Nurse assistants' well-being at work - is there a link to nurse leadership?

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Abstract

Introduction: As job demands in the healthcare system increases, one of the main protective factors involves support within the work environment. Limited knowledge exists about the work environment of nurse assistants and their well-being at work. A relatively small number of studies on this topic in the Nordic countries, and their results indicate high job demands and risk for negative health outcomes.

Purpose: This study aimed to investigate nurse assistants' perception of job demands, the servant leadership of their next superior, job satisfaction, symptoms of emotional exhaustion, and physical well-being at work. It was also investigated whether perception of servant leadership of their next superior related to job satisfaction and symptoms of emotional exhaustion.

Methods: Questionnaires sent to all nurse assistants with registered email addresses at the Icelandic Nurse Assistants Association yielded 588 participants (49% response rate). A new Dutch inventory on servant leadership (SLI) was used to measure perception of servant leadership in nursing; additional questions explored work environment, demands, control and support at work, symptoms of burnout, and job satisfaction. To answer the research questions, a cross-sectional descriptive design was used

Results: The majority of participants experienced high job demands and reported on control and support at work. Despite high levels of burnout, the majority of nurse assistants were satisfied at work. Servant leadership was practiced somewhat within nurse assistant's workplaces. The correlation between perception of servant leadership, job satisfaction, and emotional exhaustion was significant for all SLI sub-factors except courage, and the strongest correlation was for empowerment, humility, and stewardship as sub-factors of servant leadership.

Conclusion: This study highlights supportive factors within the work environment, particularly regarding the leadership-empowering role of servant leadership in nursing. Results show how this support is related to nurse assistants´ well-being at work and suggests that servant leadership can support health promotion within the work environment of nurse assistants. These findings are valuable for nurse assistants, nurse managers and leadership in the health care system, thus contributing to public health.

Key words

nurse assistants, working environment, servant leadership, burnout, job satisfaction

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1 INTRODUCTION

In Iceland health care is primarily financed by central government and in recent years steps have been taken to reduce the overall cost (Halldórsson, 2003). The need for health care services is growing not least due to the aging population (Statistics Iceland, 2010). Despite positive health outcomes by international comparison (OECD, 2007), there is a growing concern about the quality of the services.

Nurse assistants in Iceland make an important contribution to health care. In year 2010 the total number of nurse assistants was 1.972, registered nurses were 2.653 and medical doctors 1.146 (Statistics Iceland, 2010). The first nurse assistants in Iceland were graduated in the year 1966 at the Hospital at Akureyri, and in the following years the number of graduated nurse assistants increased (Guðmundsdóttir, 2010). During times of serious nurse shortages at the hospital the chief nurse, Ingibjörg Magnúsdóttir, had a vision of enhanced quality of the patient. For this an educational program for nurse assistants played an important role with her ambitious initiative and successful leadership. Today nurse assistants are trained in collages and young people, mostly girls, take this education as a part of their college education and then many of them proceed to further education in universities. The nurse assistant´s work is mainly direct nursing care under supervision of registered nurses who are responsible for the nursing care. Quite many of newly graduated nurse assistants chose to become nurses where their nurse assistants' education is a good preparation. Due to this, and other matters, the number of young nurse assistants is decreasing with consequent lack of nurse assistants especially in small nursing homes in the country.

Until the economic collapse in year 2008 Icelandic health care dealt with nurse shortages and during those times the need for nurse assistants became even more serious. A recent staff survey at the largest hospital in Iceland, Landspitali University hospital (2010) shows that perceived work demand is high and majority of the personnel complains that work demands at work are too high. Prior Icelandic studies have shown that the work of nurse assistants is characterized by physical demands and monotonous jobs (Gunnarsdóttir, Tómasson, & Rafnsdóttir, 2003).

Decreasing resources in health care, limited staffing, high average age of nurse assistants in Iceland (Nurse assistants Union, oral reference 30th of May 2011) along with active and physically demanding work can lead to increased risk of ill health and potential sickness absence among nurse assistants and thus further problem for both individuals and the health care system (Peterson et. al 2011).

However, evidence shows that good work environment and supportive relationship with superiors and co-workers are important for well being at work in health care and can help workers to cope with high demands (Aiken et al, 2001; Gunnarsdóttir et al, 2009).

Nurse assistants work under supervision of registered nurses who are responsible for the nursing care. Relationship-oriented leadership of nurse managers has the potential to support workers to cope with their work and to promote their well being at work (Dellve, Skagert & Vilhelmson, 2007; Havig, Lee & Cummings, 2008; Skogstad, Veenstra & Romoren, 2011).

Interestingly recent research indicates that perceptions of work environment factors are similar for nurses and nurse assistants where empowering leadership is of particular importance (Tuvesson, Wann-Hansson & Eklund, 2011). Research shows also that empowerment at work is related to lower levels of burnout symptoms among nurses and nurse assistants (Hochwälder, 2007). Empowerment is one of key elements of servant leadership (van Dierendonck & Nuitjen, 2010). Hence, the importance of increased knowledge in the area has a potential to contribute to positive work outcomes for nurse assistants.

There is a growing need to optimize work environment of health care services in Iceland. This is particularly urgent in the case of nurse-assistants. Sundin, Hochwälder, Bildt and Lisspers, (2007), argue that it is essential to increase knowledge of nurse assistants' work environment in the Nordic countries with the aim of exercising positive influence on their work environment, well-being and productivity for the good of patient care. In particular, in health care, there is a need to increase knowledge about the importance of leadership for employee's health at work (Eriksson, Jansson, Haglund, & Axelsson, 2008).

This study builds on current evidence on nurses' work environment and is, furthermore, based on available study findings regarding nurse assistants' work environment and their well-being at work (Ásgeirsdóttir & Bragadóttir, 2011; Ose, Haus, Pettersen, Jensberg & Paulsen, 2009). The overall goal of the study is to increase knowledge about factors influencing nurse assistants' well being at work and job satisfaction in the particular from the point of view of servant leadership characteristics of next superior.

The study is divided into seven main chapters: Introduction, purpose and research questions, conceptual framework, methods, results, discussion and conclusion. Chapter one is introduction of the study. Chapter two is purpose and research questions. Chapter three conceptual framework that draws on the most relevant literature on nurse assistants' working life and an introduction of the occupational background of study population and considers their working environment in relation to health and health promotion. Chapter four introduces the method used to address the research questions. Chapter five presents results from the analysis of the data set. Chapter six presents discussion of the findings with a view to previous research and in relation to the context and conceptual framework of the study, with future research ideas for promoting a better working environment for nurse assistants. Chapter seven presents the main conclusions and the study´s chief contribution to knowledge.

2 PURPOSE AND RESEARCH QUESTIONS

The purpose of this study is to investigate and describe nurse assistants' perception of working demands, their perception of servant leadership of their next superior, as well as their job satisfaction, symptoms of emotional exhaustion and physical well-being at work.

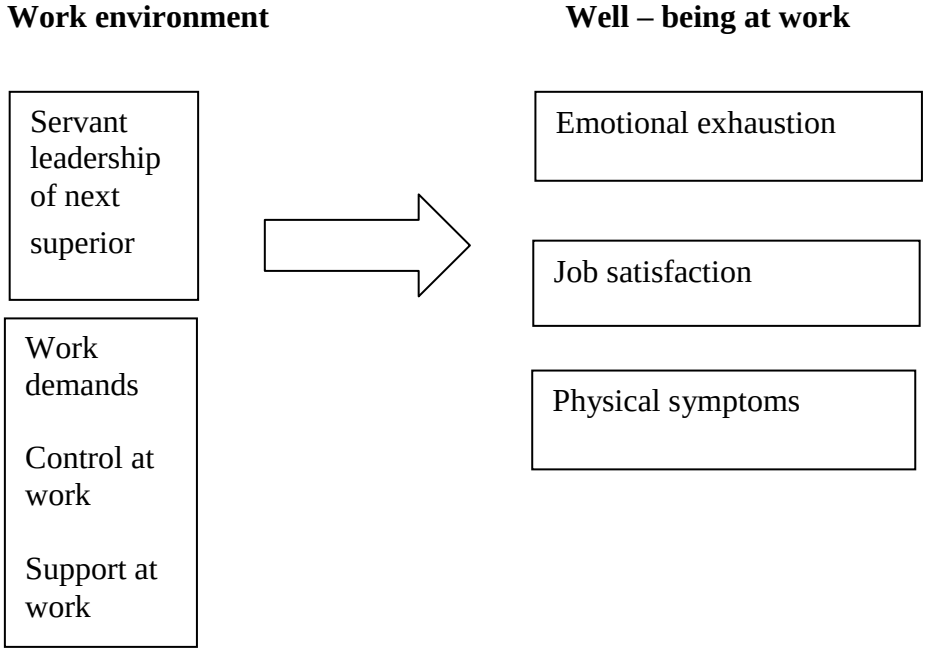
In order to reach this purpose the following research questions are raised:

1. How do nurse assistants perceive their demands, control and support at work?
2. How do nurse assistants perceive their next superior's characteristics of servant leadership?
3. How do nurse assistants report on their well-being at work, i.e. physical symptoms, symptoms of emotional exhaustion, and job satisfaction?
4. How is nurse assistants´ perception of servant leadership of their next superior related to their job satisfaction and symptoms of emotional exhaustion?

3 CONCEPTUAL FRAMEWORK

Mainly two models are used as a conceptual framework for this study: The Demands-Control – Support (DCS) model on working environment and servant leadership. An extensive overview of the literature in these fields including empirical research results was done and the most important concepts used in this study will be presented in this chapter. Figure 1 illustrates variables under investigation as relates work environment and well-being at work. The figure also shows proposed relationships between study variables as regards research questions four.

Figure 1. Focus of the study and proposed interrelations of study variables.



3.1 Working environment

Nurses and nurse assistants are the primary providers of daily care to patients and of social and environmental support for the patients (Pekkarinen, 2007). Working environment in nursing can be directly related to the quality and patient safety (Kramer & Schmalenberg, 2008). Recent study among nurses and nurse assistants shows that the same factors within the work environment are important for their well-being at work and also for their ability to provide good services (Tuvesson, Wann-Hansson & Eklund, 2011).

Healthy workplaces are those where an employee feels safe and satisfied (Whitehead, 2006). Whitehead points out that a good working environment hinders accidents and reduces absenteeism and stress. A good working environment also encourages activity and development of the workplace, as well as constituting a balance between work and other areas of life it supports good health, well-being and the ability to cope at work (Kauppinent et al, 2006).

As regards health care working environment, the bulk of current evidence originates from the USA, Canada and the UK (e.g. Aiken, Buchan, Ball & Rafferty, 2008; 2001; Laschinger, Finegan & Wilk, 2009;). These studies show that a supportive work environment plays a crucial role in promoting productivity and well-being at work in nursing. Limited knowledge exists about nurse assistants work environment and their well being at work. A relatively small number of studies on the topic have been conducted in the Nordic countries. Available study findings point to increased workload and risk of ill health and job dissatisfaction among nurse assistants in the Nordic countries (Ose, Haus, Pettersen, Jensberg, Paulsen, 2009). Hochwälder (2007) carried out a questionnaire survey among 518 nurse assistants in Sweden.

The findings indicate that empowerment plays a major role in improving the work environment of nurse assistants and is related to low levels of burnout and emotional exhaustion. Eriksson, Jansson, Havig, Skogstad, Veenstra and Romøren (2010) conducted a study among nurse assistants and other groups of health care professionals in home care about the relationships between job satisfaction and task- relationship-oriented leadership. Their results show the importance of different leadership behaviour to ensure job satisfaction among nursing home personnel. Eriksson, Janson, Haglund & Axelsson, (2008) investigated leadership in relation to health employee's health showing that leadership is related to well-being at work. However, there is a need for further research about these relationships.

An Icelandic questionnaire survey showed that nurse assistants in care for the elderly, reported that their working environment was demanding, both in terms of physical and psychosocial aspects (Gunnarsdottir et al., 2003). A recent qualitative study among Icelandic hospital nurse assistants showed that participants perceived a heavy workload e.g. as patients become older, sicker, and more often addicted to certain substances or are overweight. Among factors which can be improved are collaboration, a supportive work environment and patient load (Ásgeirsdóttir & Bragsdóttir, 2011).

3.1.1 Demands, control and support at work

According to Karasek (1979) there is a relationship between the demands that an employee experiences at work and how much control she or he has over the work. High demands with low control are not preferred, since this increases a risk of work stress and is detrimental to well-being. Karasek and Theorell (1990; 2000) further developed these ideas and introduced the demands-control-support (DCS) model, that looked more closely at psychological work characteristics, The concept of social support used here refers to "overall levels of helpful social interaction available on the job from both co-workers and supervisors" (Karasek &Theorell, 1990 p.69). The DCS-model distinguishes itself from other work-stress models by its simplicity and to the extent which it has gained a paradigmatic function in research in the field of the psychology of work and health.

Studies of nurse assistants' working environment are increasingly based on the DCS model and relate to important concepts, such as decision latitude, support, demands and empowerment (Sundin, Hockwälder, Bildt, and Lisspers, 2007). Hochwälder, (2007) carried out research with nurses and nurse assistants at Swedish hospitals where the psychosocial work environment was measured using Karasek and Theorell´s scale and, in addition, the questions on burnout symptoms as well as on the impact of empowerment. The results showed that demands, control, and social support were related to emotional exhaustion for assistant nurses, and social support had a stronger association with emotional exhaustion as compared to registered nurses. Furthermore, findings show that empowerment had a significant effect on burnout.

Sundin et al. (2007) conducted research based on the DCS model to investigate how demands, control and support are related to burnout. Results showed significant correlations between support and three dimensions of burnout, whereas further analysis showed a strong significant correlation between supervisor support and emotional exhaustion as one dimension of burnout.

Brown, James and Mills (2006) compared nurses and nurse assistants to teachers in their research in Hawaii, to find out whether psychological demands and decision latitude correlated with physical stress symptoms (higher blood pressure and catecholamine excretion). The study showed that nurses and nurse assistants had less decision latitude than teachers, but similar psychosocial demands.

Gunnarsdóttir et al. (2009) investigated the work environment of hospital nurses in Iceland and their findings support prior conclusions about the link between support from colleagues and supervisors and positive work outcomes, i.e. lower levels of burnout, high job satisfaction and work performance.

3.2 Leadership

According to Northouse (2007, p.3) "leadership is a process whereby an individual influences a group of people to achieve a common goal". Leadership and management are interrelated and Prosser (2010) describes that in general managers take on roles both as leaders and managers whereas management is about to get things done. The need for good leadership has become more pronounced, e.g. from the point of view of wellbeing at work and as health promotion and environmental protection have assumed a stronger role. Leadership continues to be recognized as a complex enterprise, and as recent studies assert, effective leaders are more than managers. They have vision, develop a shared vision, and value the contributions and efforts of their co-workers in the organization (Northouse, 2007).

In these times of economic hazards in the world, a rocketing interest in leadership theories has occurred mainly focused on cutting cost and restructuring the organizations. In these attempts to reorganise the human resource factor is often forgotten. This can lead to negative consequences, as the working environment plays crucial part in the employees' well being at work and their ability to perform well (Rechel, Wright, Edwards, Dowdeswell & McKee, 2009).

Much has been written about leadership, which is a topic with universal appeal (Northouse, 2007). Bass (1990, p 3) pointed out that "Leadership is one of the worlds oldest preoccupations. The understanding of leadership has figured strongly in the quest for knowledge." To illustrate his point he quotes, for example, "the Old and New Testament, the Icelandic Sagas and the philosophers Confucius and Plato" (Bass, 1990, p. 3). Along with this, purposeful stories have been told through the generations about leader's ambitions, competencies and shortcomings, leader's rights and privileges and their obligations and duties.

One of the current approaches to leadership that research has set its focus on is transformational leadership, increasingly so since the early 1980s. Bass and Riggio, (2006) argue that the popularity of transformational leadership could be related to its emphasis on personal development and intrinsic motivation. Transformational leadership holds promise to further an understanding of effective leadership, especially the leadership needed for changing organizations. Transformational leadership is concerned with values, emotions, long-term goals and standards. It assesses followers' motives, and it is about ethics and treats followers as human beings. Transformational leadership is concerned with the process of inspiring followers to achieve great things, which brings the leaders to adapt to the followers' needs and characteristics (Northouse, 2007). Northouse argues further that transformational leaders are known as good role models and have clear vision concerning their organizations and they empower their followers to meet their standards. According to this definition of transformational leadership, it clearly states it's relation to morally and ethically centered leadership.

In this study, the philosophy of servant leadership is used to investigate the supporting and health promoting behaviour of health care managers. Servant leadership is conceptually related to other leadership styles such as transformational and ethical leadership. Additionally, servant leadership includes characteristics of particular importance for the well-being of the workers (van Dierendonck 2010). The difference between transformational leadership and relational leadership, such as servant

leadership, is for example, that the servant leader empowers and develops his followers in the same way as does the transformational leader, but the servant leader focuses on the needs of the followers and thus the performance of the organization is secure (Bass, 2000).

A recent systematic review on the relationships between various styles of leadership and outcomes for the nursing workforce and their work environments shows that leadership styles focused on people and relationships were associated with higher nurse job satisfaction. The authors conclude that for healthy work environments in nursing it is important to strengthen transformational and relational leadership (Cummings et al. 2010).

Supporting and empowering management and leadership in Icelandic hospital nursing is likely to have positive influence on nurses' job satisfaction, as well as improving quality of care (Gunnarsdottir, Clarke, Rafferty, Nutbeam, 2009).

3.2.1 Servant leadership

Given the positive impact of relational leadership for a healthy work environment, servant leadership is chosen for this research on work environment in health care. Servant leadership in health care has the potential to answer the current demand for more ethical, people-centered leadership where humility, empowerment and contribution are key elements (van Dierendonck, 2010).

In the early 1970s, Robert Greenleaf developed a somewhat paradoxical philosophy of leadership called servant leadership. With strong altruistic ethical overtone, servant leadership emphasizes that leaders should be caring and concerned towards their followers. Greenleaf (1977) argued that leadership was given to a person who was by nature a servant. In fact, the way a person emerges as a leader is by first becoming a servant. A servant leader is attentive on the needs of his followers and helps them to become wiser, freer, more autonomous, healthier and more likely to be servants themselves. Servant leaders enrich others with their presence (van Dierendonck & Nuitjen 2010).

According to Prosser (2010) servant leadership is considered to be a philosophy of leadership rather than a leadership theory (p. 42). The philosophy relates to communication within the workplace and the society. It is particularly aimed at management and leadership attitudes and behaviour as well as communication between employees in general (Keith, 2008).

From his research van Dierendonck (2009) argues "servant leadership may well be what organizations need, given current demands for a more ethical, people-centred leadership style. During times of serious depression of the world economy, society has increasingly become a matter of company policy and thus teamwork will be the key-word for long term profits" (van Dierendonck, 2009 b, p.1). Studies in health care have shown a link between servant leadership and positive work outcomes for staff, e.g. job satisfaction (Amandeo, 2008; Sverrisdóttir, 2010) but further research is needed in this area. In the development of healthy workplace cultures, various frameworks have been offered as strategy guides, one of which is servant leadership (Greenleaf, 1977; Keith,

2008). Here, servant leadership is of much value as it gives high priority to followers´ needs, innovation and the employees' well-being. It is a participating leadership strongly rooted in ethical tradition where caring behaviour becomes valid (Greenleaf, 1977).

The author of the philosophy of servant leadership, Robert K. Greenleaf (1904 -1990) introduced the idea more than 30 years ago and was a pioneer of a movement promoting servant leadership. He wished to stimulate thought and develop a better, more caring society. He gathered his observations on persons in organisations who serve and he saw servant leaders encourage others to serve (Prosser, 2010). When Greenleaf formulated servant leadership he was under the inspiration of Herman Hesse's novel, *Journey to the East* (written in the year1956). The story is about a group of travellers on a mythical journey who are accompanied by a servant who does the menial chores for the travellers and also entertains them with his song and good spirits. The presence of the servant has remarkable impacts on the group and when the servant disappears from the group, they all become disoriented. Without the servant they cannot go on, it was the servant who was leading the group. He emerged as a leader by caring for the travellers (Greenleaf, 1977).

3.2.2 Attributes of servant leadership

Greenleaf wrote extensively about servant leadership and several other researchers have followed in his steps. These authors have published both from the viewpoint of background theory and practical application. The concept of servant leadership has recently been rediscovered by scholars and is characterized as a more ethical and people-centred theory of leadership (van Dierendonck & Nuijten, 2010). The biggest difference, compared to other types of leadership, is that servant leaders are genuinely concerned with followers (Greenleaf, 1977). Today there does not exist a generally agreed definition on what servant leadership is, in terms of leader behaviour (van Dierendonck & Nuijten, 2010). However, many researchers have investigated the characteristics of servant leadership based on the writings of Greenleaf (Spears, 1995; Keith, 2008 and van Dierendonck, 2010). These studies include a wide range of concepts that has focus on identifying the attributes of servant leadership, examining conceptual frameworks to servant leadership and developing instruments to measure its salient characteristics (van Dierendonck, 2010).

The development of an adequate instrument to measure servant leadership requires that several criteria have to be fulfilled; one of which is to pay equal attention to leader's part as an instrument in implementations within the organization (van Dierendonck & Nuijten, 2010).
Spears (1995; 2002) was the first to outline ten characteristics of a servant-leader based on Greenleaf's´ writings. These are:

1. Listening: Silencing the inner voice to listen to what is and isn't said as well as the regular use of reflection.
2. Empathy: Striving to understand and empathize with others.
3. Healing: Learning to heal the self and others to aid in transformation and

integration.

4. Awareness: General and self-awareness. Aids in understanding of issues involving ethics and values.
5. Persuasion: Relying on persuasion rather than positional authority in making decisions. Effective as a consensus builder within groups.
6. Conceptualization: Looking at a problem and think beyond day-to-day realities. Stretching to encompass broader-based conceptual thinking.
7. Foresight: Foreseeing the likely outcome of a situation, to understand lessons from the past, the realities of the present, and the likely consequences of a decision for the future. Rooted in the intuitive mind.
8. Stewardship: Holding something in trust for the greater good. A commitment to serving the needs of others.
9. Commitment to the growth of people: Committed to the personal, professional, and spiritual growth of every individual in the organization.
10. Building community: Seeking to identify a means for building community among those who work in the organization.

Additionally two of the previously mentioned researchers, Keith, (2008) & van Dierendonck (2010), also outlined characteristics of servant leadership, shown in table 1, along with concepts listed by Spears (1995; 2002).

Kent M. Keith (2008) analysed seven key characteristics to describe the main attitudes and areas of emphasis typical of servant leaders. These are: self awareness, listening, changing the pyramid, developing your colleagues, coaching not controlling, unleashing the energy and intelligence of others and foresight.

van Dierendonck (2009) describes eight characteristics of servant leadership. These are empowerment, servitude, accountability, forgiveness, courage, authenticity, humility and stewardship. Those characteristics are fundamental to his *Servant Leadership Inventory, (SLI)* (2009), a new instrument that can be used to establish the impact of servant leadership on individuals and organizations (van Dierendonck, 2009).

Table 1. Operational Characteristics of Servant Leadership

Spears (1995)	**Keith (2008)**	**van Dierendonck (2009)**
Listening	Self awareness	Empowerment
Empathy	Listening	Servitude
Healing	Changing the pyramid	Accountability
Awareness	Developing your colleagues	Forgiveness
Persuasion	Coaching not controlling	Courage
Conceptualization	Unleashing the energy and intelligence of others	Authenticity
Foresight	Foresight	Humility
Stewardship		Stewardship
Commitment to the growth of people		
Building community		

The fourth scholar in this area of research is Kathleen Patterson who has also developed a model on servant leadership including the following concepts: love, humility, altruism, vision, trust, empowerment, and service. Patterson's model is an interesting contribution to better understanding servant leadership, e.g. as she introduces altruism in this regard corresponding to actions to benefit another person with limited expectation of personal gain (Patterson, 2003). This concept gains increased interest in leadership research and in a recent study on welfare services altruistic leadership is considered as important to enhance, for example interprofessional collaboration (Axelsson & Axelsson, 2009).

3.2.3 Servant leadership and research

Servant leadership has been linked to better staff outcomes in health care. Hyett (2003) identifies the servant leadership model as one with the potential to empower nursing staff to influence needed change. Among recent studies is a correlation study with a random sample of registered nurses, nurse managers, and leaders in a non-profit USA health care organization. This research showed a significant correlation between job satisfaction and all sub-factors of servant leadership that were measured (Amadeo, 2008).

Sturm (2009) conducted a qualitative study to investigate servant leadership in nursing. Her findings revealed that a servant leadership model can support personal and professional growth and empower nurses and thereby increase collaboration, satisfaction, and retention in nursing.
Neill and Saunders (2008) argue from their case application of servant leadership principles in an intensive care health setting that servant leadership encompasses a powerful skill set which is particularly effective in implementing a team approach to the delivery of nursing practice. Also that the servant leadership model encourages professional growth among nurses and simultaneously promotes the improved delivery of healthcare services through a combination of interdisciplinary teamwork, shared decision making, and ethical behaviour.
Irving (2005) explored the relationship between servant leadership and team effectiveness among 1800 employees working in one division in a large nonprofits firm in the United States of America. His findings show positive correlation and a high degree of statistical significance between job satisfaction, servant leadership and team effectiveness. Irving argues that for organizational leaders servant leadership will increase the effectiveness of their teams and thus it is important to pay attention to servant leadership as well as job satisfaction among the team members.

Beck (2010) explored the antecedents of servant leadership with two research questions: 1) Are there certain characteristics or behaviour that would predict a servant leader? 2) Are there experiences or life events that would predict a servant leader? The research design he used was a mixed method sequential explanatory design consisting of two distinct phases quantitative followed by a qualitative method. His main findings were: The longer a leader is in a leadership role, the more frequent the servant leader behaviours. Leaders that volunteer at least one hour per week demonstrate higher servant leader behaviour. Servant leaders influence others through building trusting relationships and servant leaders demonstrate an altruistic mindset.

Limited research exists on servant leadership within nursing in Iceland. One project has been carried out among nursing staff, nurses and nurse assistants, in four hospitals in the south part of the country using SLI. This study showed strong positive correlation between servant leadership and job satisfaction (Sverrisdottir, 2010).

Research on servant leadership is increasing and current knowledge indicates its importance for positive outcomes for staff in terms of well-being at work and work performance. Among criticisms towards this philosophy of leadership, by Andersen (2009) points out that manager are hired to contribute to organizational profit, by means of a workforce of subordinates, not like-minded followers, to solve problems and contribute to an organization's productivity and effectiveness. Andersen's perspective is that leadership has to do with systematic influence of personnel.

3.3 Emotional exhaustion and burnout

Difficulties at the workplace and negative attitudes towards work have been recognized for a long time and this is a significant phenomenon of the modern age. The use of the term burnout for this phenomenon began to appear in the 1970s in the USA, especially among people working in human services (Maslach et al., 1981). Freudenberger, (1975) was the first who used the concept of professional burnout in 1974 to describe a state of exhaustion and there were volunteer workers who observed this and these signs were most often emotional and mental (Peterson, 2008).

According to Christina Maslach, burnout is defined and understood as an emotional exhaustion in response to a demanding environment, evoking negative attitudes towards recipients. Burnout is a prolonged response to emotional and interpersonal stressors at the workplace and a sign of a major dysfunction within an organization. Key characteristics of burnout are an overwhelming sense of exhaustion, feeling of frustration, anger and cynicism. This phenomenon has been associated with decreased job satisfaction and a reduced commitment to a current job or organization (Maslach & Goldberg, 1998; Maslach et al., 2001).

Maslach has developed a multi-dimensional model of burnout and an instrument to measure its levels in three main dimensions, these are: emotional exhaustion, depersonalization and reduced personal accomplishment (Maslach et al., 1996). The Maslach Burnout Inventory (MBI) was developed to measure these components in human services. The inventory is known as a leading inventory in measuring burnout and has been extensively piloted and used by researchers, e.g. in Iceland (Gunnarsdóttir, 2006). Burnout has been studied for over thirty years, and research indicates that work-related factors such as high demands and low influence, inadequate social support and insufficient role clarity increase the risk of burnout (Borritz et al., 2006).

The KART- research on working environment, stress and health among personnel at the western Götaland and also the Insurance Institute at the western Götaland, showed e.g. that nurse assistants demonstrated high indications of psychosocial problems, such as emotional exhaustion in the working environment as well as other stress related health problems (Hulberg, Hadzibajramović, Pettersson, Skagert, Ahlborg G, 2011). Empowerment at the workplace affects various behavioral outcomes. Laschinger et al. (2003) found that a pleasant working environment results in a higher sense of empowerment that contributes to preventing symptoms of emotional exhaustion and burnout. Nursing is a stressful and physically demanding occupation. The concept of burnout and symptoms of emotional exhaustion are highly relevant when examining nurse assistants' working environment, which is increasingly characterized by high working demands and is therefore also related to the demands, control and support model (Karasek & Theorell, 2000).

Some studies have been done on the working environment of Icelandic nursing, both within the groups of nurses, nurse assistants and unskilled personnel. One research showed positive correlation between job satisfaction and quality of life, less work related stress and symptoms of emotional exhaustion and better patient treatment (Flygering, 2006). Another research on a large group of different health personnel in geriatric care showed that nurse assistants report on higher physical demands than nurses do. (Gunnarsdottir, Rafnsdottir, Helgadottir & Tomassson, 2003)

3.4 Job satisfaction

Many researchers have defined job satisfaction. Lockes (1969), contribution to such a definition was that job satisfaction constitutes positive attitudes to the job in proportion to needs. Locke emphasises the contrast between either thriving at one's job or not. The theory argues that there has to be harmony between needs and results, and it is important here to know what is expected. Locke defines job satisfaction as a positive emotional state; that is, a result of perception or experience from one´s job (Locke, 1969).

According to (Locke, 1969), job satisfaction is a key factor that affects the individual's well-being. Job satisfaction can affect work absenteeism, turnover rate and the employee's motivation. An employee that is satisfied with his or her job can save money for the employer, because being satisfied at your job can lead to enhanced efficiency and higher motivation to improve performance at work.

Lapane & Huges (2007) investigated job satisfaction and stress among nurses and nurse assistants in nursing homes. They found that the most stressful times for nurses are when they perceive lack of staff, interruptions, and having too much to do. Whereas the most stressful situation for nurse assistants were too much work to do, not enough staff, poor payment, stressful situations and not having enough information regarding a patient's condition.

In a Norwegian study, job satisfaction among nurse assistants measured 80% for those who where pleased and rather pleased at work. The finding of this study also indicated the importance of a supportive working environment for job satisfaction (Ose, Haus, Pettersen, Jensberg & Paulsen, 2009).

A large study from USA using a national sample of nurse assistants showed that good working conditions which provide respect and good a relationship with supervisors are important to their job satisfaction (Bishop, Squillace, Meagher, Anderson, Wiener, 2009).

Good collaboration between professionals at work, first-line manager's support and intrinsic motivation has been linked to nurses´ job satisfaction (Gunnarsdóttir, 2006). In a recent study among British nurses that investigated the importance of inter-disciplinary teamwork for nurses' job satisfaction, the findings indicate that nurses with higher teamwork scores are significantly more likely to be satisfied with their work (Adams, 2000).

Research shows that among important determinants of job satisfaction are working environments, motivation and collaboration at work. Recent studies also show that among important determinants for job satisfaction is the nature of the work itself - often called the intrinsic job characteristics (Saari & Judge, 2004 & Gunnarsdóttir, 2006). Among things that can affect the intrinsic job characteristics among personnel are e.g. supervisors' behaviour and empowerment, working environment and pay satisfaction (Decker, Harris-Kojetin, Bercovitz, 2009).

Few Icelandic studies have been conducted among nurse assistants with regard to their job satisfaction, although one research showed that better knowledge of the working environment and the culture within the working place is likely to contribute to job satisfaction among nurse assistants (Ásgeirsdóttir & Bragadóttir, 2011).

3.5 Health and health promotion

Promotion of health at work is an important contribution to public health (WHO, 2010). The concepts of health promotion and workplace health promotion have developed since the presentation of the Ottawa Charter of health promotion in 1986 (WHO, 1986). In the Bangkok Charter for health promotion in a globalized world (WHO, 2005) the focus is on the unique role and responsibility of each sector in the society and here working conditions are considered among important determinants of health.

In 1989 three Australian commentators on community development, Jackson, Mitchell and Wright, recounted the history of how the first definition of health from the World Health Organization (WHO) was written. The authors pointed out that soon after the Second World War the first definition of health was written by a WHO official who had spent the war working in the Resistance. He had come to this definition as a result of his experience; he had never felt healthier and more alive than during that terrible period. Every day he worked passionately for goals that he cared for and he was certain that his family would be taken care of by the network of the Resistance workers if he should be killed (Laverack, 2004).

This story tells of the circumstances under which situation the original definition of health was developed. And furthermore, Laverack (2004) states: "It was developed by a person who was passionately involved with others to change social and political structures" (p. 19.). This definition emphasises that individuals are involved in taking control over those things that affect their lives and by doing so empower their own health and well-being as well as that of their associates. In the course of time many definitions of health have been written, but most of them are based on the original definition from WHO (Medin & Alexanderson, 2000).

Laverack defines health promotion based on the Ottawa Charter, as follows: "...the process of enabling people to increase control over and improve people´s lives and health. How we define and interpret health largely determines how we approach health promotion" (Laverack, 2004, p.19). Health promotion research is mainly based on theories of, for example, organizational behaviour, sociology, social psychology, education, politics and economics. Much of this research has been limited to health-related behaviour. These researches reflect the fact that health promotion practice is not only concerned with the behaviour of individuals but also how society is politically organized and its social policies is implemented (Eriksson and Lindström, 2008). This is important in relation to work environment and factors that can influence well-being at work.

The Ottawa Charter of health promotion has been consolidated as an important framework for the work of health promotion by highlighting the importance of coordinating strategies and activities at all levels in the society to promote health. The Ottawa Charter is the framework most often referred to by those working in the field, researchers and practitioners (Medin and Alexanderson, 2000 p.110).

> According to the Ottawa Charter: *Health promotion is the process of enabling individuals and communities to increase control over, and improve their health. To reach a state of complete physical, mental*

and social wellbeing, an individual of a group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment"

The workplace is among priority settings for health promotion (WHO, 1986). According to Nutbeam (2000) individual characteristics and behavioural patterns influence well-being, as do social, economic and environmental circumstances of individuals and populations. Promotion of health at the workplace relates to the physical and psychosocial work environment, as well as support of personal health resources and support of participation in the community to improve health (WHO; 2010).

In the light of the above, there are many factors in the work environment that may impact work related well-being of nurse assistants. Among these are work demands, control over work, justice and support from colleagues and superiors (Gunnarsdottir & Rafferty, 2006). In this relation, the philosophy of servant leadership, with special focus on follower's needs and empowerment can be an important aid in shedding light on how well-being at work is related to the attitudes and behaviour of next superiors (Greenleaf, 1977).

3.6 Summary

Research in health care has increasingly showed a link between leadership, better staff outcomes, job satisfaction and safety. Despite increased research in human resource management in health care, more research is needed on the importance of leadership characteristics and, in particular, about the potentials of servant leadership in health care. This is very urgent during a time of restricted resources, economic austerity cut down and dissatisfaction at work (Rechel, Wright, Edwards, Dowdeswell & McKee, 2009).

In spite of the extensive research and knowledge in the presented fields, limited evidence is available as to influential factors within the work environment of nurse assistants. In particular it is important to increase knowledge on how servant leadership behaviour is linked to their well-being and job satisfaction for this professional group.

4 METHODS

This chapter includes a description of the method used to address the purpose of the study, to answer the research questions and illustrate the design of the study, population and setting. The second part considers the survey method, instrument, procedure used for adapting and pre-testing the questionnaire, data collecting procedure and the survey data analysis.

4.1 Study design

The present study uses a cross-sectional descriptive design to answer the research questions. This design was chosen as cross-sectional studies are based on observations of different groups at a single time point and no attempt is made to describe development of the present surroundings or their origin (Polit & Hungler, 1997). Descriptive analyses are used to outline the present surroundings and to describe the characteristics of individuals or groups where data is collected at the same time. The researcher is passive and seeks to generalize results from participants to the whole sample. The cross-sectional descriptive design was, therefore, a suitable method for gathering information on nurse assistants' well-being and work environment and identifying potential relations with leadership factors at their workplaces. A questionnaire survey was conducted on the Internet to obtain information regarding the prevalence, distribution and inter-relationships of variables within the target population (Robson, 2002).

4.1.1 Population and setting

The target population were all nurse assistants registered with correct and useful email-addresses at the Nurse Assistants' Association in March 2010. According to initial information provided by the association these were in total 1600. Following closer estimation of the accuracy of these email-addresses the number of correct and useful email addresses was 1200 corresponding to the true target population of nurse assistants registered with correct and useful email-addresses at the Nurse Assistants' Association in March 2010. The participants were located all around the country, working at different places, hospitals, health care centres, nursing homes, and smaller homes, as revealed by one demographic question.

The researcher collaborated with a computer company, *Media*, which offers students the opportunity to do research with free admission to the Lime-Survey system. This system is designed to run surveys on the internet where participants are allocated a number for participating in the survey, where giving these numbers to each participant ensures the anonymity of the survey. This computer company also hosted the email addresses of nurse assistants registered at the Nurse Assistants' Association.

4.2 Instrument

The questions in the survey have to fit into the overall survey process, and meet the goals and the questions raised in the study. The respondents must be able to understand the questions in the way the researcher intends; they must be able to access the requested information and need to be able to answer in the form called for by the questionnaires (Robson, 2002).

The questionnaire in this study consists of six sections dealing with nurse assistants' working environment, and attitudes towards leadership behaviour of superiors, symptoms of emotional exhaustion, job satisfaction and job characteristics and demographics (See appendix 4).

The first part of the questionnaire was The Swedish Demands-Control-Support Questionnaire (DCS) created by Robert Karasek and Töres Theorell, (1990). The Swedish Demands-Control-Support questionnaire measures three dimensions: demands at work, control and support. The instrument consists of 22 items altogether.

Demands are measured by five items, control is measured by six items, and social support by ten items. Examples of items for each of the three dimensions are as follows: "Does your work demand that you work very hard?"(Demand), "Does your work include doing some tasks over and over again?"(Control), and "I feel comfortable with my workmates" (Social support). The responses were given on a four-point Likert scale, ranging from 1 ("No, almost never"; alternatively, "Not at all") to 4 ("Yes, often"; alternatively, "Very well").

The second part of the questionnaire comprises 9 questions on symptoms of emotional exhaustion from Maslach´s Burnout Inventory (MBI). The Maslach Burnout Inventory (MBI) was initially published in 1981 and originally designed for professionals in the human services field. Respondents are asked to indicate the frequency with which they experience various feelings on a seven-point Likert scale ranging from 0 = never to 6 = always. The item ratings are summed to create sub-scale scores. High scores show emotional exhaustion (Maclach et al 1996).

The third part of the instrument is one question on job satisfaction focusing on the level of satisfaction with the current job on a four point Likert scale ranging from: agree to disagree, (1 = agree and 4 = disagree). This question is linked with the questions asking about control. This single item question has previously been used and tested in Icelandic surveys indicating that single items are useful in measuring job satisfaction as a global construct (Gunnarsdóttir, 2006).

The fourth part of the questionnaire was the Servant Leadership Inventory (SLI) developed by Dirk van Dierendonck and his co-workers at the Erasmus University in Holland in 2009. This instrument was chosen because it is a new and validated European instrument to evaluate the impact of leadership on followers' priority used and tested in Holland, England (van Dierendonck, 2009) and Iceland (Hauksdóttir, 2009; Sverrisdóttir, 2010). The questionnaire is based on the philosophy of Robert Greenleaf, first presented in the year 1970. The development of SLI was based on a thorough analysis of the literature, previous studies relating to servant leadership and survey data from Dutch and English participants. From these analyses, eight characteristics of servant leadership were developed. The SLI questionnaire contains

thirty questions where participants are asked to answer statements that concern their next superior at their workplace. The statements range over a six score scale, (0 = strongly agree: 5 = strongly disagree). The eight sub-factors of the inventory relate to empowerment, servitude, accountability, forgiveness, courage, authenticity, humility and stewardship. Validity and reliability of the SLI has been published (van Dierendonck & Nutjen, 2010). The SLI has been translated from Dutch into other languages, among them English, German and Icelandic. Two pilot studies on the Icelandic version of the SLI have been conducted, one among health care workers. Both studies indicated that the SLI is both valid and reliable in the Icelandic version (Hauksdóttir; Sverrisdóttir, 2010). The present survey is a part of larger research collaboration on servant leadership in these countries.

In the fifth part of the questionnaire seven questions were asked about physical well-being. These questions are widely used in Scandinavian studies. (*Administration of Occupational Health and Safety in Iceland*, 2001). The purpose of these questions was to provide further insight into nurse assistants' well-being at work.

Finally, eight questions were asked on nurse assistants' demographics and educational background. The questions dealt with length of occupation as a nurse assistant, age, education in addition to regular nurse assistant training, attendance to courses for nurse assistants, working time, daytime or shift work, current job percentage, work in excess of contracted hours and additional time, as well as last the working place; whether it was a hospital, a nursing home, a health care centre, a home nursing or something else.

4.2.1 Pilot-testing of the instrument

When research is performed, there are many things to consider with regard to quality of study and best possible response rate. The purpose of the pilot test in this study was to evaluate the efficiency of the layout of the questionnaire and it´s clarity to discover whether there were any questions particularly difficult to understand and/or answer. When surveying a big sample it is important to obtain feedback on the instruments (Karlsson, 2003). A target group of seven nurse assistants at the hospital in Akureyri were asked to answer the survey questionnaire and to give their comments on the previously mentioned items. It was also important to measure the time needed to answer the questionnaires before they were more widely circulated. The pilot testing provided some useful comments on the phrasing of the questions and the layout of the questionnaires, which the researcher took notice of. But on the whole the participants were pleased with the questionnaire and did not appear to feel they were too extensive or difficult to understand. The time they needed to answer the questionnaires was approximately 20 minutes. Participants could omit questions in the survey if they chose to do so and proceed to answer the next one.

4.2.2 Benefits and disadvantages

Using questionnaire-based surveys to collect data provides a relatively simple and straightforward approach to study of attitudes, values, beliefs and motives. The surveys also collect a great amount of data in a relatively short time and allow anonymity which tends to encourage responses (Robson, 2002; Polit & Hungler, 1997). Participants are

more likely to answer questionnaires if they are anonymous and the answers untraceable. Therefore participants can answer truthfully (Robson, 2002). However, there might also be disadvantages relating to survey-questionnaires; people do not wish to respond to the questionnaire, they do not understand the questions or cannot read it properly. In this survey, the researcher sought to obtain maximum response rate from the nurse assistants by cooperating with the management of the Icelandic Nurse Assistants' Association and by sending reminder letters.

4.2.3 Data collection

Before beginning data collection, the study was introduced to the management of the Nurse Assistants' Association and by notification to their representatives in various places around the country. The aim of the introduction and notifications was to facilitate dissemination of information about the study to nursing assistants and to encourage their participation in the survey.

The questionnaire was designed in an attractive way for the respondents and prepared for the survey (Karlsson, 2003). The researcher decided, in cooperation with the supervisor of the study and the management of the Nurse Assistants' Association, to send the questionnaires by email to nurse assistants with registered e-mail addresses at the association. This method of sending questionnaires by email is relatively new compared to sending them by post and there are both advantages and disadvantages involved.

Participants completed the questionnaire from 27th March to 9th May 2010. During this period, two reminders were sent to participants. The return of a completed questionnaire was assumed to indicate a respondent's consent to participate. A total number of 1600 email-addresses for potential participants were provided in a list from the Nurse Assistants Association. These email-addresses were used to messages including a link to the survey questionnaire. Immediately after the emails were sent 342 emails bounced back indicating incorrect email addresses or recipients not found. Additionally 58 email-responses came from nurse assistants reporting that they were no longer working as nurse assistants and had omitted to have their email-addresses removed from the list of members of the Nurse assistants association. Given this the definition of the survey population was corrected by subtracting these 400 email-addresses (342 + 58) that either did not get to the recipients or the recipients no longer fulfilled the criteria of working as nurse assistants. Consequently the true survey population consisted of 1200 nurse assistants that received emails linked to the survey questionnaire.

In an attempt to maximise the response rate, two reminder letters were sent to all subjects in the survey. The first reminder was an email letter sent on 9th April 2010.

This was a standard letter from the Lime-Survey system used that included thanks to those that had already answered the survey and an encouragement for those who had not yet answered. Before the first reminder was sent, the response rate was approximately 25%.The second reminder was a letter sent by post to all participants. This letter emphasized the importance of the study and the value of the respondents' participation. It stated furthermore that if any questions about the survey came up among participants, they were encouraged to contact the researcher or the supervisor of the survey. This

second reminder nearly doubled the response rate, so in the end 588 nurse assistants (49% of the target population) responded to the survey questionnaire and participated in the study.

4.2.4 Analysis of data

The computer program used for collecting data, the Lime-Survey system, is built up on such a way that data were easily moved from the Lime-Survey program over to the SPSS computer system. According to the program's protocol for quality control of the process, this is to minimise the risk of adverse effects on the accuracy of the data set. After the transfer process, the data were placed directly into a file and returned to the researcher for analysis. The questionnaires were already numbered after the transfer without personal information on participants.

This research is a descriptive survey. Descriptive statistics is a good method to portray an accurate profile of persons, events or situations and describe data (Robson 2002). The method was used to obtain an insight into research data regarding nurse assistants' well-being at work, their work environment and nurse leadership. The results of the study are presented by means of frequency tables, mean and standard deviation tables and also by interpreting connections between variables.

Confirmative factor analysis was used on the SLI questionnaire to identify sub-factors. The purpose of factor analysis is to discover patterns of relationships among the variables. It seeks to reveal whether the observed variables can be explained largely or entirely in terms of much smaller groups of variables called factors. This is to decide which variables belong to certain factors. If a variable has a high loading with regard to specific factors and a lower loading with other factors it belongs to the one that has the highest load (Gudmundsson & Kristjánsson, 2005; Pollit & Hungler, 1997).

4.3 Ethical considerations

All participants in the study were provided with an information letter, enclosed with the instrument, about the purpose of the study, the person responsible for the study, the name and address of the researcher and the supervisor. Furthermore, participants were informed that the questionnaires were anonymous and confidential, with no ID numbers or codes. There were no names or other items of personal identification in the questionnaires. Before piloting the questionnaire, a report on the study was submitted to the Icelandic Data Protection Commission (see appendix 2) and participants were informed that data would be protected as their rules specify.

Media, the IT Company used in the research, and hosted the Lime-Survey computer system, provided a number for each participant invited to take part in the survey and sent the relevant number by email to each participant. The participants could either answer the questionnaire by email, in which case the answers went straight into the Lime-Survey database or they used the number to answer the questionnaire through the internet address connected to the Lime-Survey. Nobody could trace this given number. Participants were assured in the letter that all data would be kept confidential and

destroyed after the study and analysis of the data was completed. The researcher alone had access to the database. Participation in the survey was entirely voluntary. Participants were asked to contact the researcher and supervisor of the study if any questions came up when answering the questionnaires.

5 RESULTS

This chapter considers the results of the study. The questionnaire provided data to answer the research questions. The aim was to investigate nurse assistants' perception of work environment, their perception of servant leadership and the symptoms of emotional exhaustion and job satisfaction, and furthermore to examine the relationships between these variables.

5.1 Participants

The target population was all nurse assistants registered with email addresses at the Nurse Assistants' Association (n= 1200). Usable answers were in total 588 (49,0% response rate) ranging between individual survey questions from 573 to 588 indicated for each question when findings are presented in following tables (with N). Results show calculation as valid percent, which shows percent figured from those participants that answered the survey. Participants were located all around the country, working in nursing care at different places in health care settings in Iceland; hospitals, healthcare centres, nursing homes, and smaller residences. Table 2 displays age and work history of the participants and shows that the majority of them were over 50 years of age, or 57,4%. Nearly half of them worked at hospitals 44,1% and 35,1% worked in homes for the elderly. The majority of respondents worked full-time, or almost full-time, 63,4% and 26,4% worked less than 70% of a full-time position. And around 36,1% of respondents worked three types of shifts at their work.

Most of the study participants 70,9% reported working more than their regular hours, but only sometimes during the year. The majority of study participants had got considerable experience in nursing, had been working more than 14 years; 53,5% as nurse assistants. When looking at how many of the nurse assistants had a post-basic education, 44,9% of participants had a post-basic education in nurse assistants' speciality such as in geriatric nursing and 44,4% of them had taken shorter courses in different themes, up to 200 hours.

Table 2. Demographic and job characteristics of study participants.

Age in years (N=580, missing 8)	n	Valid %
20-30 years	26	4,5%
31-40 years	66	11,4%
41-50 years	155	26,7%
>50 years	333	57,4%
Workplaces (N=580, missing 8)		
Hospitals	256	44,1%
Home for elderly	204	35,1%
Residence, some people live together	23	4,0%
Health care centre	51	8,8%
Somewhere else	47	8,1%

Current job percentage (N=581, missing 7)	**n**	**%**
50% or less	59	10,2
51-75%	153	26,4
76-100%	368	63,4
Do they work three types of shifts? (N=579 missing, 9)		
Yes	209	36,1%
No	370	63,9%
Working more than contracted hours (N=580, missing 8)	**N**	**%**
Once a week	39	6,7
Sometimes a week	20	3,4
Sometimes a year	411	70,9
Never	110	19

Years worked as a nurse assistant (N=579, missing 9)	**n**	**%**
0-4 years	106	18,3
5-9 years	88	15,2
10-14 years	75	13
>14 years	310	53,5
Education (N=581, missing,7)		
Shorter courses < 200 hours	320	55,1
More than 200 hours	261	44,9

5.2 Demands, control and support

Participants responded to the demands, control and support questionnaire (DCS). Findings are demonstrated in Table 3. The responses were given on a four-point Likert scale, ranging from 1 to 4. Since the response rate was very low on the 4th point, answers from the third and fourth point were taken together. Results on demands at work show that 78,3% of nurse assistants thought their job was sometimes demanding and an additional 18,2% felt their job was often demanding. Findings regarding control at work show that 69,9% of study participants sometimes feel that they experience control at work and additionally, 26,0% agree that they often experience control at work. A total of 69,5%, mildly agreed that they received support at work, and 25,0% agreed with this item. Further analysis on data for the DCS questionnaire is not included in this study.

Table 3. Nurse assistants' perception of demands, control and support at work.

Demands at work (N=581, missing 7)	n	Valid %	**Control at work (N=578, missing 10)**	n	Valid %	**Support at work (N=580, missing 8)**	n	Valid %
Often	106	18,2	Often	150	26,0	Agree	145	25,0
Sometimes	455	78,3	Sometimes	404	69,9	Mildly agree	403	69,5
Seldom/ Never	20	3,5	Seldom/ Never	24	4,1	Rather disagree/ Disagree	32	5,5

5.3 Perception of Servant leadership

Servant Leadership Inventory (SLI) was used to measure the nurse assistants' perception on leadership behaviour of their next superior. During preparation confirmatory factor analysis was used to analyse the data as this method is preferred when theory underlies the measured constructs (Gudmundsson & Kristjánsson 2005). This enabled the use of the SLI eight sub-factors priory presented by the author of the servant leadership instrument (Dierendonck, 2009). Detailed findings of the factor analysis are presented in appendix 1.

Descriptive statistics for the SLI factors are summarized in table 4 with mean values, standard deviation and Chronbach´s Alpha. The findings show that Cronbach´s Alpha was adequate for seven of the eight sub-factors (0,634 – 0,917); an indication that the

Icelandic version of the SLI is reliable. Only one sub-factor, courage, has a low Cronbach´s Alpha score (0,333). Perceived servant leadership (range 0-5) measured moderate (mean 2,32 - 4,52), with the mean for one factor solution (total score) 2,96. Two sub-factors with highest mean scores were forgiveness 4,52 and courage 3,94. The findings indicate that servant leadership is practised in nursing management where study participants work.

Table 4. Nurse assistants' perception of servant leadership characteristics (n= 588). Cronbach´s Alpha, mean and standard deviation (total SLI and SLI sub factors) SLI range 0-5.

	Mean	**Cronbach's Alpha**	**Standard deviation**
SLI-sub factors			
Empowerment	2,58	0,916	1,13
Servitude	2,92	0,634	1,01
Accountability	2,32	0,776	,912
Forgiveness	4,52	0,793	1,16
Courage	3,94	0,333	1,03
Authenticity	3,15	0,700	,981
Humility	2,87	0,917	1,11
Stewardship	2,39	0,795	1,02
Total SLI	2,96	0,914	0,73

5.4 Symptoms of emotional exhaustion

Maslach's Burnout Inventory (MBI) was used to measure symptoms of emotional exhaustion by means of 9 questions, range 0-6 where greater values indicate higher levels of burnout (0=never and 6= every day). As recommended by Maslach, a mean score was computed for the 9 questions factor (Maslach et al., 1981) resulting in mean of 26,8 for the emotional exhaustion factor and Cronbach's Alpha measured 0,736. Nurse assistants' perceptions of emotional exhaustion as indicated by individual answers to the 9 questions are presented in Table 5 showing that 25,4% of nurse assistants feel symptoms of emotional exhaustion, once a week or more often and 42,8% a few times a month.

Table 5. Symptoms of emotional exhaustion. Answers to the 9 questions: n and %

(N=573, missing 15)	n	Valid %
Never	2	0,3
A few times a year or less	20	3,5
Once a month	160	27,9
A few times a month	245	42,8
Once a week	105	18,3
A few times a week	38	6,6
Every day	3	0,5

5.5 Job satisfaction

Table 6 presents job satisfaction measured by a single item question: *On the whole how satisfied are you with your present job?* More than half of participants, 55,3%, were very satisfied with their job and taking together those who were very satisfied and moderately satisfied, these sum up to 92,1% of study participants.

Table 6. Satisfaction with present job (n and %)

How satisfied are you with your present job? (N=582, missing 6)	n	Valid %
Very satisfied	322	55,3
Moderately satisfied	214	36,8
A little dissatisfied	39	6,7
Dissatisfied	7	1,2

5.6 Physical symptoms at work

Questions about physical demands at work, pain and visits to doctors shed further light on perceived wellbeing of participants. Table 7 shows that the majority, 71,2% of respondents answered that their job was difficult and an even larger majority of participants also answered that they were physically worn out, often or sometimes 77,2% in the end of the working shift. When asking about pain in their neck and shoulders in the past 12 months, 89,1% reported having experienced this and 61,1% reported having had back pain in the past 12 months. As for the question on how many of the participants had visited a doctor because of these pains last 12 months, the

majority or 60,2 % had done so. Findings based on these questions were not included in further analysis in this study.

Table 7. Reported physical job demands at work, pains and visits to doctors (n and %)

How physically demanding is the work? (N=580, missing 8)	**n**	**Valid %**
Difficult	413	71,2
Easy	167	28,8
Have you had pain in neck and shoulders in the past 12 months? (N=577, missing 11)		
Yes	514	89,1
No	63	10,9
Have you had pain in the lower back in the past 12 months? (N=579, missing 9)		
Yes	477	82,4
No	102	17,6
Are you physically worn out at the end of the shift? (N=580, missing 8)		
Often	116	20
Sometimes	332	57,2
Seldom	123	21,2
Never	9	1,6
Have you visited a doctor because of physical pain in the past 12 months? (N=579, missing 9)		
Yes	354	61,1
No	225	38,9

5.7 Correlation between study variables

To explore the relationship between nurse assistants' perception of servant leadership of their next superior and their well-being at work, correlations were evaluated between the eight servant leadership dimensions (SLI sub-factors), job satisfaction and burnout symptoms. As shown in table 8, six leadership dimensions are significantly correlated to job satisfaction and symptoms of emotional exhaustion. The strongest significant correlations were found for empowerment, stewardship and humility showing relationship between leadership characteristics and well-being at work. Accountability is not significantly correlated to emotional exhaustion. Courage is not significantly correlated to job satisfaction and emotional exhaustion.

Table 8. Correlations between SLI sub-factors, job satisfaction and symptoms of emotional exhaustion (n=588)

	Job satisfaction	Emotional exhaustion
SLI sub-factors.		
Empowerment	0,523**	0,302**
Servitude	0,338**	0,251**
Accountability	0,264**	0,070
Forgiveness	0,351**	0,222**
Courage	0,060	0,018
Authenticity	0,333**	0,254**
Humility	0.384**	0,260**
Stewardship	0,447**	0,278**
SLI-total	0,440**	0,276**

** correlation is significant at the 0.01 level (2-tailed).

5.8 Summary of findings

Demographic analysis shows that the majority of the participants was older than 50 years of age and had a long period of employment. The major part works more than full time, the minority works three types of shifts and the majority of participants work more than contracted hours, either only a few times a week or sometimes a year or never.

Findings about demands, control and support at work show that nurse assistants experienced high demands at work and the majority of participants reported control and

support at work. Descriptive statistics for the SLI sub-factors indicate that servant leadership is practised to some extent within the nurse assistants' workplaces.

Symptoms of emotional exhaustion yielded a high mean score, 26,8 where majority of the nurse assistants reported symptoms of emotional exhaustion once or more often each month and 24,5% of participants experienced symptoms of burnout each week.

Job satisfaction among nurse assistants measures high. The majority of the participants complained of physical symptoms, pain in their muscular-skeletal system, either pain in the neck or shoulders or back pain. The majority had visited a medical doctor in relation to these symptoms.

The correlation measured by Kendall's tau-b, between perception of servant leadership, job satisfaction and emotional exhaustion was significant for all SLI sub-factors except for courage. The strongest correlation was indicated for empowerment, humility and stewardship within servant leadership.

Next this thesis will turn to discussing the study findings and reviewing the strengths and limitations of the study.

6 DISCUSSION

The purpose of this study was to investigate nurse assistants' work environment, their perception of work demands, perception of servant leadership of their next superior, job satisfaction, symptoms of emotional exhaustion and physical well-being at work**.** To collect information and to address the research questions a large sample of nurse assistants in the Icelandic Nurse Assistants Association (Sjúkraliðafélagi Íslands) was surveyed. There were 588 participants in the survey and the response rate was 49,0%. The nurse assistants worked in different health care settings in Iceland, although most of them worked at hospitals, at nursing homes, health care institutions and smaller residences. The majority of the participants were over the age of 50 years old which corresponds to the average age of nurse assistants registered in the Nurse Assistants Association, whose records indicate that 85% of nurse assistants are over 50 years old (verbal communication 10th of June, 2010).

This study indicates that the work environment of nurse assistants is characterized by high work demands along with the possibility of enjoying, support and control at work. The reported high demands at work and symptoms of physical pain may be explained by the reported high symptoms of emotional exhaustion. However, the nurse assistants reported on high job satisfaction. The findings provide some potential explanations for these relationships, e.g. from the point of view of supportive behaviour and attitudes of their next superior.

In this chapter, the results and the findings in comparison to previous studies will be discussed according to the research questions. The strengths and limitations of the present study will be also discussed; first of all in relation to its design and sample. This will be, followed by the last chapter with conclusions; discussion on potential contributions of the present study as well as some ideas regarding implications for nursing practice and public health.

6.1 Discussion of results

Demands at work

Study findings indicate high demands within the working environment of nurse assistants. This supports earlier findings from Sundin et al. (2007) on registered nurses and nurse assistants. Their findings showed that nurses and nurse assistants were exposed to various work-related stress factors, such as high workload and diffuse work demands and traumatic experiences. This is also in line with findings from prior studies in Iceland (Gunnarsdóttir et al., 2009) and a recent survey among hospital staff at Landspítali, Iceland (2010) where 70% of their staff reported on high demands at work.

In the present study, the nurse assistants also reported also on high control at work and support from superiors and colleagues in the working environment. This is, similarly, in line with previous studies in Iceland where hospital nurses reported on high control and support at work (e.g. Gunnarsdóttir et. al., 2009).

Nurse assistants in this study reported on physical signs, pain in their back and shoulders within their active jobs. The negative effects of these signs may have been buffered by control and support at the workplace (Hochvälder, 2007). Similarly findings emerged in the Swedish KART research on nurse assistants who complained about stress related health problems in the working environment (Hulberg et al., 2011). A good working environment also encourages activity and development at the workplace, supporting good health, well being and the ability to cope at work. Furthermore a healthy work morale and supportive leadership can have impact on nurse assistants' working environment and job satisfaction (Kauppinent et al. 2006; Eriksson et al., 2008).

Leadership

Nurse assistants' perceptions of their superiors' leadership in their working environment were measured with a new questionnaire about servant leadership, The Servant Leadership Inventory (SLI). A reliability test of the measure was adequate for seven of the eight SLI sub-factors (Cronbach's Alpha: 0.634-0.917). These results are similar to findings from van Dierendoncks's & Nujtien (2010), when testing the inventory among Dutch and English participants (see appendix 2) and similar to prior Icelandic surveys using the same instrument (Hauksdóttir, 2009; Sverrisdóttir, 2010).

Nurse assistants' perception of servant leadership of their superiors as SLI mean scores resulted on average, i.e. 2,97 where the range is 0 – 5. These scores are lower than those measured in previous studies in Iceland, as for example among nursing staff (nurses and nurse assistants) where the SLI mean score measured 4,65 (Sverrisdottir, 2010). This comparison provides an interesting insight and may point to potential difference between health care groups in relation to perception of leadership behaviour and is worth further examination.

In this study, the three SLI sub-factors with highest mean scores were forgiveness, courage and authenticity. This is interesting in the context of current emphasis in leadership, which has shifted to enhanced motivation and social responsibility to secure success and profit in modern organizations (Prosser, 2010). This is also interesting in relation to the importance of trust (Walumbwa, Hartnell & Oke, 2010) and altruistic leadership for positive work outcomes, collaboration and performance (Axelsson & Axelsson, 2009).

Characteristics of servant leadership can have strong influence on a leader's strategy of his or her vision for the organization. Hyett, (2003) points out that the servant leadership model has the potential to empower nursing staff to have influence on needed change. The relative low scores for empowerment in this study may indicate that leaders in Icelandic health care might need to strengthen the motivational and supportive elements of their leadership styles.

Andersen, (2009) argues in his paper that managers are hired to contribute to organizational profit, by means of a workforce of subordinates, not like-minded followers, to solve problems and contribute to an organization's productivity and effectiveness. Andersen's perspective is that leadership has to do with systematic influence on personnel. This strategy is contrary to notions of what servant leadership

presents according to recent research, which emphasizes the importance of being open to the needs and wishes of the followers, taking care of them and confirming their value to the organization, thereby achieving optimum results, by shared responsibility, organizational work and vision (Dierendonck, 2010).

Symptoms of emotional exhaustion

In this study, symptoms of emotional exhaustion were measured by using one part of Maslach's burnout inventory. Findings indicate high levels of symptoms of emotional exhaustion as calculated by mean scores. Majority of the nurse assistants reported on signs of emotional exhaustion, once or more often each month. These scores are considered high when compared to standard levels according to MBI´s manual (Maslach et al.1981). According to the manual, mean levels for emotional exhaustion higher than 27,0 indicate high burnout symptoms. In this study the mean for emotional exhaustion was measured 26,8 indicating that nurse assistants participating in the study may suffer from symptoms of emotional exhaustion related to their work.

Compared to the work of nurses, nurse assistants´ responsibilities are not as high and this may help to reduce stress but according to Lapane and Huges, 2007 other things such as not enough information regarding the patients condition, stressful time having to much to do and not enough staff to work can increase stress and emotional exhaustion. Control and support at the workplace is also known to have crucial affect on preventing burnout with the personnel and this present study reports on high control and support at work indicating signs of good working environment but lack of enough empowerment to affect the burnout symptoms. According to Maslach et al., (1998) burnout develops gradually because of too much stress at work.

These results are in line with Sundin et al., (2007) and Hochvälder´s, (2008) findings that show how empowerment is significant to have main effect on burnout symptoms.

Findings on emotional exhaustion in this study may also be reflected on in light of Peterson (2008), where findings on stress and emotional exhaustion among health care workers show how important it is to have pathways for good access to job resources, e.g. control to buffer negative psychological strain. These findings correspond to Karasek & Theorell´s (1990) results on work-related social support which has been suggested as a relevant factor in preventing stress – and a strained relationship with employees.

Job satisfaction

In order to measure job satisfaction in this study, a single item question was used, asking: "How happy are you in your current job?" The findings showed that the majority of participants were highly satisfied with their job. The figures were decisive showing 92,1% of nurse assistants to be highly or moderately satisfied. The difference between groups was not analysed in this study. Findings on high job satisfaction are in line with a Norwegian study among nurse assistants (Ose et al., 2009) showing that 70,0% of nurse assistants were satisfied with their job. This is also agrees with previous

studies among nurses, e.g. among 695 Icelandic hospital nurses reporting on high job satisfaction (Gunnarsdóttir et al., 2009). Further studies on job satisfaction among nurse assistants´ might provide better insight into this aspect of their work life. The present findings may be reflected on from the point of view of Locke´s, (1969) theory on job satisfaction relating to the emphasis on whether one thrives at a job or not.

The high score of job satisfaction in this thesis may be explained by intrinsic factors, that is achievement, interest in the job and responsibility for tasks and growth. Furthermore, the extrinsic factors in the work environment of the study participants may also be important here, i.e. working conditions and quality of administration (Saari & Judge, 2004). The present findings indicate that even though nurse assistants experience high demands at work and report on signs of burnout they reported being very happy at work and are supported by their next superiors which may provide an explanation as to their job satisfaction.

Is there a link between supportive leadership and nurse assistants wellbeing at work?

The correlation between servant leadership and job satisfaction and burnout symptoms, is significant for almost all SLI sub-factors, and this agrees with other prior findings from the same instrument, both in Iceland (Hauksdóttir, 2009; Sverrisdóttir, 2010) and in Holland (van Dierendonck, (2010). Results on these relationships also support prior findings on the link between high job satisfaction, low burnout scores and supportive management in the health sector e.g. Gunnarsdóttir, Clarke, Rafferty and Nutbeam, (2009) and Ose et al. (2009). These results show how important it is for leaders to give support and to take good care of their employees. Servant leadership introduces a moral philosophy of leadership and places a clear emphasis on the needs of followers (Prosser, 2010). Current evidence on servant leadership indicates that the practice and philosophy of servant leadership might be important for improving the work environment in health care for the benefit of staff and patients.

This study confirms a strong link between job satisfaction and leadership empowering behaviour. It also confirms how important is for health care staff to have access to information, and to be able to develop in their jobs and take part in decision making. The interplay between job satisfaction and leadership plays a significant role in this study and contributes to knowledge about how necessary it is for leaders to support and empower their employees to prevent and promote their well-being at work. This is important, as current knowledge in this field is limited.

Even though servant leadership is only moderately perceived by nurse assistants, they report on support and control at work and they report on high job satisfaction. Findings also show also that empowerment from their superior is important in the working environment. This suggests the importance of servant leadership, as Northouse (2010) states “With its strong altruistic overtone, servant leadership emphasizes that leaders should be attentive to the concerns of their followers and should empathize with them; they should take care of them and nurture them” (p. 385). These findings are also in line with prior findings from e.g. Karaseck & Theorell (2000) and Janssen, Peeters, Jonge,

Houkes and Tummers (2004) showing a relationship between job demands and psychological outcomes at work for Dutch and American nurses and nurse assistants. These findings show e.g. that workplace social support is not only related to prevention of emotional exhaustion but also promotes job satisfaction. This means that workplace social support can act like a stress-reducing variable as well as being motivating support at the workplace. This may actually be the same explanation in this study that even though the nurse assistants had much support from the workplace, they were very happy and their job satisfaction score was high, they showed high score of emotional exhaustion.

In this study working environment among the nurse assistants is perceived demanding and they show high score of burnout. One explanation of this can be that most of the participants were women. However, in this regard Sundin et al. (2007) argued in their research on nurse assistants, that women utilise various social networks to mobilise support and they provide more social support than men to outweigh stress symptoms.

Empowerment by superiors and supportive leadership as well as servant leadership may be the key factors on building up trustworthy working environment so employees can create a culture for health - promotion workplaces and values, to motivate and empower them in such development.

6.2 Discussion of the methodology

The response rate was reasonable at 49,0%. However, higher response rate would have increased the validity of the study. External validity of the study findings relates to the extent to which they can be generalised to some wider population (Pollit & Hungler 1997). This study is a cross-sectional survey carried out at one point in time and thus the generalizability of the study is limited. Despite the fact that present findings are specific to Icelandic nurse assistants participating in this study it was based on nurse assistant's self-reports working in various health care settings in Iceland and findings are consistent with studies conducted in prior Icelandic health care studies and to studies in other countries from other time periods. The variation in participants' work settings and consistency with prior findings may help to strengthen external validity of the study.

Among other possible limitations is the fact that the format of the survey was administered via the Internet and participants may not all have been familiar with this type of survey procedures and different computer literacy skills may have influenced those participating in the research. Another limitation might relate to the accessibility to computers, both at work and at home. The third possible limitation involves whether the participants may have understood the concept of servant leadership well enough to be able to answer some of the questions. Limited understanding of underlying concepts may reduce response rate (Pollit & Hungler 1997; Guðmundsson & Kristjánsson, 2005).

Despite the effort to create a perfectly conceived and executed sampling plan, the resulting sample may contain some bias, because not all of the people invited to participate in the research actually agreed to do so. If certain segments of the population systematically refuse to cooperate, a biased sample may result, even when probability

sampling is used (Polit, & Hungler, 1997). In this study it was possible to compare demographics of participants in terms of age to demographics of the study population showing that participants' demographics correspond to the demographics of the target population (Nurse Assistants Association, verbal communication 10th of June, 2010).

Despite the limitations the study has some strength. First is that a relative large sample size of nurse assistants in Iceland was surveyed and findings present attitudes from nurse assistants working in various settings in Icelandic health care. To collect data well-established measures on work environment and wellbeing at work were used. The study questionnaire was based on well-established instruments, shown to be both reliable and valid in prior studies (Karasek, 1990; Maslach, 1981; van Dierendonck, 2009). A new instrument on servant leadership, Servant leadership Inventory (SLI) was used and statistical findings showed that the questionnaire is reliable. Present findings on the reliability of the SLI are supported by previous studies conducted in Holland (van Dierendonck, 2009) and in Iceland (Sverrisdóttir, 2009; Hauksdóttir, 2010).

7 CONCLUSION

This study supports the importance of supportive health care leadership for the good of staff and patients. In particular this is important for nurse assistants as their work include high demands and thus a risk of negative job outcomes. It is the task of health care leaders and the Ministry of Health and Welfare in Iceland to develop strategies to enhance good working environment, well-being and job satisfaction of health personnel especially in these times of austerity. Personnel working in the health care sector work in more and more demanding working environment, and when contribution of money is less each year to the institutions, employees get upset whether they will loose their jobs or not.

In this study a new inventory was used to measure servant leadership resulting in moderately high levels of perceived servant leadership among nurse assistants. Additionally well-established measures were used to investigate on other aspects of the work environment of nurse assistants and their wellbeing at work. Findings showed that despite high demands at work, physical strain and showed signs of burnout symptoms the majority of nurse assistants are satisfied at work.

The main conclusion of this thesis is that supportive and empowering factors of servant leadership are practised within nurse assistants working environment and this may contribute to their satisfaction with current job. These results have value for nurse assistants and managers within the health care services and highlight factors such as empowerment, trust and stewardship that have positive meanings for nurse assistants well being at work and can be used to strengthen patient's safety and contribute to public health. This thesis has the potential to contribute to develop of knowledge on important factors within the work environment of nurse assistants.

How can the community take an advantage of this research work and the need for further research?

Limited knowledge is available on the work environment of nurse assistants and thus this study may contribute to the development on knowledge in this field, i.e. working environment, health promotion and occupational health in general. Furthermore the study has the potential to enhance knowledge about servant leadership and its link to work environment in health care. It is important to continue to develop this new instrument, to adjust it to Icelandic circumstances and investigate the relevance and effectiveness of servant leadership in the Icelandic working environment.

The reported high job satisfaction is interesting and opens up for reflection and is worth exploring further, e.g. from the point of view of intrinsic job satisfaction. This study provides support to the model of Karasek and Theorell about the importance of support at work, control in one's own work environment and balanced work demands. In this, it is interesting to see that the current study shows that despite reported high demands and physical symptoms from work the nurse assistants report on high job satisfaction. There are reasons to belief that the support and control at work are important here.

The link between the nurse assistants and their superiors is additionally a contribution to public health. But there may be explanations to the link between work demands and job satisfaction and are perhaps best described with supportive management and good communication from the working environment. This is what all managers have to bear in mind in relation to their personnel.

Based on the findings of this present study the researcher allows herself to mention some points as a contribution to the health care system. It is the responsibility of the welfare state to have a vision of health care for the people in the country. With less money to spend in the field of health care and continuous savings in the whole country there has to be equilibrium and trust in communication between those working in administration and leadership of the large institutions, such as the country's big hospitals. All this affects health workers at all levels of professional service.

There is a growing demand for reducing personnel. This may be a risk for the good working environment that has been built up and which this study has shown. Nurse assistants play a crucial role in the health care services. We have to be aware of how important it is that nurse assistants' status is maintained according to their education and this depends a great deal on nurses who must admit their active work and practice, good communication by giving them appropriate challenge according to their education and experience. In this study, this link was confirmed, and it was indicated that servant leadership can contribute to a better working environment and high job satisfaction.

Future research on nurse assistants' job satisfaction may help to better understand the interplay of personnel, the situation at work and the various internal and external factors that influence employee's attitudes. Economical responsibility at work can elicit stress, as may be the case e.g. for registered nurses. Nurse assistants are, as their professional title indicates, assistants to nurses and thus do not have comparable economic responsibilities as nurses. It would be interesting to investigate wheatear this of importance in relation to possible differences between the groups in terms of well-being at work. It is also of value to investigate whether the perception of certain factors within the work environment and of servant leadership is different between these two groups.

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Appendix 1. *Factor loadings confirmatory factor analysis*

		1	2	3	4	5	6	7	8
	Factor analysis of the SLI, nurse assistants	Empowerment	Servitude	Accountability	Forgiveness	Courage	Authenticity	Humility	Stewardship
1	My manager gives the information I need to work	0.815							
2	My manager encourages me to use my talents	0.914							
3	My manager helps me to develop myself further	0.901							
4	My manager encourages his/her staff to come up with new ideas	0.859							
12	My manager gives me the authority to take decisions which make work easier for me	0.752							
20	My manager enables me to solve problems myself instead of just telling me what to do	0.768							
27	My manager offers me abundant opportunities to learn new skills	0.719							
5	My manager keeps himself/herself at the background and gives credits to others.		0.801						
13	My manager is not chasing recognition for the things he/she does for others.		0.741						
21	My manager appears to enjoy his/her colleagues success more than his/her own.		0.735						
6	My manager holds me responsible for the work I carry out.			0.826					
14	I am held accountable for my performance by my manager.			0.832					
22	My manager holds me and my colleagues responsible for the way we handle a job.			0.839					
7	My manager keeps criticizing people for the mistakes they have made in their work (r).				0.787				
15	My manager maintains a hard attitude towards people who have offended him/her at work (r).				0.868				
23	My manager finds it difficult to forget things that went wrong in the past (r).				0.861				
8	My manager takes risks even when he/she is not certain of the support from his/her own manager.					0.777			
16	My manager takes risks and does what needs to be done in his/her view.					0.787			
9	My manager is open about his/her limitations and weaknesses.						0.72		
17	My manager is often touched by the things he/she sees happening around him/her.						0.738		
24	My manager is prepared to express his/her feelings even if this might have undesirable consequences.						0.629		
28	My manager shows his/her true feelings to his/her staff.						0.827		
10	My manager learns from criticism.							0.86	
18	My manager tries to learn from the criticism from he/she gets from his/her manager.							0.824	
25	My manager admits his/her mistakes to his/her manager.							0.848	
29	My manager learns from different views and opinions of others.							0.889	
30	If people express criticism, my manager tries to learn from it.							0.914	
11	My manager emphasizes the importance of paying attention to the good of the whole.								0.863
19	My manager has a long-term vision.								0.873
26	My manager emphasizes the societal responsibility of our work.								0.788

Appendix 2. *Factor loadings confirmatory factor analysis.*

		1	2	3	4	5	6	7	8
	Factor analysis of the SLI Dierendonck	Empowerment	Servitude	Accountability	Forgiveness	Courage	Authenticity	Humility	Stewardship
1	My manager gives the information I need to work	0.670							
2	My manager encourages me to use my talents	0.690							
3	My manager helps me to develop myself further	0.820							
4	My manager encourages his/her staff to come up with new ideas	0.810							
12	My manager gives me the authority to take decisions which make work easier for me	0.790							
20	My manager enables me to solve problems myself instead of just telling me what to do	0.710							
27	My manager offers me abundant opportunities to learn new skills	0.720							
5	My manager keeps himself/herself at the background and gives credits to others.		0.650						
13	My manager is not chasing recognition for the things he/she does for others.		0.710						
21	My manager appears to enjoy his/her colleagues success more than his/her own.		0.600						
6	My manager holds me responsible for the work I carry out.			0.570					
14	I am held accountable for my performance by my manager.			0.850					
22	My manager holds me and my colleagues responsible for the way we handle a job.			0.630					
7	My manager keeps criticizing people for the mistakes they have made in their work (r).				0.700				
15	My manager maintains a hard attitude towards people who have offended him/her at work (r).				0.750				
23	My manager finds it difficult to forget things that went wrong in the past (r).				0.430				
8	My manager takes risks even when he/she is not certain of the support from his/her own manager.					0.500			
16	My manager takes risks and does what needs to be done in his/her view.					0.890			
9	My manager is open about his/her limitations and weaknesses.						0.690		
17	My manager is often touched by the things he/she sees happening around him/her.						0.550		
24	My manager is prepared to express his/her feelings even if this might have undesirable consequences.						0.670		
28	My manager shows his/her true feelings to his/her staff.						0.830		
10	My manager learns from criticism.							0.750	
18	My manager tries to learn from the criticism from he/she gets from his/her manager.							0.710	
25	My manager admits his/her mistakes to his/her manager.							0.850	
29	My manager learns from different views and opinions of others.							0.710	
30	If people express criticism, my manager tries to learn from it.							0.880	
11	My manager emphasizes the importance of paying attention to the good of the whole.								0.650
19	My manager has a long-term vision.								0.690
26	My manager emphasizes the societal responsibility of our work.								0.570

Appendix 3. *Ethics survey - full approval*

Þóra Ákadóttir
Espilundi 13
600 Akureyri

Persónuvernd

Rauðarárstíg 10 105 Reykjavík
sími: 510 9600 bréfasími: 510 9606
netfang: postur@personuvernd.is
veffang: personuvernd.is

Reykjavík 17. mars 2010
Tilvísun: S4741/2010/ LSI./--

Hér með staðfestist að Persónuvernd hefur móttekið tilkynningu í yðar nafni um vinnslu persónuupplýsinga. Tilkynningin er nr. S4741/2010 og fylgir afrit hennar hjálagt.

Allar tilkynningar sem berast Persónuvernd birtast sjálfkrafa á heimasíðu stofnunarinnar. Tekið skal fram að með móttöku og birtingu tilkynninga hefur engin afstaða verið tekin af hálfu Persónuverndar til efnis þeirra.

Virðingarfyllst,

Lárus Sigurður Lárusson

Hjál.: - Tilkynning nr. S4741/2010 um vinnslu persónuupplýsinga.

Appendix 4. *Questionnaire*

TRÚNARÐARMÁL

Ágæti sjúkraliði.

Meðfylgjandi er spurningalisti vegna rannsóknar minnar um áhrif starfsumhverfis á líðan sjúkraliða í starfi, sem ég undirrituð bið þig vinsamlega um að svara. Þátttaka þín er afar mikilvæg til að ná fram markmiðum rannsóknarinnar sem er að skoða líðan sjúkraliða í starfi og hvort og hvernig stjórnendur hafa áhrif.

Heiti ritgerðarinnar er: Líðan sjúkraliða í starfi. Hafa stjórnendur áhrif?

Rannsóknin gefur starfsfólki og stjórnendum innsýn í starfsumhverfi sjúkraliða og hvaða þættir hafa áhrif á líðan þeirra í starfi. Rannsóknarniðurstöður opna tækifæri fyrir nýjar leiðir til úrbóta fyrir starfsfólk og gæði þjónustunnar.
Spurningalistinn er nafnlaus og ekki hægt að rekja neinar upplýsingar til þátttakenda. Sjúkraliðar og stjórnendur verða upplýstir um niðurstöður rannsóknarinnar en rannsakendur einir munu hafa aðgang að frumgögnum.
Rannsóknin er verkefni til meistaraprófs í Lýðheilsufræðum við Norræna Lýðheilsuháskólann í Gautaborg, Svíþjóð.
Rannsakandi nýtur leiðsagnar Dr. Sigrúnar Gunnarsdóttir, Háskóla Íslands, Eiríksgötu 34 Reykjavík sími: 5254919 og er í samvinnu við Sjúkraliðafélag Íslands.
Spurningalistanum er skipt niður í hluta og bið ég þig að merkja við allar spurningarnar eftir því sem best á við um núverandi starf þitt, aðstæður þínar og líðan. Það tekur um það bil 20 – 30 mínútur að svara listanum og þar sem listinn er rafrænn þá er best að þú svarir honum heima eða í rólegu umhverfi.
Vinsamlega svaraðu listanum sem fyrst eftir að þú færð hann í hendur.

Ég geri mér grein fyrir því að í annríki dagsins er í mörg horn að líta en svör þín skipta miklu máli fyrir gæði rannsóknarinnar og þá möguleika að bæta starfsumhverfi þitt og líðan annarra á vinnustað þínum.
Þegar þú hefur svarað spurningunum er mér ljúft að svara spurningum sem vakna varðandi rannsóknina.

Með þakklæti fyrir þátttökuna og góðar kveðjur og gleðilega páskahátíð.

Þóra Ákadóttir, hjúkrunarfræðingur, netfang thora@fsa.is sími: 4630273
Sjúkrahúsinu á Akureyri , 600 Eyrarlandsvegi.

Spurningar um starf þitt og viðhorf til starfsins

Vinsamlega svaraðu öllum spurningunum og merktu við í þann reit sem þér finnst best eiga við í núverandi starfi þínu

		Oft	*Stundum*	*Sjaldan*	*Aldrei*
1	Krefst starf þitt þess að þú vinnir mjög hratt?	1	2	3	4
2	Krefst starf þitt þess að þú leggir mjög hart að þér við vinnuna?	1	2	3	4
3	Krefst starf þitt of mikils vinnuframlags?	1	2	3	4

1

4	Hefur þú nægan tíma til að sinna öllum verkefnum sem felast í starfinu?	1	2	3	4
5	Felur starf þitt oft í sér ósamkvæmar kröfur ?	1	2	3	4
6	Hefur þú tækifæri til að læra nýja hluti í þínu starfi?	1	2	3	4
7	Krefst starf þitt þess að þú hafir mikla færni?	1	2	3	4
8	Krefst starf þitt þess að þú sýnir frumkvæði?	1	2	3	4
9	Krefst starf þitt þess að þú gerir það sama aftur og aftur ?	1	2	3	4
10	Hefur þú tækifæri til að ákveða sjálf/ur hvernig þú vinnur starf þitt ?	1	2	3	4
11	Hefur þú tækifæri til að ákveða sjálf/ur hvað á að gera í starfi þínu ?	1	2	3	4
		Sammála	***Frekar sammála***	***Frekar ósammála***	***Ósammála***
12	Það er þægilegt andrúmsloft á mínum vinnustað.	1	2	3	4
13	Það er góð samheldni á mínum vinnustað	1	2	3	4
14	Samstarfsfólk mitt styður mig	1	2	3	4
15	Það er skilningur á því að ég get verið ílla upplögð/lagður af og til.	1	2	3	4
16	Mér semur vel við yfirmenn mína.	1	2	3	4
17	Mér líður vel með samstarfsfólki mínu.	1	2	3	4
18	Á heildina litið er ég ánægð /ur í starfi	1	2	3	4
19	Ég get tekist á við flóknar aðstæður þegar þær koma upp.	1	2	3	4
20	Ég treysti næsta yfirmanni mínum.	1	2	3	4
21	Ég myndi hvetja vin/vinkonu til að sækja um starf á minni deild.	1	2	3	4
22	Ég hugsa oft um að hætta í núverandi starfi	1	2	3	4

2

Áframhald um viðhorf þín til vinnunnar og líðan þína í starfi

Vinsamlega svaraðu öllum spurningunum og merktu við í þann reit sem þér finnst best eiga við í núverandi starfi þínu
Merktu við aldrei ef þú hefur aldrei upplifað það sem spurt er um, annars hversu oft eftir því sem við á miðað við starf þitt nú.

	Aldrei	nokkru sinnum eða sjaldnar á ári	einu sinni í mán	nokkru sinnum í mánuði	einu sinni í viku	nokkru sinnum í viku	á hverju degi
1. Mér finnst ég vera tilfinningalega úrvinda vegna vinnu minnar.	☐	☐	☐	☐	☐	☐	☐
2. Mér finnst ég útkeyrð (–ur) í lok vinnudags.	☐	☐	☐	☐	☐	☐	☐
3. Ég verð þreytt - (ur) á morgnana af tilhugsuninni að þurfa að fara í vinnuna enn einn daginn.	☐	☐	☐	☐	☐	☐	☐
4. Ég get auðveldlega skilið hvernig sjúklingum mínum líður.	☐	☐	☐	☐	☐	☐	☐
5. Mér finnst framkoma mín við suma sjúklinga vera ópersónuleg.	☐	☐	☐	☐	☐	☐	☐
6. Það er verulegt álag á mig að vinna með fólki allann daginn.	☐	☐	☐	☐	☐	☐	☐
7. Ég leysi úr vandamálum sjúklinga minna á mjög skilvirkan hátt	☐	☐	☐	☐	☐	☐	☐
8. Mér finnst ég vera kulnuð- (aður) vegna vinnu minnar.	☐	☐	☐	☐	☐	☐	☐
9. Mér finnst ég hafa jákvæð áhrif á líf annars fólks.	☐	☐	☐	☐	☐	☐	☐

Viðhorf þín til til næsta yfirmanns þíns

Vinsamlegasvaraðu öllum spurningunum og merktu við í þann reit sem þér finnst best eiga við í núverandi starfi þínu

	Fullyrðing á við næsta yfirmann þinn	*Mjög sammála*	*Sammála*	*Frekar sammála*	*Frekar ósammála*	*Ósam-mála*	*Mjög ósammála*
1	Yfirmaður minn veitir mér þær upplýsingar sem ég þarf til að geta unnið starfið mitt vel	☐	☐	☐	☐	☐	☐
2	Yfirmaður minn hvetur mig til að nota hæfileika mína	☐	☐	☐	☐	☐	☐
3	Yfirmaður minn hjálpar mér til að öðlast meiri þroska	☐	☐	☐	☐	☐	☐
4	Yfirmaður minn hvetur starfsfólk sitt til að koma með nýjar hugmyndir	☐	☐	☐	☐	☐	☐
5	Yfirmaður minn heldur sig til hlés og leyfir öðrum að njóta árangursins	☐	☐	☐	☐	☐	☐
6	Yfirmaður minn gerir mig ábyrga(an) fyrir þeim störfum sem ég vinn	☐	☐	☐	☐	☐	☐
7	Yfirmaður minn gagnrýnir stöðugt fólk vegna mistaka sem það hefur gert í starfi sínu	☐	☐	☐	☐	☐	☐
8	Yfirmaður minn tekur áhættu án þess að ráðfæra sig við yfirmann sinn	☐	☐	☐	☐	☐	☐
9	Yfirmaður minn virðist þekkja eigin takmarkanir og eigin veikleika	☐	☐	☐	☐	☐	☐
10	Yfirmaður minn virðist læra af gagnrýni	☐	☐	☐	☐	☐	☐
11	Yfirmaður minn leggur áherslu á mikilvægi þess að taka eftir því sem leiðir til góðs fyrir heildina	☐	☐	☐	☐	☐	☐
12	Yfirmaður minn veitir mér heimild til að taka ákvarðanir sem auðvelda mér starf mitt	☐	☐	☐	☐	☐	☐
13	Yfirmaður minn sækist ekki eftir viðurkenningu fyrir það sem hann/hún gerir fyrir aðra	☐	☐	☐	☐	☐	☐
14	Ég er gerð/ur ábyrg/ur fyrir frammistöðu minni af yfirmanni mínum	☐	☐	☐	☐	☐	☐
15	Yfirmaður minn viðheldur stífu viðmóti gagnvart því fólki sem hefur móðgað hann/hana í starfi	☐	☐	☐	☐	☐	☐

Aðstæður í starfi

Hversu vel lýsa eftirfarandi þættir viðfangsefnum þínum eða aðstæðum þínum í vinnunni.

Vinsamlega svaraðu öllum spurningunum og settu X við svarið sem á best við að þínum dómi.

	Aldrei	Sjaldan	Stundum	Oft
1. Hjúkrun sjúklinga með erfiða langvinna (króniska) verki	☐	☐	☐	☐
2. Erfiðleikar við að lina verki (ná að verkjastilla)	☐	☐	☐	☐
3. Hjúkrun sjúklinga með langvinna sjúkdóma	☐	☐	☐	☐
4. Hjúkrun deyjandi sjúklinga	☐	☐	☐	☐
5. Skyndilegt eða átakanlegt andlát	☐	☐	☐	☐
6. Nokkur andlát í röð	☐	☐	☐	☐
7. Hætta á að veita ranga meðferð	☐	☐	☐	☐
8. Hjúkrun árásargjarnra og ógnandi sjúklinga	☐	☐	☐	☐
9. Hjúkrun sjúklinga sem eru undir áhrifum áfengis, lyfja eða annarra vímuefna	☐	☐	☐	☐
10. Þú hefur áhyggjur af því að gera mistök	☐	☐	☐	☐
11. þú hefur áhyggjur að því að það verði kvartað undan þér við yfirmann	☐	☐	☐	☐
12. Þú hefur samviskubit yfir að geta ekki gert það sem sjúklingur óskar eftir	☐	☐	☐	☐
13. Þú hefur samviskubit yfir að geta ekki gert það sem aðstandendur óska eftir	☐	☐	☐	☐
14. Samtal/upplýsingar/ stuðningur til aðstandanda	☐	☐	☐	☐
15. Þú ferð frá einu erfiðu verkefni í það næsta	☐	☐	☐	☐
16. Þú stendur frammi fyrir siðferðislegum vanda	☐	☐	☐	☐
17. Þú tekur við og axlar of mikið af áhyggjum / erfiðleikum/endurminningum sjúklinga	☐	☐	☐	☐

18. Þú tekur við og axlar of mikið af áhyggjum/erfiðleikum/endurminningum aðstandenda	☐	☐	☐	☐
19. Þú skynjar þarfir sjúklinga og færð ekki skilining frá öðrum	☐	☐	☐	☐
20. Þú skynjar þarfir aðstandenda og færð ekki skilining frá öðrum	☐	☐	☐	☐
21. Þú upplifir ógnanir frá sjúklingum	☐	☐	☐	☐
22. Þú ert útsett(ur) fyrir ofbeldi frá sjúklilngum	☐	☐	☐	☐
23. Þú tekur á móti kvörtunum frá sjúklingum	☐	☐	☐	☐
24. Þú tekur á móti kvörtunum frá aðstandendum	☐	☐	☐	☐
25. Þú samsamar þig ákveðnum sjúklingum	☐	☐	☐	☐
26. Þú þarft að taka of mikla ábyrgð	☐	☐	☐	☐
27. Þú skynjar þörf fyrir, en hefur ekki aðgang að ábyrgum lækni	☐	☐	☐	☐
28. Þú vinnur með túlki	☐	☐	☐	☐

Líkamleg líðan; hreyfi - og stoðkerfi

Vinsamlega svaraðu öllum spurningunum og merktu við í þann reit sem þér finnst best eiga við í núverandi starfi þín

1. Hversu líkamlega fjölbreytt eða einhæft finnst þér starfið vera? ☐ fjölbreytt ☐ einhæft

☐ erfitt ☐ létt

3. Ertu líkamlega úrvinda eftir vinnudaginn? ☐ oftast ☐ stundum ☐ sjaldan ☐ aldrei

	Já	Nei
4. Hefur þú einhverntíma sl. 12 mán. haft óþægindi (sársauka, verki, ónot) í: **hálsi eða hnakka?**	☐	☐
5. Hefur þú einhverntíma sl. 12 mán. haft óþægindi (sársauka, verki, ónot) í: **herðum eða öxlum?**	☐	☐
6. Hefur þú einhverntíma sl. 12 mán. haft óþægindi (sársauka, verki, ónot) í: **Neðri hluta baks?** (mjóhrygg)	☐	☐
7. Hefur þú þurft að leita þér lækninga vegna óþæginda frá stoðkerfi?	☐	☐

BAKGRUNNSSPURNINGAR

Spurningar sem lúta að aldri, starfsaldri, skipulögðu námi sjúkraliða og núverandi starfi og starfsvettvangi. Vinsamlega svaraðu öllum spurningunum og merktu x við það svar sem best á við um aðstæður þínar nú.

1. **Hver er starfsaldur þinn sem sjúkraliði?**

   i. ☐ 0-4 ár ☐ 5-9 ár ☐ 10-14 ár ☐ Meiri en 14 ár

2. **Hver er aldur þinn?** ☐ 20-29 ára ☐ 30-39 ára ☐ 40-49 ára ☐ 50 ára eða eldri

3. **Hvert er starfshlutfall þitt?**

   1. ☐ 50% eða minna ☐ 51-75% ☐ 76-100%

4. **Vinnur þú þrískiptar vaktir (morgun-, kvöld-, næturvaktir) ?** ☐ já ☐ nei

5. **Hversu oft vinnur þú lengur en umsaminn tíma (aukavaktir) ?**

   ☐ Einu sinni í viku ☐ Nokkru sinnum í viku
   ☐ Nokkru sinnum á ári ☐ Aldrei

6. **Hefur þú tekið námskeið fyrir sjúkraliða ?**

   1. ☐ 0-50 stundir ☐ 51-100 stundir ☐ 101-150 stundir
   2. ☐ 151-200 stundir ☐ meira en 200 stundir

7. **Hefur þú annað framhaldsnám ?** ☐ já ☐ nei

8. **Starfsvettvangur, hvar starfar þú?**

   ☐ Á sjúkrahúsi
   ☐ Á hjúkrunarheimli/öldrunarstofnun
   ☐ Á sambýli/heimaþjónusta
   ☐ Á heilsugæslustöð/heimahjúkrun
   ☐ Annað

Um spurningalistana:
Spurningarnar eru þýddar og staðfærðar með góðfúslegu leyfi höfunda: Karasek, Theorell og Johnson, 1997., Maslach og Jackson, Consulting Psychologist Press Inc., Michélsen, Sundin, Hochwalder og Bildt (2008)., van Dierendonck og Nuijten, 2009., Vinnueftirlit ríkisins.

Bestu þakkir fyrir þátttökuna
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