.

Another interpretation for this disparity can be found in the needs which groups display dependent on their stage of development. Groups that are in the beginning of their development often look to the leader to provide clarity and direction (Wheelan 2005).

7.2 The relationship between leadership behaviour, work climate, and job satisfaction

On both individual (II) and unit level (III) the results showed strong correlations between leadership behaviour and work climate and between leadership behaviour and job satisfaction. Nurse Managers that were viewed by their staff as performing well in all three dimensions of leadership (“super”) were found in settings where the subordinates perceived a more creative work climate and a higher job satisfaction. This supports Albaugh (2003) who found that outstanding leadership led to a high nurse job satisfaction and promoted group cohesion.



Staff with a manager perceived as a “middle” (II, III) leader rated higher job satisfaction than staff with a leader perceived as “invisible”. A manager with an “invisible” leadership style affected job satisfaction in a negative way. These findings support earlier findings where poor management practices, including lack of support, feedback and supervision, have been associated with job dissatisfaction (Taunton et al. 1997, Taylor et al. 1999) and intention to leave (Wai Chi Tai et al. 1998).

Nearly all of the explored variables of job satisfaction showed significant correlations to both leadership behaviour and creative work climate. It seems however, that the variable “autonomy” was not influenced by either leadership behaviour or creative work climate. Autonomy seems to be more a characteristic of the individual and less easy to influence, free from “external authority” (Kant 1784).

The correlation between the employee orientation of leaders and job satisfaction was found to be slightly stronger than for production orientation and change orientation (Study II). Nursing as a profession relies on relationships and caring for others, a focus which probably affects leadership style. If the manager leads with kindness and respect for the individual it is more likely that the staff will show the same behaviour towards patients. Manion (2004) found that a good management strategy was to put the staff first in order that they will put the patient first. Positive leadership qualities and strong facilitative leadership behaviour of the first line manager have been found to be important in creating an environment that increases job satisfaction as well as the intention to stay (Albaugh 2003, Blanchard & Waghorn 1997).

The findings in this thesis that there is a strong relationship between a creative work climate and job satisfaction supports a study from a university health centre that showed that when the climate is perceived as stagnated, job satisfaction is low, while the more positive the perception of work climate, the less employees tend to stay away from work (Sounan & Gagnon 2005).

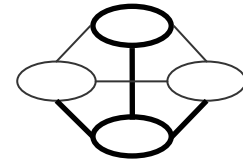
The significant correlation between leadership behaviour and a creative work climate found in this thesis is similar to findings in a study of a state university in Sweden (Ekvall & Ryhammar 1998). When they controlled for the influence of creative climate, the significant correlation between leadership behaviour and job satisfaction disappeared. They argued therefore that the relationship between leadership behaviour and job satisfaction was entirely mediated through a creative work climate.

When controlling for creative work climate among nurse managers, the result indicate the same phenomenon (Study II). If there is a directional component in the research model, it would mean that nurse managers influence job satisfaction through creating a creative work climate.

7.3 The relationship between leadership behaviour and staff turnover

Weak correlations were found between leadership behaviour and actual staff turnover. This was shown to be even weaker when controlling for the influence of job satisfaction and work climate.

However, there is a correlation identified between staff turnover and job satisfaction; especially regarding how people feel at work, as measured by the job satisfaction variable, “feeling” and between staff turnover and the creative climate variables “challenge” and “debate”.



The model used in this thesis differs from others in that it includes the change dimension of leadership behaviour, contributing an added dimension to some previous studies (Boumans & Landeweerd 1993, Prenkert & Ehnfors 1997). Another difference compared to earlier work is that study III examines quantitatively the relationships between perceived leadership behaviour and *actual* staff turnover instead of *intention* to leave as opposed to measured turnover (Boyle et al. 1999, Gardulf et al. 2005, George & Jones 1996, Lu et al. 2002, Lum et al. 1998, Pooyan et al. 1990).

There were no significant differences between the effects of the three main leadership profiles or the “odd” profile on staff turnover. However, as mentioned before, the nine “super” leaders had significantly higher mean values than the other three manager groups (“invisible”, “middle” and “odd”) in nearly all the variables of both job satisfaction and work climate.

The climate variable “challenge” showed a significant negative correlation to staff turnover, meaning that if employees’ feels challenged in their work, staff turnover decreases. “Challenge”, includes according to the used questionnaire, aspects such as: feeling engaged in one’s work, finding it stimulating to contribute to the success of the unit and to a work well done, and finding the work to be stimulating and meaningful. In the regression analysis, the variable “debate” also had a significant negative correlation to staff turnover, meaning that in an open climate, where debates and different opinions are allowed, staff turnover decreases. The importance of positive climate where different opinions are allowed is also described in the Magnet Hospital Concept (Kramer 1990). Results of a study of mental health service organizations showed that climate affects work attitudes (i.e. job satisfaction) and staff turnover (Aarons & Sawitsky 2006).

A significant negative correlation between the overall mean of job satisfaction and staff turnover was found, similar to several other studies in health care (Price & Mueller 1986, Boyle et al. 1999, Larrabee et al. 2003). This means that where job satisfaction is high, staff turnover is most likely low. The variable “feeling” is the only specific satisfaction variable that was found to have a positive relationship to staff turnover. This variable encompasses the

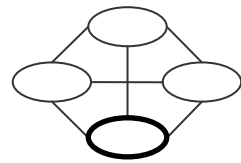
following components: to feel joy in work, to feel satisfied and secure, to see a positive future and to feel proud. These intrinsic values (Taris & Feij 2001) of job satisfaction could be as indicated in our findings, both in the quantitative analyses and in the focus group discussions, very important for a leader to address in order to decrease the likelihood of staff turnover and intention to leave. The emotions that people feel when they work are likely to reflect most directly the true quality of work life (Manion 2003).

7.4 Other factors with potential influence on staff turnover

Unit size

The quantitative analyses of register data showed that staff turnover was lower in small units with a number of ≤ 25 staff members. When staff members exceeded a number of 75 the significant difference disappeared. In these large units the staff members are mostly organized into work teams led by a team leader. The statements in the FGDs indicated that it might be easier to receive recognition, to participate, to get closer to your manager or leader, and to develop valuable group cohesion in a small unit or in smaller work teams.

Visibility is crucial for nurse managers in order to retain staff (Manion 2004).



In the focus group discussions, there was unanimous agreement that relationships to co-workers, including those in other professions, were important for the feeling of satisfaction and the intention to stay. This group cohesion was also found to be important in other studies (Adams & Bond 2000, Newman & Maylor 2002, Shader et al. 2001, Wells et al. 2002) and in the literature review by Albaugh (2003). The results imply that it is easier to achieve good group cohesion in a smaller unit (smaller work groups).

Other factors that would be better met in smaller units or work teams are the identified categories of “participation” and “confirmation/ recognition”, referred to as intrinsic values of motivation. These categories point out the importance of feeling valued (Shen et al. 2004). These categories included that many nurses felt a lack of positive acknowledgement (“being seen”) and that they had little impact on decisions concerning their own working conditions. According to Kramer & Schmalenberg (2004b) and Scott et al. (1999), this is related to a lack of autonomy in the nursing practice. Cowin (2002) found that the greater the professional status, the more likely the intention to stay in nursing, and Shobrook and Fenton (2002) reported a reduction in turnover when the management organization changed to a greater sharing of responsibilities.

Workload

High workload leads to exhaustion and according to the opinions in the FGDs, work content/workload could influence turnover. Inpatient care was perceived as having higher workload than outpatient care and day care. This finding was confirmed by the statistical analyses. Other studies have identified heavy workload and a high and stressful work tempo as a reason for nurses to quit their current work (Cartledge 2001, Collins et al. 2000, Shaver & Lacey 2003, Shen et al. 2004, Gardulf et al. 2005). The importance of adequate staffing is described in the Magnet Hospital Concept (Kramer & Schmalenberg 2004d). Aiken et al. (2002) showed that a higher patient-to-nurse ratio was significantly positive as associated with patient mortality. Several participants in the FGDs indicated that when the

workload was high and there was no time for reflection. Participants in the FGD linked heavy workload to lack of financial resources.

Patients, salary and spirit of the time

A surprising finding from the FGDs was that there was no real discussion about the patients' influence on the intention to stay or leave in any of the focus groups. Only one participant mentioned patients, but a follow-up discussion did not occur. These findings could be due to the fact that if you leave your current place of work, you can still work with patients elsewhere. Contrasting to this result, magnet hospital staff nurses reported that concern for the patient was the most important value for them (Kramer & Schmalenberg 2004d) and Newman et al. (2002) found that one of the most satisfying components for nurse satisfaction was quality of patient care.

The FGDs statements concerning the role of salary are ambiguous. Some participants thought that salary was important, while others considered it of less importance. Contrasting, in the study by Gardulf et al. (2005), dissatisfaction with one's salary was rated as the most important factor for quitting one's job. Other studies showed however a weak relationship between salary and staff turnover and that it only works as a motivator if your yearly income is very limited (Cavanagh 1990, Irvine & Evans 1995, Scopek 1990, Petzinger 1999).

A new finding in the FGDs, not described by earlier studies, is the role of the factor "spirit of the times". This refers in part to an era in which young people in particular move around a lot and in which many people perceive life as accelerating. Hence, the possibility to get a new job is influenced by the present labour market. There was some argument that younger people want to see more of the world while older people want to work close to their homes. We could not find any studies about the impact of "spirit of the times" on turnover in health care, and this issue needs to be addressed in future.

7.5 Methodological considerations

To conform to a strict research model, as any model, has its limitations. The focus is strict on the topics in the model and there is a considering risk of missing data of importance outside the model. The work behind the study rationale must be ambitious in order to identify important topics to study within the chosen area.

During the time of the studies I-III, the author was the Director of Nursing at the hospital, a member of the hospital executive management group and financed by the hospital. Clearly this means that the author was a part of the context. In order to avoid as much as possible influences of this on the results, questionnaires were distributed by and the answers were sent to a research assistant at the Karolinska Institutet.

In focus groups it is not possible to be anonym in relation to each other and it was therefore necessary that the author of this thesis should not be present when conducting the FGDs. The two observers being managers of nursing development at different divisions, and was thus not observing FGDs including members from their own division. Having five FGDs and few members in some clearly poses a risk. However data saturation was considered to be achieved with those five groups.

One limitation of postal surveys is that they usually have low response rates (Robson 1993). In this thesis, 55% of the subordinates responded. It would have been desirable with one more reminder but because of the time limit before the merger between the two hospitals was made public, it was not possible to send out another reminder. If the merger had been known by the nurse managers and the subordinates it may have influenced on the result.

The nurse managers' response rate was high (86%), disavowing a negative influence of the position of the author on the study. One can speculate whether or not the subordinates that responded were more loyal to their manager or perhaps disliked or liked the manager more than the non-responders. The dropout analysis of the basic data for the study population compared to those for the respondents showed that there was a significant under-representation of those aged 31-40 years among the respondents. At this age, it is common to have children at home and to work part-time. The focus of the nurses is as much with their family as it is on the work place. The possible consequences of this under-representation are not clear. The questionnaire about job satisfaction measures intrinsic factors and these are perhaps not as affected by home conditions as extrinsic factors. The respondents and non-respondents were similar in the age groups of 20-30 and ≥ 41 .

Questionnaires have limitations; the main limitation is that they rely on the perceptions of individuals (Ekvall 1992, Arvonen 2002). An advantage of those used in this thesis is that both the construct and the predictive validity of the instruments have been demonstrated (Isaksen & Ekvall 2006, Arvonen 2002). Several researchers have questioned the use of behaviour description questionnaires to study leadership since the beginning of this tradition. The main claim has been that questionnaires do not measure real behaviour, just the attitudes of the subordinates towards the leader. Bass developed a tool for measuring leadership styles, Multifactor Leadership Questionnaire (MLQ) (Bass 1995). This tool relates to transformational and transactional leadership style. The reason why the tool CPE was chosen was because it measures leadership from three fundamental dimensions, including the dimension change orientation (which could be combined into leadership profiles), was reliability tested and validated in the Swedish language and had been widely used both in Sweden and in other countries (Arvonen & Ekvall 1999, Yukl 2002). Structured questionnaires may make it impossible to clarify with follow up questions, but with a combination of a more qualitative approach it is possible to further explore the topic.

The CPE-questionnaire has been tested for the influence of attitude (Ekvall & Arvonen 1994). The change and production dimensions showed no correlations with attitude, while the dimension relation orientation showed a medium-sized coefficient (.40), which is logical, since being accepted is a psychological drive in relations-oriented behaviour.

We chose to aggregate three managers with leadership profiles deviating from the others into "odd" and incorporate these into the analysis. These managers could have been dropped but the reason for taking them into the analyses was that the entire sample of 52 managers could be considered. In study II and III a different definition was used than in study I for the managers defined as being in the middle. In study I the same definition as in Arvonen & Ekvall (1999) was used. Because many managers were near to the limit of 0.5 SD from the mean, a definition of 1 SD was used in study II-III. Accordingly, it is not possible to compare the two middle groups with each other.

The merger between Karolinska Hospital (KS) and Huddinge University Hospital (HS) took place in 2004, which was after data collection for study I-III. However, the data collection of study IV was planned before the merger but the FGDs were conducted a few months afterwards.

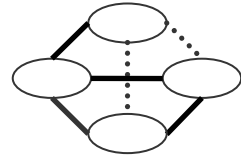
This research includes only one hospital and this could be thought as a disadvantage. The hospital was, however, very big and each division was as big as a central county hospital. The fact that there are several hospitals in Stockholm makes it is easier for staff to move around, leave the current work place and still work in a health care setting.

8 CONCLUSIONS AND PRACTICAL IMPLICATIONS

In this thesis the relationship between nurse managers' leadership behaviour and staff turnover in relation to creative work climate and intrinsic factors of job satisfaction is studied in accordance to a research model (Figure 3).

Three major leadership profiles were identified, "super", "middle of the road" (or "middle") and "invisible". The results showed no direct relationship between leadership behaviour of the nurse manager and staff turnover. The only significant links shown to staff turnover was to the job satisfaction variable 'feeling' and to the creative climate variables "challenge" and "debate".

There was a relationship identified between leadership behaviour and both creative work climate and job satisfaction, but when controlling for creative work climate the correlation between leadership behaviour and job satisfaction was weak. This indicates that the relationship between leadership behaviour and job satisfaction is mediated by creative work climate. However, the results further indicated that nurse managers able to perform as "super" leaders develops a creative work climate and improves the job satisfaction among the staff. A "super" leader has strategies to coop with changes and to develop nursing care, has clear demands, visions and goals and care for others. On the other hand, if the nurse manager was perceived as "invisible" the job satisfactions seem to decrease. The results of the qualitative study showed that work climate and intrinsic factors of job satisfaction were essential for the decision to stay or leave



- In order to attract and retain nursing staff it is essential that the hospital management identify potential "super" leaders and support the present "super" leaders so they will retain in current position.
- To increase job satisfaction among nursing staff it is important to identify present "invisible" leaders and to give them support and education in order to improve their leadership behaviour.

The result indicate that staff turnover was lower in smaller units and in work teams where the manager work closer to the staff and it is easier to give direct coaching, to inspire and develop a creative work climate and to achieve job satisfaction.

- In order to decrease undesirable staff turnover it is important for the future to consider organizing the health care in smaller units or in smaller work teams.

Staff turnover is shown to be higher for inpatient care than for day care and out patient units. One reason could be that the workload is high for the staff and the risk for loss of energy is obvious. According to the focus group discussions there was no time for reflection, or for developing the care and knowledge competence.

- The suggestion is to decrease the individual workload and to ensure that there is time for reflection and competence development.

9 EPILOGUE

In spite of the fact that nurse managers at all levels in the organization are very well-educated and have a lot of experience in how to manage nursing, I think that they have very little authority for influencing the overall organization and they are mostly placed low down in the hierarchy of the hospital.

I think that it is essential for recruiting nurses and for keeping them as members in the profession that nursing is seen and valued at every level in the hospital management. Someone must talk the language of nursing and the nursing perspective must be counted in important organizational changes and decisions. If the individual subordinate feels satisfied and stimulated, and is provided a work that is so important for human beings she will probably remain in the nursing profession.

Today this is unfortunately not always the case.

My hope is that this will change and that nursing in the future will have more authority and will be more countable in the Swedish health care system. This thesis shows the importance of high performing nurse management in relation to staff turnover and without high quality nursing the health care at our Swedish hospital will crack. We need managers that are in opposition to Alice in Wonderland –knowing where to go and therefore not having to walk so far.

I really hope that my thesis will make a contribution for nursing management.

10 SAMMANFATTNING PÅ SVENSKA

Hög omsättningen bland vårdpersonal och då framförallt bland sjuksköterskor är ett globalt problem. För att hjälpa ledare inom hälso- och sjukvården att behålla kompetent personal är det viktigt att öka kunskapen om på vilket sätt och till vilken grad ledarens beteende relaterar till arbetstillfredsställelse och personalomsättning bland vårdpersonal. Chefsjuksköterskan är som chef på avdelningen också ledare för omvårdnadspersonalen.

Det övergripande målet för denna avhandling var att studera relationen mellan chefsjuksköterskans ledar beteende och personalomsättning med beaktande av kreativt arbetsklimat och ”intrinsic” (inre) faktorer av arbetstillfredsställelse.

Samtliga fyra delstudier genomfördes på Karolinska sjukhuset i Stockholm. Sjukhuset hade då omkring 5000 anställda som arbetade med omvårdnad. När datainsamlingen för studie I-III genomfördes fanns 92 chefsjuksköterskor varav 77 motsvarade de uppsatta inklusionskriterierna. Tio medarbetare till varje inkluderad chefsjuksköterska inviterades att delta (n=770). All data för delstudierna I-III inhämtades vid samma tid under 2003. Ledar beteende studerades med ett frågeinstrument kallat CPE (Change, Production and Employee). Relationen mellan ledar beteende, kreativt arbetsklimat och arbetstillfredsställelse studerades på individnivå i studie II. Ett frågeformulär för respektive arbetsklimat och arbetstillfredsställelse användes tillsammans med data från CPE instrumentet. I studie III analyserades register data för reell personalomsättning i relation till data från studie I-II på enhetsnivå. I studie IV, som genomfördes 2004, undersöktes uppfattningar och upplevelser angående orsaker till personalomsättning. Fem fokusgrupps diskussioner med totalt 29 deltagare (verksamhetschefer, chefsjuksköterskor och medarbetare) genomfördes och analyserades i avsikt att identifiera kategorier av åsikter. Kategorierna relaterades till registerdata av personalomsättning från sjukhusets uppföljningssystem PREDO.

Korrelationen mellan ledarskaps beteende och personalomsättning var svag (-.12 Studie III). Chefsjuksköterskans ledarskaps beteende korrelerar signifikant, både på individ nivå och enhets nivå, till kreativt arbetsklimat (.60 Studie III) och arbetstillfredsställelse (.60 Studie III). Vid analys där det kontrollerades för kreativt arbetsklimat visade en svag korrelation mellan ledarbeteende och arbetstillfredsställelse (.12 Studie II). Arbetstillfredsställelse korrelerar till personalomsättning (-.30 Studie III). Tre huvudgrupper av ledarstilar identifierades bland chefsjuksköterskorna, osynlig ledare, medelpresterande ledare och den kompletta ledaren (I-II). I Studie IV identifierades fyra huvudområden som skulle kunna påverka personalomsättning ”inre motivations värderingar”, ”vårdtyngd”, ”avdelningens storlek ” och ”ledarskap”. Små avdelningar hade lägre personalomsättning liksom öppenvårds- och dagvårdsavdelningar.

I detta sammanhang, dvs omvårdnad, var den direkta relationen mellan ledarbeteende, inklusive förändringsdimension, och reell personalomsättning svag. Relationen mellan ledarbeteende, kreativt arbetsklimat och arbetstillfredsställelse, mellan kreativt arbetsklimat och arbetstillfredsställelse och mellan arbetstillfredsställelse och personalomsättning indikerar att chefsjuksköterskan spelar en viktig roll genom att skapa ett kreativt arbetsklimat

som kan leda till ökad arbetstillfredsställelse och i förlängningen minskad personalomsättning. Resultatet indikerar att det kan vara lättare att uppnå grupp gemenskap, erkännande och delaktighet på enheter där chefen arbetar nära personalen.

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