LEADERSHIP
person-centred care
and the work situation of staff
in Swedish nursing homes

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“Everything that can be counted does not necessarily count.
Everything that counts cannot necessarily be counted.”

Albert Einstein
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Abstract

In recent decades, Swedish aged care organisations have undergone major organisational, economic and demographic changes, causing challenges for managers, staff and the organisations. Swedish nursing home managers, who constitute the empirical focus of this thesis, hold overall operational responsibility for the nursing homes, which includes the care of residents, direct care staff and work environment. The conditions for nursing home managers have changed over time, and new demands and expectations for leadership have been raised in the literature. In addition, new regulations for Swedish aged care organisations have emerged, with expectations of the aged care organisations to provide person-centred care. Working towards a person-centred approach poses new demands and leads to challenges for leaders, and today there is limited knowledge about what characterises leadership that promote a person-centred approach. In addition, an ongoing demographic shift in the aged care workforce entails further challenges, as the proportion of professional workers is decreasing in an already strained organisation that struggles with high sickness leave and turnover rates among staff. Leading a healthy work environment therefore seems important for ensuring and protecting staff health. Based on this, it seems important to explore nursing home managers’ leadership in relation to person-centred care and the work situation of staff.

The overall aim was to explore leadership in relation to person-centred care and the work situation of staff in Swedish nursing homes.

This thesis is based on data from two data collections. First, it includes cross-sectional baseline data from a national inventory of health and care in Swedish nursing homes (SWENIS) collected in 2013-2014. The SWENIS dataset consists of a sample of staff n=3605 from 169 nursing homes in 35 municipalities, and nursing home managers n=191. The second data collection consists of 11 semi-structured interviews with 12 nursing home managers in highly person-centred nursing homes that already participated in SWENIS. Data were explored via descriptive statistics, simple and multiple regression analyses, and qualitative content analysis.

Leadership was positively associated with person-centred care and psychosocial climate. Highly rated leadership behaviours among nursing homes managers was characterized by experimenting with new ideas, controlling work closely, relying on his/her subordinates, coaching and giving direct feedback, and handling
conflicts constructively. Leading person-centred care can be outlined as four leadership processes: embodying person-centred being and doing; promoting a person-centred atmosphere; maximizing person-centred team potential and optimising person-centred support structures. Leadership was also positively associated with social support and negatively associated with job strain. Further, the variation of leadership was explained to a very small extent by nursing home managers’ educational qualifications, the operational form of the nursing home and the number of employees in a unit.

All findings point in the same direction: that leadership, as it was characterized and measured in this thesis, was significantly associated with person-centred care provision as well as the work situation of staff. This suggests that nursing home managers have a central leadership role in developing and supporting person-centred care practices, and in creating a healthy work environment. The results also highlight five specific leadership behaviours that are most characteristic of highly rated leadership, thereby adding concrete descriptions of behaviours to the literature on existing leadership theories. The findings also present four central processes for leading towards person-centred care in nursing homes. Taken together, it seems important for managers to translate the person-centred philosophy into actions, to promote an atmosphere pervaded by innovation and trust, and were a culture change is enhanced by positive culture bearers. Utilizing the overall knowledge and competencies among staff and potentiating care teams was also seen as important when leading person-centred care, as well as optimising support structures for supporting and maintaining person-centred care. If aged care organisations are to be committed to person-centred care, an important implication seems to be to organise nursing homes in such a way that allows nursing home managers to be close and present in clinical practice and actively lead towards person-centred care. The findings of this thesis contribute to our understanding of leadership in relation to person-centred care and the work situation of staff. These findings can be useful in leadership educations and nursing curriculum. Longitudinal studies would be valuable for following leadership, person-centred care and the work situation of staff over time.

Leadership, organisation, person-centred care, psychosocial climate, work environment, nursing homes, nursing
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACLQF</td>
<td>Aged care Clinical Leadership Qualities Framework</td>
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<tr>
<td>DCSQ</td>
<td>Demand-Control-Support Questionnaire</td>
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<tr>
<td>GRM</td>
<td>Graded Response Model</td>
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<td>IRT</td>
<td>Item Response Theory</td>
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<tr>
<td>MAS</td>
<td>Medicinskt Ansvarig Sjuksköterska</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
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<tr>
<td>P-CAT</td>
<td>Person-centred Care Assessment Tool</td>
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<td>PCQ</td>
<td>Person-centred Climate Questionnaire</td>
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<tr>
<td>SWENIS</td>
<td>Swedish national inventory of health and care project</td>
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<tr>
<td>U-Age</td>
<td>The Umeå ageing and health research programme</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Svensk sammanfattning


Denna avhandling bygger på data från två datainsamlingar. Den första datainsamlingen består av tvärsnittsdata från en nationell inventering av hälsa och vård inom särskilda boenden i Sverige (SWENIS) som insamlades 2013-2014. SWENIS dataset består av insamlade data från anställda n=3605 i 169 särskilda boenden inom 35 kommuner, och enhetschefer n=191. Den andra datainsamlingen består av 11 semistrukturerade intervjuer med 12 enhetschefer verksamma i särskilda boenden som ingick i SWENIS, där det visade sig vara hög grad av personcentrerad vård. Data analyserades med beskrivande statistik, enkla och multipla regressionsanalyser samt kvalitativ innehållsanalys.

Huvudresultateten visade att ledarskap var positivt associerat med personcentrerad vård och psykosocialt klimat. Vidare så visade resultaten att särskilt utmärkande ledarbetens beteenden för ett högt skattat ledarskap var; att experimentera med nya idéer, kontrollera arbetet noggrant, att lita på personalen, att coacha och ge direkt feedback samt att hantera konflikter konstruktivt. Resultaten visade också att leda personcentrerad vård kan beskrivas som fyra processer; att omsätta personcentrerad tänkande till handling, att främja en personcentrerad atmosfär; att maximera det personcentrerade teamets potential och slutligen att optimera personcentrerade stödstrukturer. Ledarskapet visade sig också vara positivt associerat med socialt stöd och negativt
associerat med belastning. Slutfilen så visade resultatet att enhetschefens utbildning, driftform och antalet anställda var associerade med ledarskap.


Resultaten i avhandlingen bidrar med ökad förståelse för ledarskap i den här kontexten, samt hur det relaterar till personcentrerad vård och personalens arbetssituation. Avhandlingen tillhandahåller kunskap som kan ligga till grund för att utveckla ledarskap i omvårdnad, inom sjuksköterskeutbildning eller ledarskapsutbildning för chefer i äldreomsorg. Fortsatta studier, longitudinella sådana vore värdefulla för att följa ledarskap, personcentrerad vård och personalens arbetssituation över tid.

Ledarskap, organisation, personcentrerad vård, psykosocialt klimat, arbetsmiljö, särskilda boenden, omvårdnad.
The thesis is based on the following papers, which will be cited in the text by their Roman numerals:


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Introduction

In recent decades, aged care organisations in Sweden and globally have undergone major organisational, economic and demographic changes, causing challenges for managers, staff and organisations. Swedish nursing home managers, who constitute the empirical focus of this thesis, hold overall operational responsibility for the nursing homes, which include the care of residents, direct care staff and work environment. The conditions for nursing home managers in Sweden have changed over time, and new demands and expectations of leadership have been requested in the literature. In 2009, the Swedish government concluded that there was a knowledge gap concerning what leadership and competence contemporary nursing home care requires, and deficiencies also found in terms of leadership skills required to meet national and local goals of care of older people. There is no shortage of literature concerning leadership and its application in organisations. However, the literature suggests that the leadership of nursing home managers is ill-defined, and that development and testing of leadership conceptualisations that clearly describe leadership behaviours are still needed. From an international and national perspective, there seems to be a growing need to explore nursing home managers’ leadership in nursing home care. This thesis attempts to address this knowledge gap.

Additionally, new regulations for Swedish aged care organisations have emerged, with expectations that the aged care organisations will provide person-centred care. Working for a person-centred approach poses new demands and leads to challenges for leaders, and there is limited knowledge of what characterises leadership that promotes a person-centred approach, which this thesis attempts to address. In addition, an ongoing demographic shift in the aged care workforce entails further challenges, as the proportion of professional workers is decreasing in an already strained organisation that struggles with high sickness leave and turnover rates among staff. Leading a healthy work environment as a nursing home manager therefore seems important for ensuring and protecting staff health. Today, the empirical evidence of leading the creation of a healthy workplace is sparse in this context, which thus serves as another motive for this thesis.

The Umeå ageing and health research programme (U-Age) is designed to provide experimental, cross-sectional and longitudinal data on different types of housing models and person-centred care interventions. One of the projects within U-Age is the Swedish national inventory of health and care-project (SWENIS), which initiated longitudinal monitoring of care and health in Swedish nursing homes. SWENIS consists of a point prevalence initial measurement of leadership and
other organisational characteristics, staff working situation and person-centred care in nursing home care (Edvardsson et al. 2016). Based on SWENIS data, this thesis is an attempt to address a gap in knowledge concerning nursing home managers leadership in relation to person-centred care and the work situation of staff.
Background

Although it has been stated that leadership is universal, previous literature has not been able to provide a universal definition of leadership (cf. Bass and Stogdill 1990). Instead, the literature reveals numerous ways of defining leadership, such as: a skill or quality connected to personality or behaviour, as a relationship, a process, a role or even an outcome (Bass and Stogdill 1990, Northouse 2013, Yukl 2010). It has also been suggested that the phenomenon of leadership is so complex and multidimensional that it actually needs to be understood in different ways, as different definitions addresses different aspects of leadership (Yukl 2010). However, four components seem to be central in the existing conceptualisations of the phenomenon: leadership is a process (act); it involves influencing others; it occurs in a group and it involves achieving common goals (Stogdill 1950, Bass and Stogdill 1990, Northouse 2013). The term "process" can be referred to as the mechanism that may explain the relationship between leadership behaviours and leadership outcomes and answers questions such as "how" and "why", which may provide more complete explanations about the leadership phenomenon, and which also allows for generalisation (Fischer et al. 2017).

The somewhat elusive phenomenon of leadership also brings another conceptual challenge to the literature: the distinction between leadership and management. There is a disagreement in the literature, as some researchers argue that these two cannot be distinguished, while others claim the opposite. According to Toor and Ofori (2008), Northouse (2013) and Jeon et al. (2014) leadership and management are different concepts, although they are complementary and overlapping. Management can be seen as a formal role, the job title concerning administration, delegation and control, while leadership is characterised by the behaviour of the manager, the ability to innovate, inspire, guide, challenge and persuade people to achieve specific goals (Curtis et al. 2011, Jeon et al. 2014, Yukl 2002). This distinction between the two concepts implies that management and leadership do not have to coincide, as you can be a manager without exerting leadership, and the opposite: you can be a leader without holding a managerial position (Yukl 2002). This thesis focuses on leadership among nursing home managers, and not the managerial function.

There are numerous leadership theories originating from various contexts, such as psychology, sociology, business, religion, political and military science, all of which contribute to the field of knowledge. From a very brief historical perspective, it seems as if leadership theory offers four different paradigms: focusing on the personality of the leader; focusing on the behaviour/styles of the leader; focusing on the relationship of the leader; focusing on the outcome of the leader.
Focusing on leadership that adapts to situational and contextual demands and most recently, leadership with a greater focus on charismatic and affective elements. According to this, it seems as if the phenomenon of leadership has been conceptualised and redefined based on perspectives, prevailing contexts, time discourses and outcomes.

Very briefly, the trait leadership theory can be said to focus on the personality of the leader and certain personality traits have been associated with effective leadership based on the assumption that leaders are born and not made, that leadership is innate and not developed by learning (Northouse 2013, Grohar-Murray et al. 2016, Bass and Stogdill 1990). The leadership behaviour/style approach focuses on leaders’ capabilities, what they do and how they act. This shift denoted practical implications for leadership research, as leaders’ behaviours can change, which is why it emphasizes training instead of selecting leaders (Parry and Bryman 2013, Northouse 2013, Grohar-Murray et al. 2016, Bass and Stogdill 1990). The behaviour/style approach can be outlined as three broad conceptualisations: the task, the relation and change-oriented leadership. This has given rise to the three-factor model of change/development, production/task and employee/relation (CPE) (Ekvall and Arvonen 1991, Bass and Stogdill 1990), from which the leadership instrument used in this thesis has originated. The Contingency/Situational leadership theory proposed that leadership effectiveness not only depends on relational or task-oriented style, but also on contextual factors. The theory suggests that no style works in every situation, and factors such as the leader-member relationship, task-structure and position of power held by the leader must be adapted in every situation (Fiedler 1964, Bass and Stogdill 1990, Northouse 2013). More recently, leadership theory has given more focus to the charismatic and affective elements of relational oriented leadership, and appeals to staff values and emotions. Examples of theories from this era are transformational leadership (Bass 1985), transactional leadership (Burns 1978) and authentic leadership (Avolio and Gardner 2005).

In the area of nursing, leadership theory development is limited, since commonly used leadership theories have been derived from psychology, sociology and business-related discourses and translated to nursing (Cummings et al. 2008). In the area of nursing home care, leadership theory development has been described as nearly non-existent (Jeon et al. 2010a). These adopted leadership theories have guided leadership research in nursing, where transformational theory seems to be the most common to date (Pearson et al. 2007, Cummings et al. 2010, Wong and Cummings 2007). These various leadership theories and conceptualisations have constituted the foundation for a vast amount of leadership studies in the area of nursing, all contributing to the area of knowledge (Cummings et al. 2010, Cummings et al. 2008, Wong et al. 2013, Wong and Cummings 2007). However, the fit of these leadership theories into highly complex healthcare environments
has been questioned due to their origin. It has been suggested that traditional leadership theories and models are insufficient for meeting the complicated problems facing the current complex health and aged care systems (Weberg 2012, Plowman and Duchon 2008, Uhl-Bien et al. 2007) as these were developed in contexts that focused on industrialisation, productivity and effectiveness (Bass and Bass 2009). Nursing home managers’ leadership has been described as ill-defined and the way in which it is operationalised seems to depend on the expectations of the role and the prevailing context (Jeon et al. 2014, Antonsson 2013). Although leadership is acknowledged as an important antecedent for staff and resident outcomes, the development and testing of leadership conceptualisations that clearly describe leadership behaviours is still needed (Wong 2015). From an international perspective, there seems to be a growing need to emphasize research on nursing home leadership in aged care (Jeon et al. 2010a, Jeon et al. 2010b, Wong 2015).

**Swedish aged care organisations**

*Organisational structure, changes, challenges and trends*

Swedish aged care organisations comply with the Nordic model of publicly funded and essentially publicly produced care services, where the national policy specifies that older persons may live independently with a high quality of life and older persons in need of care are entitled to high-quality care (Lagergren 2002). In Sweden there are about 2100 nursing homes in which 88,900 people aged 65 and older live (NBHW 2017).

Swedish aged care organisations have undergone major changes in recent decades, resulting in decreasing aged care provision in relation to the number of older persons in the population (Thorslund 2011). The elderly reform of 1992 entails the largest transformation in Swedish aged care, when the formal responsibility to provide care for persons 65 years and older with extensive needs was transferred from the 21 county councils in Sweden to the 290 municipalities (Båljan and Lagergren 2005, Lagergren 2002, Larsson and Szebehely 2006). As a result of that organisational shift, the municipalities also became required to provide care for people with extensive medical care needs, in addition to providing social services (Carlström 2005). This coincided with a deep economic crisis for many of Sweden’s municipalities, which prompted new ways of streamlining operations. At that time, political influence resulted in competition and contract-based governance, to promote both quality development and cost-effectiveness in the public sector (Blomqvist and Winblad). The ongoing trend of New Public Management arose during this period and aimed to pursue successful reform movements concerning the economy, efficiency and effectiveness. In
1992, the Swedish Local Government Act (SFS 1991:900) enabled the municipalities to outsource the provision of tax-financed care services to non-government actors, both non-profit and for-profit. Together with a market-oriented legal reform, the Legislation on Choice (SFS 2008:962), it became easier for the municipalities to introduce a ‘customer choice’ (voucher) system for their publicly financed care services (Meagher and Szebehely 2010, Blomqvist and Winblad). This resulted in an increasing number of private providers in this sector, from 1% in 1990 to 16% in 2010 (Blomqvist and Winblad, Stolt et al. 2011), to approximately 21% in 2016 (Winblad et al. 2017). The National Board of Health and Welfare (2012) could not see any large or obvious differences between public or private providers’ quality indicators in 2012. More recently, private providers have been associated with slightly higher quality concerning care quality aspects, while some structural quality aspects in terms of staffing were better among public providers (Winblad et al. 2017). In short, Swedish aged care organisations have become more diverse and complex due to marketization of care (Andersson and Kvist 2015). Similar patterns concerning marketization and offering consumers choice in aged care are seen in European and Anglo Saxon countries as well, which face similar demographic and economic challenges as Sweden (Brennan et al. 2012, Meagher and Szebehely 2013, Yeandle et al. 2012).

In addition, a decreasing number of beds in residential aged care (NBHW 2015, Vårdanalys 2015:8) combined with a high proportion of retirements resulting in a shortage of staff have contributed to strained aged care organisations (Vårdanalys 2015:8, SALAR 2009). The Swedish government has declared the importance of performing research in areas where various professions are at risk of ill-health, to achieve a sustainable work life, in order to meet the demographic challenges ahead (Swedish government 2014/15:1440). Aged care organisations struggle with high sickness leave and turnover rates among staff, which has been explained by the physically and mentally demanding work combined with low education and financial compensation for the job (Stranz 2013). Working with care of older people has been described as stimulating and meaningful (Hjalmarson et al. 2004), but also as mentally burdensome (Ericson-Lidman et al. 2014). However, the residents of nursing homes seem to be satisfied overall with the quality of care provided (Öppna jämförelser 2016).

Similar patterns of economic austerity, cut-backs on aged care beds and/or nursing homes, shortage of staff and aged care organisations in transition have been reported in European and Anglo Saxon countries as well (Beverly et al. 2010, Jeon et al. 2010a). The literature reveals that aged care organisations in most OECD countries are characterized by complexity and challenges due to increasing global population aging, which places pressure on current and future aged care organisations, similar to the current aged care situation in Sweden (Public Health and Aging 2003, OECD 2009). Although Swedish aged care is often seen as a
model for good care and has a continuing good reputation from an international perspective (Meagher and Szebehely 2013), these major organisational, economic and demographic changes have imposed challenges for nursing home managers and their leadership.

**Characteristics of workforce**

The nursing home managers who constitute the empirical focus of this thesis hold middle management positions (cf. Dance 2011, Aucoin 1989, Likert 1961). Nursing home managers in Sweden (also referred to as managers in this thesis) have overall operational responsibility for the nursing homes, including care of residents, direct care staff and work environment (Wolmesjö 2005, Karlsson 2006, NBHW 2011). There are approximately 5000 nursing home managers in the 2100 nursing homes in Sweden, and it is not uncommon that nursing home managers are responsible for 50 employees or more (NBHW 2011). No formal education is required to hold the middle manager position in nursing home care, but an educational qualification denominated from the field of social work or nursing care seems to be most common (Törnquist 2004). In Swedish aged care, a community nurse, which is a registered nurse specially trained to assume an expanded role in the provision of medical care, has a special responsibility in health and medical care services in nursing homes (Swedish: Medicinskt Ansvarig Sjukköterska, MAS). The responsibilities of nursing home managers and the community nurse (MAS) concerning care quality seem to overlap, which is why the boundary between the respective areas of responsibility are not entirely clear (cf. NBHW 2016). There are also registered nurses working in Swedish nursing homes, with responsible for the medical care and nursing care provision on daily basis. There are approximately 225 000 direct care staff in Swedish nursing home care (SALAR 2016), consisting primarily of enrolled nurses and nurse assistants (SCB 2015). Direct care staff (also referred to as staff) are responsible for providing personal care and social services to residents in the daily care. Domestic work tasks such as cooking, cleaning and washing are also common duties for direct care staff (Törnquist 2004).

**Managerial roles and responsibilities in nursing homes**

New expectations and requirements concerning leadership have emerged since the 1990s, due to several reorganisations. For nursing home managers, it has been described that these organisational changes have entailed a movement from care duties to an administrative management position, and leadership increasingly involves efficiency, downsizing and decentralized budgetary responsibility (Trydegård 2000, Törnquist 2004, Hjalmarsön et al. 2004). In addition, increased responsibility in terms of care for residents with highly
complex needs, larger staff groups, new regulations and shifting ownership have been reported as influencing nursing home managers’ conditions for providing leadership (Andersson Felé 2008). It has also been reported that a high workload and insufficient support for nursing home managers in their professional roles has entailed a lack of clarity regarding their assignment (Hjalmarson et al. 2004). Nursing home managers’ daily work has been described as increasingly involving coordinating conflicting interests and expectations from residents, staff, relatives, senior executives and politicians (Wolmesjö 2005, Hjalmarson et al. 2004, Thelin and Wolmesjö 2014). Apparently, “being in the middle” as a manager in aged care seems to have caused a dilemma due to simultaneous top-down and down-up demands, resulting in problems of various types, such as lack of value-based care, which could be related to deficiencies in leadership in Swedish aged care organisations (Holmberg and Henning 2003, Wolmesjö 2005, SOU 2008:51).

In 2009, the Swedish government presented a proposition (prop. 2009/10:116) which reported that the conditions were inadequate for nursing home managers in nursing home care, due to large staff groups and little or no administrative support. Although previous research is consistent in pointing out that nursing home managers require a broad knowledge base concerning economics, organisation, leadership, staff management and janitorial issues (Törnquist 2004, Wolmesjö 2005, Bergman 2009, Thelin and Wolmesjö 2014), the Swedish government concluded that nursing home managers had deficiencies in terms of leadership skills and competence required to meet national and local goals for aged care. A knowledge gap concerning what leadership and competencies contemporary nursing home care requires was also reported (NBHW 2011). Thus, in cooperation with other aged care stakeholders, NBHW and SALAR developed a basis for educational requirements for nursing home managers. The identified knowledge areas concerned conflict management, motivational work, group psychology, coaching and supervision as well as knowledge about systematic development work. An additional objective was to improve knowledge about national goals for aged care. A status rapport also showed that 37% of nursing home managers had no more than a two-year college education, and 10% had no education above the upper-secondary level, whereas the Swedish government invested in a 30 ECTS credits national leadership programme specifically for managers in nursing home care. The national leadership programme lasted from 2013-2015 and was based on the ethical values and norms that constitute the foundation for aged care, and aimed to improve leadership among nursing home managers (NBHW 2011). In total, 1669 managers signed up for the programme and 924 finished it (55%), which represents approximately 20% of all managers in aged care. This education initiative was described as successful despite many dropouts (NBHW 2016).
Empirical literature from Swedish nursing home care contexts does not provide a consistent picture of how to lead. Some literature argues that leadership should be clear, present and available (Hjalmarson et al. 2004, Antonsson 2013), while Thelin and Wolmesjö (2014) assert that the varied organisational conditions place different demands on leadership, which also resonates with international literature (Jeon et al. 2014, Wong 2015). Nursing homes that are expanding have been described as benefiting from the use of relational and developmental leadership, while a strained nursing home would benefit from authoritarian and task-oriented leadership instead (Thelin and Wolmesjö 2014). In addition, the literature suggests that it is impossible to identify one form (or style) of leadership that can be singled out as the best, and that works in all situations in the organisation of aged care (Wolmesjö 2005, Thelin and Wolmesjö 2014). This is in line with international literature (Jeon et al. 2014, Jeon et al. 2010b), which states that nursing home managers’ leadership is ill-defined and the way in which it is operationalised seems to depend on role expectations and context.

Previous literature has reported that nursing home managers have an important role in fulfilling national and local goals in aged care organisations (Karlsson 2006, NBHW 2011). The assignment of nursing home managers proposes a balance between superior and subordinate levels, and involves executing political and administrative decisions. Nursing home managers have a number of regulations to address, but the care of older people is primarily regulated by two extensive regulations: the Social Services Act 2001:453, 2012:3 and the Swedish Health and Medical Service Act (HSL 1982:763). The Social Services Act stresses that all care should be designed in close cooperation with the older person, based on respect for that person’s autonomy and integrity. The care should also have a clear ethical approach, with a focus on providing an independent, dignified and meaningful life in safe conditions for the residents (Social Services Act 2001:453, Social Services Act 2012:3). The Swedish Health and Medical Service Act (HSL 1982:763) outlines the responsibility to offer good health and medical services to persons living within its boundaries. The care should be provided on equal terms for the entire population, and be given with respect for all people’s equal value and for individual human dignity. Thus, managers are responsible for systematically and continuously evaluating, developing and securing social and medical care within the nursing home practice. Other regulations that also regulate the managerial work are the Work Environment Act (1977: 1160), which stipulates a responsibility to prevent employee ill-health and accidents at work. The act includes both managing workload as well as the psychosocial climate and states that employees should be given the opportunity to shape and develop their own work situation (AFS 2015:4). Additional regulations that govern managers’ work are the Public Access to Information and Secrecy Act (2009:400) and the Administrative Procedure Act (1986:23), whose influence on managerial work depends on the prevailing circumstances. In recent years, Swedish policy
Leading the provision of person-centred care

In addition to the roles and responsibilities above, there are also expectations that managers will lead the clinical provision of person-centred care in these environments, as person-centred care has been recommended in policy documents in Sweden and globally (Swedish National Board of Health and Welfare 2010, 2016, The UK Alzheimer’s Society Person-Centred Care Standards 2001, World Health Organization, 2012). The concept of person-centred care has been described as the central model of care in dementia and aged care in the last 20 years, and proposes care based on a humanistic philosophy and ethical values (Edvardsson et al. 2008b). No absolute definition of the concept seems to exist. However, some common aspects seem to be central to existing conceptualisations: maintaining personhood despite illness; using personal experiences to individualise care and the environment; creating a supportive social environment; prioritising relationships and seeing behaviour from the person’s perspective; involving relatives in care and offering shared decision-making (McCormack and McCance 2006, Brooker 2004, McCormack 2004, Edvardsson et al. 2008b). Person-centred care is expected to lead to improved well-being and reduced ill health (Brooker 2004, McCormack 2004, Edvardsson and Innes 2010, Kitwood 1997, Edvardsson et al. 2008b), and is often regarded as an indicator of high-quality care (Dewing 2004, Epp 2003, Edvardsson et al. 2008b, McCance et al. 2011).

Person-centred care has been beneficially associated residents’ health and well-being in previous aged care research. For example, person-centred care has been associated with higher quality of life among persons with dementia (Terada et al. 2013, Sjögren et al. 2013). Person-centred care has also been positively associated the health and work situation of staff in terms of higher job satisfaction (Wallin et al. 2012, Edvardsson et al. 2011, Sjögren et al. 2014, Moyle et al. 2011), lower stress of conscience (Sjögren et al. 2014, Edvardsson et al. 2014) and lower job strain (Edvardsson et al. 2009a, Sjögren et al. 2014), and higher psychosocial climate (Sjögren et al. 2014). Person-centred interventions such as staff education, environmental adaptation and a range of daily activities for residents have been associated with improved well-being among residents (Bone et al. 2010). An intervention based on Dementia Care Mapping has been associated with increased well-being among residents and reduced depressive symptoms (Rokstad et al. 2013). Dementia Care Mapping and staff training in dementia care were both associated with reduced agitation among nursing home residents in a cluster-randomized trial (Chenoweth et al. 2009).
Person-centred interventions based on a practice development programme have also been associated with positive staff outcomes such as increased personal and professional satisfaction with the job among staff and decreased stress and intention to leave the job (McCormack et al. 2010). Interventions based on Dementia Care Mapping have been associated with decreased job-related burnout and psychological distress (Jeon et al. 2012). An interactive and gradual action research intervention of knowledge translation, generation, and dissemination based on national guidelines for care of people with dementia has been associated with less stress of conscience among staff (Edvardsson et al. 2014).

The World Health Organization has identified leadership as one of the areas that need to be focused on in order to meet the needs of an aging population and asserts that actions must be taken to promote person-centred care (WHO 2015). The relationship between leadership and person-centred care has been sparsely evaluated in the area of nursing home care. However, leadership has been described as an important antecedent when implementing person-centred interventions in nursing homes. Implementation of person-centred care was successfully implemented when leaders acted as role models, presented clear visions, were supportive and empowered staff in professional development (Rokstad et al. 2015). High implementation effectiveness was also reported when nursing home leadership took steps to ensure that staff had a positive introduction to person-centred care by communicating with sensitivity, inclusion and respect (Rosemond et al. 2012). The success of person-centred interventions has varied due to managers’ willingness to facilitate necessary changes, and requires strong management support, encouraging flexible work practices and staff involvement in decisions regarding resident-care (Chenoweth et al. 2014).

Similar findings were reported by Stein-Parbury et al. (2012): successful implementation of person-centred care required leadership and management support. Person-centred care was implemented with the greatest ease when managers encouraged flexibility in work schedules to permit change to be contextualized. Further, it was also reported that managers must interact with staff in a way that forms interpersonal relationships based on trust and respect (Stein-Parbury et al. 2012).

The importance of supportive leadership has been highlighted in several theoretical frameworks for person-centred care (Nolan et al. 2004, McCormack and McCance 2006, McGilton et al. 2012). Recently, an aged care clinical leadership qualities framework (ACLQF) has been developed for managers in aged care (Jeon et al. 2014). It seems as this framework may prove to be a useful principle structure for managers in aged care, since it strives to better define leadership abilities in aged care among nursing home managers (referred to as middle managers). The framework also intends to optimise nursing home
managers’ positional authority to lead others to achieve quality outcomes. The ACLQF offers an initial step forward in clarifying the aged care middle manager role and provides a guide for the development of a clear position description for managers. It keeps managers in focus and enables them to be engaged in the building of an organisational culture that promotes learning and excellence. The ACLQF is based on role descriptions rather than professional qualifications and encapsulates the centrality of person-centred care as the objective of nursing home managers’ leadership (Jeon et al. 2014).

In summary, despite the national and international recommendations of person-centred care, and despite the fact that WHO has pointed out leadership as one of the areas in need of attention to meet the increasing demands of an aging population, research knowledge concerning how nursing home managers lead person-centred care is sparse. A number of theoretical frameworks for person-centred care in the existing literature point out the significance of leadership for person-centred care; the ACLQF attempts to clarify the role of the aged care manager and this may be useful for guiding the development of a clear position description for managers in aged care. However, few empirical studies explore the relationship between leadership and person-centred care in daily practice. The literature supports the importance of leadership in person-centred interventions, but studies of leadership processes describing how to lead such a provision of care on a daily basis have not been found. Studies enhancing our understanding of leadership in relation to person-centred care are therefore needed.

**Leading the creation of psychosocial climate**

Nursing home managers have a central role in setting the psychosocial tone of the environment, which has been known to influence residents as well as staff, as previous studies using the concept of psychosocial climate have illustrated (Sjögren et al. 2014, Björk 2017).

The psychosocial climate refers to the context in which care is delivered and has been described as a central aspect of person-centred care (McCormack and McCance 2006). According to Edvardsson (2008) climate (or atmosphere) refers to the holistic experience of the environment and consists of an interplay between the organisational philosophy of care, the physical environment and people’s doing and being in the environment. The psychosocial climate has been conceptualised as a climate that enables social interactions, provides safety, and has an everyday and neat character that also supports personal well-being and the maintenance of personhood (Edvardsson et al. 2009b, Edvardsson et al. 2008a). In person-centred theory, the climate has been described as having an
impact on the operationalisation of person-centred care, and has been described as having the potential to enhance or limit the facilitation of person-centred care (McCormack 2004). This theoretical postulation has been empirically supported by Sjögren et al. (2014), who highlight the significance of a supportive psychosocial climate for person-centred care provision. The psychosocial climate has also been positively associated with residents thriving in nursing homes (Björk 2017), suggesting that the psychosocial climate is an important antecedent for place-related resident well-being. This finding supports a previous study by Edvardsson (2008) which showed that psychosocial aspects strongly affected residents’/patients’ experiences of well-being in a study conducted in various care settings. Psychosocial climate has also been positively associated with staff satisfaction with care and work in the healthcare context (Lehuluante et al. 2012).

Person-centred theory postulates that leadership is an important component of and for person-centred environments (Kitwood 1997, Brooker 2004, McCormack and McCance 2006). In addition, leadership has been positively associated with the psychosocial climate in previous nursing literature (Malloy and Penprase 2010, Cummings et al. 2010, Lundgren et al. 2016), but there are few empirical studies on the influence of leadership on psychosocial climate, as in the conceptualization described above.

Taken together, the psychosocial climate has seems to be positively associated with person-centred care, residents’ well-being and staff satisfaction, and the theoretical literature has pointed out the importance of leadership for the psychosocial climate, but empirical studies are sparse. Thus, it seems important to empirically explore the influence of leadership for the creation of such a climate, to enable person-centred care provision and to promote resident well-being and staff satisfaction.

**Leading the creation of a healthy work environment**

Nursing home managers are also responsible for leading a healthy work environment. According to Abrahamsson and Johansson (2013), a healthy work environment eliminates physical risks, and equipment and the premises are adapted to meet the various physical and psychological conditions of the employees present; they are also designed to facilitate work. A healthy work environment also ensures that employees are involved and have control and influence. Influence concerns the division of labour, workload and work methods in relation to both other people and to technical systems. In a healthy work environment, the work is intellectually and culturally stimulating and offers personal and professional learning and development. Thus, workloads, demands and challenges (both physical and psychological) are balanced and reasonable. In
addition, the workplace is characterised by good leadership, equality, justice, respect, trust and an open climate with good opportunities for well-being and social support (Abrahamsson and Johansson 2013).

Karasek and Theorell’s demand-control model is one the most used theories for empirically analysing the psychosocial work environment in terms of occupational stress in the past 30 years (Van der Doef and Maes 1999, Hauser et al. 2010). According to the model, the combination of high job demands and low job control over the work situation produce a composite outcome: job strain (Karasek 1979, Karasek and Theorell 1990). The hypothesis is that the combination of high job demands and low job control have a joint effect that is larger than the separate effects of high job demands and low job control individually. The model has been expanded by a third dimension, social support, and according to the hypothesis, social support buffers the relationship between demand and job strain (Johnson 1986, Johnson and Hall 1988). The combination of high demands, low control and low social support allegedly pose a threat to health and well-being (Karasek and Theorell 1990). Despite its popularity, the demand-control-(support) model has not been unequivocally supported. Some of the most common criticisms concern the model’s simplicity and that it fails to capture the complexity of the work environment (De Jonge and Kompier 1997). However, previous literature reviews seem to have summarized a considerable amount of convincing evidence confirming the model’s accuracy (De Lange et al. 2003, Van der Doef and Maes 1999). Although there is an ongoing scientific discussion about the applicability of the model to modern work life, as it was developed during a period characterised by industrial work, its predictive value in relation to emotional exhaustion has recently been proven in Swedish and European work life (Magnusson Hanson et al. 2008, Verhoeven et al. 2003, Sanne et al. 2005a, Pressseau et al. 2014).

Previous research consistently confirms that aged care staff have a challenging and demanding job (Edvardsson et al. 2009a, Hasson and Arnetz 2008, Boekhorst et al. 2008, Schmidt 2010, Edberg et al. 2008, Morgan et al. 2002, Ericson-Lidman et al. 2014). Research has also clarified that nursing home staff who experience job strain are exposed to increased risks adverse health effects, such as sleeping problems (Elovaino et al. 2014), musculoskeletal symptoms (Pekkarinen et al. 2013), headaches, insomnia, poor concentration, irritability and nervousness (Schmidt and Diestel 2011, Schmidt and Diestel 2012). Staff perceptions of job strain are connected to working with cognitively impaired residents (Brodaty et al. 2003), resident aggression (Rodney 2000), heavy workload and dealing with end-of-life care (French et al. 2000) as well as not having the resources, opportunity or ability to provide care as wished (Edberg et al. 2008). A previous study by Edvardsson et al. (2009a) also showed that the
care climate, education levels and opportunities to discuss ethically challenging situations were predictors of job strain among staff in nursing homes.

Leadership has been associated with staff strain and work-related stress in earlier nursing literature, but the use of different conceptualizations of job stress/strain and the variety of leadership typologies in the literature (Clegg 2001, McVicar 2003) complicates comparisons and prevents robust conclusions in this area. In the area of nursing home care, only a few studies show that supportive leadership is associated with lower job strain (Orrung Wallin et al. 2015, Edberg et al. 2008, McGilton et al. 2007). A recent Swedish study by Sjögren et al. (2014), has also shown that lower levels of job strain were related to higher levels of person-centred care, indicating the relevance of job strain to care quality in terms of person-centred care.

Taken together, research has clarified that aged care staff who experience job strain are exposed to increased risks of adverse health, and that job strain may be linked to the quality of care in terms of person-centred care. Leadership has been described as an essential component for staff perceptions of job strain in the nursing literature, but the empirical evidence is sparse in the area of aged care. This indicates that it is essential to explore how leadership is related to job strain and social support, in order to protect staff well-being, and consequently, the provision of person-centred care.

To summarize, nursing home managers are to be seen as the critical intermediaries between governance and care delivery and the interface between care development and implementation in nursing home care environments. The conditions for nursing home managers in Sweden have changed over time, and the literature presents new demands and expectations of leadership. This is supported in the international literature, as the emerging discourse suggests a growing need to place a greater emphasis on exploring leadership in aged care. Nursing home managers have overall responsibility for resident care, staffing, budgets and the work environment of staff, and for facilitating the provision of person-centred care. Still, much remains to be understood about nursing home managers’ leadership in relation to person-centred care and the work situation of staff. Nursing home managers’ leadership is important for care provision in aged care, particularly when striving for philosophical cohesion in times of restricted resources, and when facing challenges ahead. The improvement and development of leadership among nursing home managers could help support and optimise nursing home care.
Rationale

Given the demographic challenges of the future in terms of an aging population, WHO has pointed out leadership as one of the areas requiring attention in order to meet these demands. Person-centred care is a model of care that has been described in recent years as the “golden standard” in nursing home care. Leadership has been described as crucial for both operationalising person-centred care as well as ensuring a healthy work environment, but there is a shortage of studies exploring the association of leadership with person-centred care, and a lack of agreement about how nursing home managers lead such aspects of care. Recent research suggests a number of theoretical frameworks for person-centred care in the existing literature, pointing out the significance of leadership for person-centred care; however, no empirical studies have explored the relationship between leadership and person-centred care in daily practice. Thus, studies enhancing our understanding of nursing homes managers’ leadership in relation to person-centred care are still needed.

Research has also clarified that aged care staff who experience job strain are exposed to increased risks of adverse health effects, and that job strain may be linked to the quality of care in terms of person-centred care. Leadership has been described as an essential component that may buffer staff job strain in the nursing literature, but empirical evidence in the area of aged care is sparse. This indicates that it is essential to explore leadership in relation to job strain and social support, in order to safeguard staff well-being and the quality of care provided.

This thesis sought to fill this gap in order to better understand nursing home leadership in relation to person-centred care and the work situation of staff. A better understanding of leadership in nursing homes can contribute to strategies and knowledge about how to meet future demographic changes concerning an aging population, and how to sustain a healthy work environment for the professional workers in this context.
Aims

Overall aim

The overall aim was to explore leadership in relation to person-centred care and the work situation of staff in Swedish nursing homes.

Specific aims:

Study I: To explore the association between leadership behaviours among managers and the person-centredness of care and psychosocial climate in aged care facilities.

Study II: To identify the characteristics of highly rated leadership behaviours in nursing homes.

Study III: To explore the process of leading towards person-centred care in Swedish nursing homes.

Study IV: To explore the association between nursing home managers’ leadership, job strain and social support as perceived by direct care staff.
Methods

Research/study design

To address the study aims I-IV, cross-sectional and descriptive designs were used.

Table 1. Overview of study aims, sub-aims, design and participants.

<table>
<thead>
<tr>
<th>Study</th>
<th>Aim</th>
<th>Sub-aims</th>
<th>Design</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>To explore the association between leadership behaviours among managers and the person-centredness of care and psychosocial climate in aged care facilities.</td>
<td>-To explore the relationship between leadership behaviours among managers and the person-centredness of care, and to explore the relationship between leadership behaviours among managers and the psychosocial climate. -To explore interaction patterns between leadership behaviours, person-centredness of care, and the psychosocial climate.</td>
<td>Cross-sectional design</td>
<td>3605 staff in 169 nursing homes</td>
</tr>
<tr>
<td>II</td>
<td>To identify the characteristics of highly rated leadership behaviours in nursing homes.</td>
<td>-To identify the characteristics of highly rated leadership behaviours in nursing homes, based on staff ratings given in the Leadership Behaviour Questionnaire, using Item Response Theory. -To identify manager and unit characteristics of significance for perceived leadership behaviours.</td>
<td>Cross-sectional design</td>
<td>3605 staff in 169 nursing homes. 3275 staff assessments of leadership matched with 169 manager characteristics. Sub-sample of 2326 staff matched with facility data from 346 units in 112 nursing homes.</td>
</tr>
<tr>
<td>III</td>
<td>To explore the process of leading towards person-centred care in Swedish nursing homes.</td>
<td></td>
<td>Qualitative design</td>
<td>12 nursing home managers in 11 nursing homes in 7 municipalities.</td>
</tr>
<tr>
<td>IV</td>
<td>To explore the association between nursing home managers’ leadership, job strain and social support as perceived by direct care staff.</td>
<td>-To explore the relationships between nursing home managers’ leadership, staff social support and staff job strain. -To explore interaction patterns between nursing home managers’ leadership and staff social support for job strain.</td>
<td>Cross-sectional design</td>
<td>3605 staff in 169 nursing homes</td>
</tr>
</tbody>
</table>
**U-Age SWENIS sampling and data collection**

**Sampling study I, II and IV**

The cross-sectional data for studies I, II and IV in this thesis are from the U-Age SWENIS dataset. The U-Age SWENIS dataset consists of data from a national sample of nursing home managers, staff and residents, and is from a three-part survey (A-B-C). The U-Age SWENIS aimed to initiate longitudinal monitoring of care and health in Swedish nursing homes, and a follow-up is planned in 2018. 60 municipalities were randomly selected out of the 290 Swedish municipalities’ in total. The number of selected municipalities was based on a sample size calculation indicating that a sample of 4500 residents would provide enough power to answer the U-Age SWENIS research questions. Consequently, the sample of staff consisted of the employees in the participating nursing homes in U-Age SWENIS, whose nursing homes were included based on resident power calculation. Results based on resident data have been reported in a previous thesis (Björk 2017).

**Data collection procedure study I, II and IV**

The SWENIS research team contacted the chief executive officers of nursing homes in the selected municipalities, and written informed consent was received from 47 municipalities, allowing U-Age SWENIS to conduct research in their municipalities. Contact information for the nursing homes in the respective municipality was also requested from the chief executive officers. Following this, three reminders were sent, asking for the contact information of the nursing homes. Five municipalities did not respond to these reminders and another five withdrew their participation. Thereafter, nursing home managers in 202 nursing homes in 37 municipalities were contacted by telephone and received oral and written information about the U-Age SWENIS project. The nursing home managers approached their staff, and written information about how to complete the staff questionnaire was provided, as well as information about who to contact with any questions. The inclusion criteria were that staff should have permanent employment or long-term substitution and work days or days/evenings. This resulted in the exclusion of staff who only worked night shifts and accidentally participated (n=25). During this procedure, 14 nursing homes in two municipalities dropped out, resulting in a sample of 188 nursing homes in 35 municipalities. The participating nursing homes consisted of both general units and special care units for dementia and had between 7-128 beds. No further attempts were made to contact non-participating municipalities, which is why the reasons for the dropouts remain unknown. The data collection was performed between November 2013 and September 2013. Please see Figure 1 (flowchart).
290 Swedish municipalities

Randomization of 60 municipalities

47 accept participation

5 municipalities did not respond to the request of contact information

5 municipalities withdraw participation

Request of contact information (3 reminders)

Contact with 202 nursing homes in 37 municipalities

1 municipality withdraw participation

8 nursing homes decline participation meaning that 1 municipality drops out

188 nursing homes in 35 municipalities received survey questionnaires

Staff surveys (n=5423)

Completed and returned (n=3605)

Completed interviews (n=191)

Resident surveys (n=6902)

Completed and returned (n=4831)

Facility surveys (n=213)
The self-reported staff survey (A-data) provided information about staff demographics, leadership, person-centred care, psychosocial climate, job strain and social support. The final response rate for the staff survey was 66.5%, comprising data from 3605 direct care staff, from 527 units in 169 nursing homes (Figure 1 and Figure 2).

As shown in the flowchart (Figure 1) the proxy-rated resident survey (B-data) provided information about resident demographics, functional and cognitive status, health indicators and thriving. Findings based on B-data have been reported in a previous thesis (Björk 2017), and are therefore not part of this thesis.

Data concerning the facility and manager characteristics (C-data) were received from the nursing home manager in each nursing home. The facility survey was sent by mail to the nursing home managers in advance, and upon agreement, an appointment for telephone interviews was made, thus completing the facility survey. Totally 191 structured interviews were conducted, providing information from managers (n=191) and facilities (n=166).
**Sampling study III**

The sampling was conducted in two steps. First, 30 nursing homes with the highest degree of person-centred care as measured with P-CAT out of all the participating nursing homes (already participating in U-Age SWENIS) were sorted out. A second selection from these 30 nursing homes was performed in order to reach variety in the sample, and in this second process, 11 nursing homes were selected and contacted for recruitment for interviews. To reach variety, nursing homes based in rural and urban areas, both private and public providers, of various sizes and with special care units for dementia and general units were included. The included nursing homes were located in municipalities of various sizes, both small inland municipalities, mid-sized municipalities as well as municipalities in the capital of Sweden. The nursing homes also had varying numbers of residents (range 18-50, mean= 30, median= 27). The final sample consists of 12 managers in 11 nursing homes from 7 municipalities spread throughout Sweden. The nursing home managers also varied in demographic backgrounds, further described under Participants.

**Data collection procedure study III**

Before collecting this data, three pilot interviews were performed with nursing home managers who were not participating in the U-Age SWENIS project to test the interview guide. The pilot interviews were transcribed and analysed, and after discussions within the research team the interview guide was slightly revised to ask for situations and examples of leading person-centred care in an attempt to obtain more descriptive answers. The pilot interviews are not part of the results.

Nursing home managers from nursing homes that scored high on P-CAT (measuring person-centred care) in the U-Age SWENIS sample were contacted by telephone and invited to participate in the study. Upon agreement, written information about the study was sent by mail. The qualitative data were collected through tape-recorded semi-structured interviews. All interviews but one were performed by two interviewers. The last interview was performed by one interviewer. Informed consent was received verbally, and the nursing home managers were informed that their participation was voluntary and that they could end their participation at any time without having to explain why and without consequences. The interviews took place in the respective nursing home, in a location chosen by the nursing home manager, usually the nursing home manager’s office. All interviews but one were individual, face-to-face interviews, as one interview consisted of two nursing home managers who worked in the same nursing home. The interviews lasted from 48-81 minutes (mean= 60 min, median= 59 min), and memos were written during and right after the interviews to document perceptions and formulations from the interviews. The nursing
home managers were asked to share their experiences with leading person-centred care on a daily basis and the initial question was: “Think of an employee that you have who works in a very person-centred manner. What is it that this employee does?” This question was followed by: “Based on what you just said, how do you as a manager support other employees to work more (or equally) person-centred?” Other examples of questions include: “Describe a situation when it is easy to lead person-centred care. Describe a situation when it is difficult to lead person-centred care.” The data collection ended when it was estimated that there was sufficient material to answer the research questions. All interviews were conducted in April 2017.

Participants

Study I, II and IV

Studies I and IV consist of the total sample of 3605 staff. The sample of 3605 staff comprised mostly women (95.3%) with a mean age of 46.6 years (SD 11.3). The most common qualification was enrolled nurse (82.5%) with average work experience in the nursing home amounting to 9.9 years (SD 8.0). The nursing home managers (n=191) were mostly women (91.0%) with a mean age of 49.6 (SD 9.0) and had been working for approximately 3.4 years (SD 3.4) in the current nursing home. A social work degree was the most common educational qualification (47.9%) followed by registered nurse qualification (27.7%) and enrolled nursing (9.0%) qualifications. 4.3% were human resource specialists and 11.2% of the managers had other qualifications.

Study II consists of the sample of 3605 staff for the Item Response Theory results (characteristics of highly rated leadership). A sample of 3275 staff for the ANOVA results (manager qualification comparisons) was matched with data from 169 managers. A sub-sample of 2326 staff for the linear regression models (associations between leadership and manager education, number of staff within unit, operation form) was matched with facility data from 346 units in 112 nursing homes.

Study III

The sample of nursing home managers in study III (n=12) included 11 women and one man. Their ages ranged between 37 and 62 years (mean=52 years). The work experience in aged care for these managers varied between 1 and 40 years (mean=12, median= 9). In this sample, a registered nurse qualification was most common (n=5), followed by a social work degree (n=4). Two nursing home managers were enrolled nurses and one had an occupational therapy
qualification. The nursing home managers were responsible for 16-53 employees (mean= 33, median= 34). Two nursing home managers had 30 ECTS credits in leadership education, while four had 1.5-7.5 ECTS credits in leadership education. One manager had 7.5 ECTS credits in person-centred care education.

**Instruments and study variables**

The survey part of this thesis is based on data collected through study-specific variables and established self-reported assessment scales, which are further described below.

**Study variables in study I, II and IV**

Study-specific variables concerning staff and manager demographics of age, gender, education, work experience in aged care, work experience in current nursing home and operation form and type of nursing home facility were included in study I, II and IV.

**Leadership Behaviour Questionnaire©** was used to investigate the extent to which direct care staff perceived that their manager expressed a range of leadership behaviours (Ekvall and Arvonen 1994, ©Farax Group AB). The instrument is based on the leadership dimensions of change/development, production/task, employee/relation (CPE) (Farax group ©, Ekvall and Arvonen 1994). The Leadership Behaviour Questionnaire© comprises 24 items formulated as statements about leadership behaviours, and higher scores indicate leadership behaviours that facilitate efficient service delivery (©Farax Group AB). Staff were asked to rate their manager/leader on a six-point scale from 1, completely disagree, to 6, completely agree. A total score can be calculated with a possible range of 24-144 (Orrung Wallin et al. 2015). According to the authors Ekvall and Arvonen (1994) the instrument conceptualises efficiency, human relations, and adaptive change in leadership. However, a factor analysis (study I) did not confirm the original three-factor structure and further analyses have been conducted to explore this further (study II). The Cronbach’s alpha for the total scale was 0.98 in these data. Leadership was assessed in study I, II and IV.

**Person-centred Care Assessment Tool** (P-CAT) was used to assess person-centred care (Edvardsson et al. 2010, Sjögren et al. 2012). The P-CAT is a self-reported assessment scale that measures the extent to which staff perceive the care provided as person-centred. The P-CAT consists of 13 items formulated as statements about the content of care, aspects of the environment and the organisation. A total score is calculated (range 13-65) and higher values indicate a higher degree of person-centred care. The Swedish version of P-CAT has shown
satisfactory estimates of reliability (Cronbach’s $\alpha = 0.75$) and construct validity in Swedish aged care (Sjögren et al., 2012). The Cronbach’s alpha for the total scale was 0.77 in these data. Person-centred care was assessed in study I.

**Person-centred Climate Questionnaire**–Staff version (PCQ-S) was used to measure staff perceptions of the psychosocial climate of the unit (Edvardsson et al. 2009b). The questionnaire consists of three dimensions: a climate of Safety, Everydayness and Community. Total scores can range from 0-70, and higher scores indicate a more positive and supportive psychosocial climate. The PCQ-S has shown good estimates of reliability (Cronbach’s $\alpha = 0.88$) and construct validity (Edvardsson et al. 2009b). The Cronbach’s alpha for the total scale was 0.91 in these data. Psychosocial climate was included in study I.

**Demand-Control-Support Questionnaire** (DCSQ) The Swedish version was used to assess job strain based on the demand-control model (Karasek and Theorell 1990). The subscales of psychological demands (five items) and decision latitude (six items) were used to calculate a continuous variable of job strain (Morgan et al. 2002). A higher value of job strain indicates higher strain in a possible range of 0.21 to 3.33. Validity and reliability have been reported as satisfactory for psychological demands, Cronbach’s $\alpha = 0.73$, and $\alpha = 0.74$ for decision latitude (Sanne et al. 2005b). The social support subscale consists of six items; a total score can be calculated with a possible range of 6-24, and higher scores indicate a higher level of social support. The Cronbach’s alpha for the three sub-scales of psychological demands, decision latitude and social support were $\alpha=0.78$, 0.50, 0.82 in these data. Study IV addressed job strain and social support.
Analyses

Overview of data source, included variables and analyses in study I, II and IV are presented in Table 2.

<table>
<thead>
<tr>
<th>Study</th>
<th>Data source</th>
<th>Variables</th>
<th>Analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>SWENIS staff survey (A-data) Facility survey (C-data)</td>
<td>Demographic variables of staff and managers, leadership, person-centred care, psychosocial climate</td>
<td>Descriptive statistics, confirmatory and explorative factor analyses, parallel analysis, Velicer’s MAP test, internal consistency (Chronbach’s α), Pearson’s r simple linear regression and multiple regression including interaction term, Scatterplot</td>
</tr>
<tr>
<td>II</td>
<td>SWENIS staff survey (A-data) Facility survey (C-data)</td>
<td>Demographic variables of staff and managers, leadership, manager education, manager work experience in nursing home unit, operation form of nursing home, number of staff within nursing home unit</td>
<td>Descriptive statistics, graded response model, simple and multiple linear regression, one-way-ANOVA</td>
</tr>
<tr>
<td>IV</td>
<td>SWENIS staff survey (A-data) Facility survey (C-data)</td>
<td>Demographic variables of staff and managers, leadership, job strain and social support</td>
<td>Descriptive statistics, Pearson’s r simple linear regression and multiple regression including interaction term</td>
</tr>
</tbody>
</table>

Descriptive statistics have been used in study I, II and IV to present demographic variables of staff, managers and the facility. Analyses of scale distribution and normality were conducted by measures of skewness, Kolmogorov-Smirnov and visual examination of histograms. Multicollinearity was tested for variables included in regression models (study I, II and IV) by Tolerance ≥0.10, Variance Inflation Factor (VIF) ≤10, and by means of correlations ≤0.7 (Pallant 2013). Potential confounders were investigated by using correlations and Student’s t-test between study variables and demographic variables of staff, managers and facilities. The internal consistency reliability was explored by Cronbach’s α in study I, II and IV. A p-value <0.05 was considered statistically significant in study I, II and IV.

Missing data

Several analyses in study I, II and IV were based on the instruments’ sum score, and the non-completed items in the instruments therefore constitute the internal missing data in the respective variable. For study I, II and IV, missing data for the Leadership Behaviour Questionnaire, P-CAT, PCQ-S and the sub-scales of DCSQ, psychological demands, decision latitude and social support were imputed by
mean value of the individual for the total scale (cf. Shrive et al. 2006). In the Leadership Behaviour Questionnaire up to three missing items were replaced (10.1% of missing data). In P-CAT up to two missing items were replaced (8%). In PCQ-S up to two items were replaced (3.7%). For the three subscales of DSCQ, only one missing item was replaced: psychological demands 3.4%, decision latitude 2.2% and social support 1.9% (Table 3).

<table>
<thead>
<tr>
<th>Table 3. Number of missing items per scale</th>
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<tbody>
<tr>
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</tr>
<tr>
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</tr>
<tr>
<td>Two missing items</td>
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</tr>
<tr>
<td>Three missing items</td>
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</tr>
<tr>
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<td>90.6</td>
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<table>
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<td>96.1</td>
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<table>
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<td>1.9</td>
<td>98.6</td>
</tr>
<tr>
<td>One missing item</td>
<td>51</td>
<td>1.4</td>
<td>100</td>
</tr>
</tbody>
</table>
Analyses study I

In order to investigate whether the Leadership Behaviour Questionnaire© measured three independent dimensions as maintained by Ekvall and Arvonen (1994) a Pearson product-moment correlation (\( r \)) was conducted.

Psychometric analyses

To investigate the construct validity of the Leadership Behaviour Questionnaire© in this sample, a confirmatory factor analysis (CFA), and exploratory factor analysis with direct oblimin were computed. A parallel analysis and Velicer’s MAP test were computed to test the construct validity of the instrument. Internal consistency was evaluated by Cronbach’s Alpha.

Regression analyses study I

To explore the relationship between leadership sum score, person-centred care sum score and psychosocial climate sum score, simple linear regression models with leadership as the independent variable were conducted. Two multiple linear regression models were performed with interaction terms to explore potential interaction effects. The interaction terms were constructed by multiplying leadership and psychosocial climate, and leadership and person-centred care respectively. First, person-centred care was used as a dependent variable and interactions between leadership and psychosocial climate were investigated. This procedure was then repeated, with psychosocial climate as a dependent variable, exploring interactions between the leadership and person-centred care. To investigate the interaction further, a scatterplot was performed with psychosocial climate as y-axis and leadership as x-axis, and the variable of person-centred care was divided into quartiles and entered as linear markers.

Analyses study II

Item Response Theory

In study II, a Graded Response Model (GRM) originated from Item Response Theory was used to identify the characteristics of highly rated leadership behaviours in nursing homes. In this study, the assumption was that the items with high levels of difficulty in endorsing threshold 5 (reaching a score of 6) could be interpreted as the most specific for those with particularly high total scores and in this context of nursing home care, thus indicating characteristics of highly rated leadership. The GRM calculation in this study resulted in 24 specified unique item characteristic curve (ICC) slopes that explored the
relationship between the estimate of the latent trait, the response option characteristics, and the probability of selecting a particular option (data not shown). Finally, scatterplots was conducted to visualize the pattern between the threshold parameter estimates and the discrimination parameter estimates in the GRM.

**Regression analyses study II**

Simple linear regressions and multiple regression analyses were performed to explore the relationship between managers’ educational qualification, operation form, managers work experience and leadership, with leadership as the dependent variable. In multiple regression analyses the relationship between managers’ educational qualification, operation form, managers work experience and estimated leadership was explored with leadership as the dependent variable. Simple linear regression analyses were also conducted to explore the relationship between the number of employees in the unit and estimated leadership, and to explore the relationship between the mean value of leadership and the standard deviation of leadership.

Finally, a One-way ANOVA was used to compare estimated leadership between different educations among managers’.

**Analyses study III**

**Qualitative content analysis procedure**

Study III was based on semi-structured interviews and a qualitative content analysis was performed in three steps (cf. Elo and Kyngas 2008). First is the preparation phase, which involves immersion in the data, obtaining a sense of the whole, and selecting the unit of analysis (Elo and Kyngas 2008). To begin with, two interviews were read by four of the co-authors in order to gain a basic understanding of the content. Second is the organising phase, which involves the identification of meaning units corresponding with the aim, and which was carried out for the two interviews by the four co-authors individually. These meaning units were then labelled, so-called open coding describing the content. After these two interviews were coded separately, the codes were compared and critically discussed by the research team. As these codes showed great consistency among the co-authors, line-by-line open coding was then conducted on the remaining interviews by the first author using the Open Code software package (version 4.02). When all interviews were coded, these codes were gathered by content into sub-categories through analytical discussion and critical dialogue in the research team. In this analytical process, the sub-categories and main
categories were subjected to comparative analyses to ensure that the labelling and content were inherently logical and that they were mutually exclusive (cf. Elo and Kyngas 2008). The final phase, reporting the results, was performed by conceptualizing sub-categories and main categories relating to the aim into a logical order.

**Analyses study IV**

A continuous variable for job strain was constructed by dividing the subscales of psychological demands with the decision latitude (cf. Morgan et al. 2002). Pearson correlation (r) was used to explore the relationship between the study variables of leadership, job strain and social support.

**Regression analyses study IV**

To explore the relationship between leadership, job strain and social support, three simple linear regression models with leadership as the independent variable were conducted. A multiple linear regression model was performed with job strain as the dependent variable, and leadership and social support as independent variables. The procedure was then repeated, whereas a multiplicative interaction term was included in the model to explore the interactions between leadership and social support.

The statistical Package for Social Sciences, SPSS software for PC, version 22 was used for study I; version 23 was used for study II and IV. The calculation of the graded response model (GRM) in study I was performed with R statistics (version 3.0.2) using the R-package “ltm.” Dimensionality of leadership in study I was evaluated using AMOS 17.0.

**Ethics**

Ethical approval for this thesis was received from the Regional Ethical Review Board in Umeå, Sweden (Dnr: 2013-269-31, 2017/40-32).

In this thesis, all participation was voluntarily for the staff and managers involved; they received oral and written information, and they could decline at any time without risking negative consequences.

For the quantitative data, confidentiality was protected by anonymising the respondents in the data. The surveys were coded at unit level, and no personal data except for age and gender were collected in the surveys. The file with information about the code list (which nursing homes/unit the individual surveys
were sent to) was stored on a security server, to which only a few members of the research team had access. The returned surveys were stored in a locked storage unit. Completing and returning the surveys was considered to be giving informed consent. The risk of harm at the individual level must be considered small, since the staff and managers participating in this thesis gave their full consent, and all data were reported at group level.

For the qualitative data, the personal data were coded and handled with confidentiality. The interviews were anonymised before the analyses, and a code list of participating nursing home managers was stored on a security server, together with the audio files. The transcribed interviews were stored in a locked storage unit. The qualitative data are presented at group level, preventing identification of individuals. In summary, the overall ethical valuation of risk for harm among the informants was considered small, while the results of this thesis could be useful for residents, staff, managers in Swedish nursing homes, and for the nursing curriculum and national governments.
Results

The main results of the studies are presented under the following headings: Leadership in relation to person-centred care and psychosocial climate (study I); Leadership characteristics (study II); Leading towards person-centred care (study III); and Leadership in relation to job strain and social support (study IV).

Leadership in relation to person-centred care and psychosocial climate

The aim of study I was to explore the association between leadership behaviours among managers and person-centred care and the psychosocial climate in aged care facilities. The mean values of leadership was 108.4 (possible range 24-144), person-centred care 50.0 (possible range 13-65) and psychosocial climate 57.6 (possible range 0-70). Cronbach’s α for the Leadership Behaviour Questionnaire© was 0.98 in this sample.

A significant correlation was found between leadership behaviours and person-centred care (r=0.41, p=0.01), as well as between leadership and psychosocial climate (r=0.44, p=0.01), indicating that a higher degree of leadership was associated with a higher degree of person-centred care and psychosocial climate.

The relationships between leadership and person-centred care, and leadership and psychosocial climate were investigated by using simple linear regressions. Leadership was positively associated with person-centred care (st β= 0.41, p<0.000) as well as with psychosocial climate (st β= 0.44, p<0.000), indicating that a higher degree of leadership was associated with a higher degree of person-centred care and psychosocial climate. The underlying relationship between leadership, person-centred care and psychosocial climate was investigated by using multiple linear regression analysis with interaction terms.

A significant interaction was found between leadership and person-centred care in relation to psychosocial climate (β=-0.003, p=0.001). This showed that the relationship between leadership and the psychosocial climate depended on the levels of person-centred care in the unit, indicating that leadership is of the utmost importance for the psychosocial climate for staff and residents when the levels of person-centred care are very low.
Leadership characteristics

The aim of study II was to identify the characteristics of highly rated leadership behaviours in nursing homes. The main finding showed 5 leadership behaviours out of 24, of which it was most difficult to achieve a score of 6. This was interpreted as representing the five behaviour characteristics of highly rated leadership behaviours in nursing homes, as only managers with a very high total score achieved a score of 6 on these items. These items were: experiments with new ideas (1.97); controls work closely (1.72); relies on his/her subordinates (1.68); coaches and gives direct feedback (1.65), and handles conflicts constructively (1.56).

In addition, the univariate linear regression analyses showed that managers in privately operated nursing homes were positively associated with leadership behaviours (st β = 0.045, p = 0.029), as were managers with a background in social work compared to nursing (st β = 0.066, p < 0.001). It was also shown that managers with longer work experience as leaders in the nursing home unit were negatively associated with leadership behaviours (st β = -0.052, p = 0.012). Other background variables such as the managers’ age, gender and work experience in general aged care were not significantly associated with perceived leadership behaviours.

Only the significant variables (operation form, managers with a degree in social work and manager work experience in current nursing home unit) were entered in a final multivariate linear regression model. It was shown that a higher degree of leadership behaviours remained significantly positively associated with managers in privately operated nursing homes (st β = 0.057, p = 0.007) and with managers who had a background in social work (st β = 0.070, p < 0.001) compared with managers with a registered nurse background. Manager work experience in the nursing home unit became non-significant in that model.

Managers with a social work background had a higher mean score for leadership behaviours, mean 108.4 (possible range 24-144), compared to managers with a registered nurse background, who had a slightly lower mean value (106.1).

Finally, simple linear regressions showed that the number of employees in a unit was significantly positively associated with the mean value for leadership behaviour (St β=0.155, p=0.042), indicating that a higher number of employees in the unit was associated with a higher degree of leadership. There was also a significant negative association between the mean value for leadership behaviour and the standard deviation for leadership (St β= -0.572, p<0.001). This indicates that the higher the leadership mean, the more coherent the estimations of leadership behaviour.
Leading towards person-centred care

The aim of study III was to explore the process of leading towards person-centred care in Swedish nursing homes. The result illuminated four processes of leading person-centred care: embodying person-centred being and doing; promoting a person-centred atmosphere; maximising person-centred team potential and optimising person-centred support structures (Table 4).

Table 4. Leading towards person-centred care

<table>
<thead>
<tr>
<th>Main categories</th>
<th>Sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Embodying person-centred being and doing</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Promoting a person-centred atmosphere</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Maximising person-centred team potential</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Optimising person-centred support structures</strong></td>
<td></td>
</tr>
</tbody>
</table>

Embodying person-centred being and doing

The managers described the importance of talking about what person-centred care is and what it is not, in order to enhance a person-centred mindset. The managers also described the importance of exemplifying and verbalising important concepts of person-centred care, for example, how and what does it mean to show respect to residents. The managers also expressed that a person-centred mindset needs to be integrated and translated into practice in all aspects of care, meaning that care routines and work practices were also re-directed from institutional-like care to person-centred care. One example of re-directed care routines was when a resident needed help from two staff members in daily care. Despite that rather large care need, these managers wanted the staff member to go in alone to the resident, to establish a relationship with the resident before beginning the care task. Not until the precise moment at which two staff members were necessary did the second staff member enter the room. The managers
described that if a staff member enters the room alone, the full focus would be on the resident, and on the staff-resident relationship, as opposed to entering the room with a colleague. Another important aspect was assessing and calibrating the extent of person-centred doing, since person-centred care was somewhat fragile to maintain. They described that the smallest disturbance in the nursing homes could cause person-centred care to fall off track, with a lost focus and old institutional-like routines revived. By being present in the nursing home unit on a daily basis, the managers could make their own assessments and have control of care situations. Thus, they were able to coach staff in nursing interventions and remind staff of objectives and priorities in conflict situations.

**Promoting a person-centred atmosphere**

The managers described that an atmosphere underpinned by trust, creativity and innovation was important for enabling the practice of person-centred care, and by potentiating cultural bearers, a cultural shift towards person-centred care could be enhanced. The managers described that trust was achieved by recognising staff competence and delegating responsibility for person-centred care to staff, as delegation was a way of showing their trust. The managers also described the importance of permitting an atmosphere that allowed both staff and managers to think outside the box, to take chances and try out creative solutions in daily care, as person-centred care was considered neither static nor standardised. For example, work routines were changed and they tested new schedules to enable quality time and provide the “little extras” in residents’ lives. It was also important to be a role model and lead by example, by being involved in direct care themselves. It was also important to recognise, highlight and confirm good examples in daily care. The managers described that identifying cultural bearers also was an important component of supporting a person-centred atmosphere. By identifying and recognising cultural bearers, the managers expressed that person-centred care could be developed and spread within the ward. The managers also expressed that positive situations were used as benchmarks for care planning, and positive psychology seems to be an important feature in supporting a person-centred atmosphere.

**Maximising person-centred team potential**

The managers maximizing person-centred team potential as another important aspect of leading towards person-centred care. The managers described the importance of clarifying different team roles and positions in the group of staff for enhancing person-centred care. By knowing the individuals in the staff group, the managers explained that they could identify different roles in the staff group and designate different positions in order to utilize the group’s combined qualities and competencies to promote person-centred care. The emphasis was
placed on the team's overall and joint results, and not on individual contributions. In addition, the managers described that identifying and utilizing staff's unique areas of expertise and skills made it possible to create different areas of responsibility for the staff, which could improve the quality of person-centred care. Utilizing various areas of knowledge among staff was described as useful when planning and forming person-centred care. Thus, the whole team's overall expertise was used to positively impact residents’ daily care. The managers also described that identifying the relational aspects between staff and residents was a prerequisite for relationship-building. The assignment to a contact person was therefore adapted based on how the resident and the potential contact person got along, and in the event of a mismatch, the contact person could be exchanged for someone else in the staff group. The managers described that good relationships that brought safety for the residents was prioritized before considering the wishes of staff.

**Optimising person-centred support structures**

Another important aspect in leading towards person-centred care was optimising person-centred support structures. The managers described that person-centred care was a flexible care model, but required planning and a clear structure for maintenance. The managers also that they created new forums as a way to lead towards person-centred care. For example, quality registers for targeted nursing interventions could serve as a tool for person-centred interventions. The managers also described creating new forums such as weekly letters covering development issues, and they gave feedback on the provision of person-centred care. The weekly letters could also be used to bring up thoughts and reflections among the staff. The managers also described the importance of optimising existing forums to constitute a solid foundation for person-centred care. By organising and attending care meetings and being involved in creating care plans based on residents’ needs and preferences, there was a clear structure to follow. Evaluation and adjustments to the care plan were just as important in order to avoid static and perfunctory routines. The managers also described explained that they changed the existing forums for facilitating person-centred care. For example, ordinary workplace meetings were used as a forum to raise person-centred issues, and also to follow-up person-centred interventions. The managers also described that they could discuss person-centred issues during staff performance reviews. Staff performance and individual responsibility for providing person-centred care are examples of issues that could be discussed. Managers explained that by facilitating a common platform and providing a structure that enables staff to work in a more synchronized way towards person-centred care, such care could be promoted.
Leadership in relation to job strain and social support

Study IV aimed to explore the association between nursing home managers’ leadership, social support, and job strain as perceived by direct care staff. The mean value of leadership was 108.4 (possible range 24-144), job strain 0.71 (possible range 0.21-3.33) and social support 21.4 (possible range 6-24).

Simple linear regression analyses showed that leadership was positively associated with social support ($r = 0.37$, $p < 0.001$), indicating that a higher degree of leadership was associated with a higher degree of social support. Leadership was also negatively associated with job strain ($r = -0.36$, $p < 0.001$), indicating that a higher degree of leadership was associated with a lower degree of job strain. Social support was negatively associated with job strain ($r = -0.45$, $p < 0.001$), indicating that a higher degree of social support was associated with a lower degree of job strain.

In the multiple regression analyses, leadership (st $\beta = -0.22$, $p < 0.001$) and social support (st $\beta = -0.38$, $p < 0.001$) were significantly negatively associated with lower levels of perceived job strain.

The underlying relationship between leadership, job strain and social support was investigated by using multiple linear regression analyses including an interaction term. In the multiple regression model including the interaction term, a higher degree of leadership (st $\beta = -0.22$, $p < 0.001$) as well as higher degree of social support (st $\beta = -0.39$, $p < 0.001$) were significantly associated with a lower degree of job strain. A significant interaction was also found between leadership and social support in relation to job strain (st $\beta = -0.046$, $p = 0.006$) when adjusting for potential confounders (gender, years of work experience in aged care, years of work experience in the nursing home for staff, and education and years of work experience in the nursing home for managers). This indicates that a higher degree of leadership and social support both individually and in combination buffers staff job strain.
Discussion

The overall aim was to explore leadership in relation to person-centred care and the work situation of staff in Swedish nursing homes.

The main finding of this thesis showed that leadership was beneficially associated with person-centred care and psychosocial climate (I). Among managers, highly rated leadership behaviours in nursing homes were characterized by experimenting with new ideas, controlling work closely, relying on his/her subordinates, coaching and giving direct feedback, and handling conflicts constructively (II). In addition, leading person-centred care was outlined as four leadership processes: embodying person-centred being and doing; promoting a person-centred atmosphere; maximising person-centred team potential and optimising person-centred support structures (study III). Leadership was also beneficially associated with social support, and it was also found that leadership and social support, individually and in combination, buffer job strain (IV). Further, the variation of leadership was explained to a very small extent by the nursing home managers’ educational qualification, the operational form of the nursing home and the number of employees in a unit. Leadership was rated higher for managers with a background in social work compared to managers with a registered nurse background; leadership was also rated higher among managers in privately run nursing homes compared to managers in public nursing homes (II).

The outline of this chapter of the thesis is as follows: first is a brief description of the complexity of measuring and labelling the phenomenon of leadership in this thesis. This is followed by a general discussion of leading the provision of person-centred care and leading the creation of a healthy work environment. Next is a reflection on the main findings in relation to the Aged care Clinical Leadership Framework. Lastly a short discussion on leadership in relation to education and organisational characteristics.

Measuring an elusive phenomenon

The leadership instrument used in this thesis was based on the behaviourist paradigm, which asserts that leadership can be studied by observations of behaviour. Within this paradigm, leadership is often conceptualised on the basis of three different dimensions (relation, task and change). The Leadership Behaviour Questionnaire©, based on the leadership dimensions of change/development, production/task, employee/relation (CPE) (Farax group ©, Ekvall and Arvonen 1994), was used in this thesis and higher scores indicate leadership behaviours that most strongly facilitate efficient service delivery.
However, the findings in this thesis did not provide empirical support for these three leadership dimensions, as a strong correlation was found between them, and factor analyses confirmed that the instrument was to be considered unidimensional (I). This meant that the instrument measured leadership as one unidimensional phenomenon, without differentiating between different styles or profiles.

Study I was therefore an important start, where the findings of unidimensionality forced critical reflection on previous leadership conceptualisations and theories. Since another recent study from a Swedish healthcare context was also unable to confirm the three-factor structure in the 24-item instrument in their sample (Lornudd et al. 2015) suggesting that this is not a local or contextual problem. Furthermore, conceptual weaknesses and overlapping leader dimensions between different leadership styles have also been reported in recent leadership literature (Yukl 2002, Northouse 2013, Anderson and Sun 2015).

This led to the proposal of new research approaches for exploring the phenomenon in this thesis. This resulted in study II, where IRT was used in a rather unconventional way to try to understand what characterises the leadership measured in this thesis. The result revealed five specific behaviours characterising highly rated leadership in nursing homes: experiments with new ideas; controls work closely; relies on his/her subordinates; coaches and gives direct feedback; and handles conflicts in a constructive way. These were interpreted as most characteristics for those with particularly high sum scores and in the context of nursing home care, pointed out specific characteristics of highly rated leaders. It must be said that all measured behaviours were important, as highly rated leaders scored high on all behaviours, but high scores in these specific behaviours were only seen among managers with the highest sum scores. On the other hand, behaviours with a low threshold can be interpreted as basic characteristics of leadership; consequently, if managers do not exceed these low thresholds, the overall sum score for leadership will be very low.

In the previous literature, many different terms have been used to describe what this thesis refers to as highly rated leadership, including: positive, good and supportive leadership (Orrung Wallin et al. 2015, Wallin et al. 2012, Beck 2013). However, as study I indicated that leadership was a unidimensional phenomenon in which different styles or profiles could not be confirmed, and considering the empirical approach used, the previous terms seemed too interpretive. Therefore, in this thesis, the neutral and descriptive terms “higher degree of”, or “highly rated leadership” were used to imply that managers with highly rated leadership exhibit all behaviours to a greater extent and that they also have very high scores on particularly difficult items/behaviours. This means that “highly rated leadership” has a positive connotation – it is positive to exhibit leadership
behaviours to a greater extent – and it also implies the positive direction of the instrument. This also resembles the definitions of positive, good and supportive leadership in previous literature. Still, the fact that the instrument was developed in another era for purposes other than nursing and that it only measures behaviours included in the instrument was viewed as a limitation, thus prompted another study. This resulted in study III, which explored processes in leading person-centred care.

Leading person-centred care was outlined as four leadership processes: embodying person-centred being and doing; promoting a person-centred atmosphere; maximising person-centred team potential and optimising person-centred support structures (study III). When comparing these processes with the content of the leadership behaviour questionnaire, there seems to be agreement between some but not all parts of the instrument. Embodying person-centred being and doing finds support in the instrument via content related to coaching, handling conflicts, controlling work and having clear goals and objectives as a manager. Promoting a person-centred atmosphere is supported in the instrument via content such as: relies on subordinates, delegates responsibility, encourages thinking along new lines, discusses, has ideas and experiments with new ideas. However, the processes of maximising person-centred team potential and optimising person-centred support structures do not seem to be supported in the content of the instrument, indicating that two processes of leading person-centred care were not covered by the instrument used in study I and II. This suggests that further instrumental development could be valuable. In addition, the instrument also had contents that did not respond to the processes in study III. The contents primarily concerned how managers while study III focused on nursing home managers lead, which could thus explain these discrepancies. However, this very tentative interpretation would benefit from further research to scientifically validate this comparison.

**Leading the provision of person-centred care**

The findings show that a higher degree of leadership was associated with a higher degree of person-centred care in this large randomized nationwide sample (I). This is supported by a recent study in Swedish nursing home contexts (Sjögren et al. 2017) showing that highly rated nursing home units were characterized by exerting satisfactory leadership, which suggests that managers, through their leadership, can enhance and support person-centred care provision. This is in line with previous literature on implementing person-centred care interventions, which suggest that implementing person-centred care requires supportive and present leadership (Rosvik et al., 2011, Rosemond et al., 2012, Rokstad et al., 2013, Brooker and Woolley 2007, Stein-Parbury et al., 2012, Jeon et al., 2012,
Rosengren et al., 2016). The result of study I was based on a different purpose and study design than the intervention studies described above, as study I offers a snapshot of the extent to which nursing home care staff exhibit leadership and person-centred care, and their relationship in-between. Still, the result indicates that nursing home managers’ leadership may impact the level of person-centred care within the unit, which thus supports the idea that leadership is important for person-centred care. Leadership has also been described as a prerequisite for person-centred care in the theoretical framework (McCormack and McCance 2006, McCormack et al., 2010, Jeon et al., 2014). The findings in this thesis confirm these theoretical postulations as leadership seems to be important for person-centred care (I), but they also provide new knowledge about the specific characteristics of leadership (experiments with new ideas; controls work closely; relies on his/her subordinates; coaches and gives direct feedback; and handles conflicts in a constructive way) that enhance such care (I, II). The specific leadership behaviours resonate with person-centred theory, which postulates that trust and risk-tasking are important prerequisites in the person-centred environment (McCormack and McCance 2006), as well as for the implementation of person-centred care (Scalzi et al. 2006). Coaching and giving direct feedback was another behaviour characteristic of highly rated nursing home leadership which has been shown to enhance the development of effective care for residents (Cummings et al. 2014). Handling conflicts in a constructive way was another behaviour characteristic of highly rated leadership, and can be situated to a study by Andersson et al. (2003) showing that leadership defined by helping staff resolve conflicts, giving constructive feedback, generating trust and being approachable was related to efficiency and improved resident outcomes in nursing homes. Taken together, this indicates that handling conflicts constructively, coaching and giving direct feedback may be important leadership behaviours when striving for better resident outcomes. Since a higher degree of leadership (containing these specific behaviours, II) was associated with a higher degree of person-centred care (I), this supports the notion that leadership as it is characterized in this thesis seems to be important for person-centred care.

The findings also showed that leading person-centred care can be outlined as four leadership processes: embodying person-centred being and doing; promoting a person-centred atmosphere; maximising person-centred team potential and optimising person-centred support structures (III). Besides providing concrete descriptions of how to lead person-centred care, this also highlighted some new aspects of leading person-centred care. The findings of four different processes indicate that nursing home managers have several different aspects to engage in and relate to when leading person-centred care. This can be interpreted as the notion that nursing home managers have a large responsibility when leading and promoting person-centred care in these settings. In addition, leadership support
seems to be needed on both an individual as well as on a team level when striving towards a more person-centred approach. Further, when synthesizing the findings of the four processes with the findings and one interpretation is that nursing home managers need to be close and present in a clinical practice when leading towards person-centred care. This indicates the importance of organising work in a way that allows nursing home managers to be present and available in nursing home care.

**Leading the creation of a healthy work environment**

In this thesis, leaderships’ relation to the work situation of staff were explored through several environmental aspects: leadership in relation to the psychosocial climate; leadership in relation the psychosocial work environment in terms of job strain, (i.e. if the work situation was balanced in terms of demand and control), and leadership in relation to social support.

The findings showed that a higher degree of leadership was associated with a more supportive psychosocial climate (I). One interpretation of this is that nursing home managers’ leadership may promote a psychosocial climate in which staff feel welcome, seen, valued and acknowledged. This also resonates with the findings of study IV, in which a higher degree of leadership was related to a higher degree of social support, indicating that leadership might facilitate positive relationships and cohesion in the work group, which also facilitates tolerance for a bad day. Social support from managers has been described as crucial for staff well-being, burnout, absenteeism, job satisfaction, intention to leave and organisational commitment in a systematic review from a health care context (Shirey 2004). This indicates that nursing home managers’ leadership may have a crucial role in promoting a healthy work environment. This is further supported by the findings in this thesis in which higher degrees of leadership were associated with less job strain (IV), and that higher degrees of social support both individually and in combination with higher degrees of leadership were associated with lower job strain ratings. The theoretical assumption of job strain postulates that when the content of work is too extensive in relation to the time available, with little or no opportunities to decide what, when and how the work will be performed, staff are at risk of strain. A reasonable interpretation of the findings is that when nursing home managers, through leadership, give staff the opportunity to organise the content and structure of care themselves, staff experience less strain. Based on this, nursing home managers seem to have an important role in leading the creation of a healthy work environment.
Reflection in relation to the Aged care Clinical Leadership Framework

The Aged care Clinical Leadership Framework (ACLQF) was developed to support clinical leadership among middle managers in aged care settings in Australia by defining the qualities of middle managers in aged care as leaders, with a focus on person-centred care (Jeon et al. (2014). This framework could potentially be applicable and useful for Swedish aged care as well, by clarifying the clinical leadership attributes in relation to quality processes and outcomes such as person-centred care. Therefore, the ACLQF has been used as a framework to organise and understand the findings of this thesis and to highlight the gaps that remain, in an attempt to explore the usefulness of the ACLQF for Swedish aged care clinical leadership.

The ACLQF (Jeon et al. 2014) consists of eight core quality attributes (each underlined by 5-6 descriptors) of clinical leadership in aged care whose initial letters form the acronym CLINICAL: Committs to and facilitates the delivery of clinical care that is underpinned by person-centred care; Links personal leadership and management behaviours to improved outcomes for older people and the organisation; Initiates, monitors and leads improvements in the quality and safety of care of older people; Nests/situates decision-making in ethical, legal, regulatory, professional and organisational frameworks; Influences and participates in the effective management and deployment of staff and other resources; Collaborates with stakeholders in care processes to optimise clinical outcomes; Accesses and uses evidence to guide self and staff to implement person-centred care; Learns, and develops both self and others involved in the care of the older person. The ACLQF is based on role descriptions rather than professional qualifications, and encapsulates the centrality of person-centred care as the objective of clinical leadership in aged care.

According to ACLQF, the core quality attribute Committs to and enacts person-centred care describes that nursing home managers have an understanding of person-centred care as a philosophy and use it as an organisational benchmark in nursing home care. Further, it describes that managers demonstrates role modelling in person-centred care. In this thesis, besides the fact that leadership seemed to be important for person-centred care provision (I), this can be situated in relation to embodying person-centred being and doing (III). Outlining and integrating the person-centred philosophy into practice was described as important when leading person-centred care. In addition, with regard to potentiating cultural bearers (III), managers described acting as role models and highlighted and confirmed good examples among staff, so-called cultural bearers, which resonates with the first core quality attribute of ACLQF.
Further, ACLQF managers link personal leadership and management behaviours to improved outcomes for older people and the organization and initiate, monitor and lead improvements in the quality and safety of care of older people. These attributes suggest that managers are available, visible and approachable for residents, staff and key stakeholders. Also, managers identify areas of strength and areas for improvement in quality and safety of care, and determine priorities and objectives for improving care delivery. In this thesis, this can be seen in relation to Assessing and calibrating the extent of person-centred being and doing (III), as the managers described being present in the nursing home unit on a daily basis enabled them to make their own assessments and receiving control of the care situation. Being present also enabled them to coach staff in nursing interventions and permitted the possibility of reminding staff of objectives and priorities in conflict situations. Controlling work closely, coaching and handling conflicts constructively were also specific behaviours characterizing highly rated leadership (II), and thus also provide statistical support for the findings of study III, which can be situated to the attributes of ACLQF.

In addition, ACLQF posits that managers influence and participate in effective management and deployment of human and other resources and learn, and develop both self and others. This suggests that managers coordinate and delegates work and participate in the review of individual and work team performance, and also facilitate collaborative action through the use of team-building. Managers also provide constructive feedback to others about their performance according to ACLQF. This can be seen in relation to the finding Establishing trust and responsibility (III), where managers that feedback and delegating responsibility to staff were important when leading towards person-centred care, which also provides empirical support for one of the specific behaviours of highly rated leadership: relying on his/her subordinates, in study II. Further, the finding maximizing person-centred team potential (III) also highlighted the importance of clarifying different team roles and positions. Identifying and utilising staff’s unique areas of expertise and skills, as well as relational aspects, were expressed as important for improving person-centred care. This resonates with delegating work, participating in work team performance and facilitating collaboration through the use of team-building, as described in ACLQF.

The ACLQF core quality attribute asserts that managers operate within a range of frameworks relevant to the practices in the aged-care context. It seems as the finding of Optimising person-centred support structures (III) can be seen in relation to that core quality attribute. The managers described person-centred care as a flexible care model, but one that required planning and a clear structure for maintenance. The managers also described creating new
forums for leading towards person-centred care, and changed existing forums for facilitating person-centred care. This resonates with the ACLQF suggestion that managers ought to operate within a range of frameworks relevant to practice in the aged-care context.

Risk-taking was described as another core principal for the ACLQF, as cultural changes in this context require organisational flexibility. This can be situated connected to the findings in this thesis (III) as the nursing home managers also described the importance of permitting an atmosphere that allowed both staff and managers to think outside the box, take chances and test creative solutions in daily care, as person-centred care was considered neither static nor standardized. This resonates with enhancing organisational flexibility, as described in the ACLQF. The ACLQF also describes a core quality attribute that concerns the staff work environment: this suggests that managers promote safety, security and health within the workforce as a quality attribute of clinical leadership for person-centred care. This resonates with the findings in this thesis (IV), where higher degree of leadership was found to be associated to lower degree of job strain and higher degree of social support. When reflecting on the findings in relation to the ACLQF, it seems that leading the creation of a healthy environment may be an important aspect in leading the provision of person-centred care, and thus provides a theoretical connection between study I, II, III and IV.

The ACLQF was not the prevailing framework in all parts of this thesis, but it was used to organise and understand the findings. This means that there are also some discrepancies between the findings of this thesis and the ACLQF, which must also be mentioned. One core quality attribute of ACLQF was not supported by the findings of this thesis. This concerns, for example, how managers directly support residents; whether managers have a deep motivation to improve the quality and safety of aged care; and whether they contribute to the recruitment, selection and retention of staff to develop and maintain a person-centred practice. These descriptions did not correspond with the findings of this thesis. A reasonable interpretation for these discrepancies is that this thesis did not cover issues about how managers directly support residents, nor did it cover interpersonal aspects among managers. However, this reveals knowledge gaps which this thesis did not cover and suggests interesting and relevant topics worthy of another study.

In summary, it seems that the findings in this thesis show great concordance with the ACLQF, suggesting that this may be a suitable principal structure for Swedish conditions as well. The findings in this thesis also provide empirical support for
the ACLQF and add concrete examples and substance to the theoretical role descriptions of clinical leadership in aged care. The findings of this thesis offer empirical knowledge of leadership in relation to person-centred care and staff work situation, which may constitute the beginning of a Swedish version of a conceptual framework for clinical leadership in aged care. However, since this thesis did not cover all aspects of ACLQF and this comparison is based on a tentative interpretation, further development of a Swedish version of such a framework would be valuable, followed by validation research.

Since the Swedish government (prop. 2009/10:116) stated that nursing home managers’ educational qualifications were of concern for the leadership provided, this was an interesting research target. The results of this thesis indicated that managers with a background in social work were rated higher in terms of leadership than those with a background as a registered nurse. However, educational qualifications explained the variance of leadership to a very small extent, indicating that how nursing home managers lead mostly depends on other (unknown) reasons. This suggests a need for further research.

The results also showed that privately run nursing homes were significantly associated with higher degree of leadership compared to public nursing homes. Research explaining the finding in current this study is sparse, but Gustafsson and Szebehely (2009) showed that staff in private nursing homes attribute greater importance to good cooperative relationships with the nursing home manager than staff in publicly run nursing homes, which may explain the finding. Since leadership was explained to a very small extent by the operation form of the nursing home, it seems that the perception of leadership by staff is explained primarily by other factors. However, since privatising nursing home care is an increasing trend, it seems important to follow this over time.

A somewhat surprising result showed that units with a higher number of staff assessments were associated with higher degree of leadership than those with fewer staff assessments. This was somewhat unexpected as a large span of control has been described as an obstacle for exerting leadership in this context (Andersson Felé 2008). The literature does not provide a clear answer regarding how many employees a manager can have, as this depends on circumstances such as how stable the workgroup is, the level of competence and education among the staff group and the type of nursing care to be conducted (Andersson Felé 2008, Hjalmarson et al. 2004, NBHW 2003, 2006). One possible explanation could be that the most experienced and skilled leaders are given responsibility for large units. Since the relationship between work experience among managers and the number of staff assessments was not explored in this thesis, this remains
unknown, suggesting an area for further research. However, in this thesis, span of control did not seem to have a large impact on perceived leadership.

An interesting reflection here is that the deficits found by the Swedish government (prop. 2009/10:116) concerning nursing home managers’ leadership seem to be surprisingly consistent with some of the highly rated leadership behaviours in this study. Top scores on handling conflicts constructively (conflict management), coaching and giving direct feedback (coaching) and experimenting with new ideas (development work) were only seen among managers with really high total scores in this study. Thus it seems as if the findings in this thesis, at least in part, accurately reflect important leadership behaviours for nursing home care as described in the investigation by the Swedish government.

**Methodological considerations**

**Design**

Three out of the four studies in this thesis are based on cross-sectional data collected at a specific point in time. This design has several advantages, for example, allowing many explanatory variables to be explored at the same time in large samples at relatively low costs, which much be seen as a strength. These cross-sectional findings may provide new hypotheses for future research and constitute a basis for future interventions and longitudinal studies. However, this design also comes with weaknesses, the greatest of which concerns causality. A cross-sectional design does not allow for differentiation between cause and effect, as the outcome and explanatory variables are collected at the same time, which causes some concerns when leaning on regression analyses. However, in this thesis, due to the weakness concerning causality, previous theories have constituted a foundation for interpreting the findings, thus adding support for the direction chosen in these analyses.

**Sample and procedure**

In SWENIS, 35 out of 60 municipalities that were initially contacted participated, giving a response rate of 58.3% at the municipal level, which is cause for concern about sample representativeness, and exposes a potential non-response bias that may threaten external validity. It is possible that the municipalities with the most problems in nursing home care declined to participate, and the fact that no attempts were made to approach non-respondent municipalities must be seen as a weakness, as it is not possible to annotate the nature of this potential bias. In addition, no metropolitan municipalities were part of the SWENIS sample through the randomisation procedure, while the percentage of private nursing
homes is lower in this sample (6.5%) compared to previously reported national levels (20-21%) (Winblad et al. 2017). Thus, it is possible that the generalisability and inferences drawn are affected by that. However, recent studies have shown that there is not a direct correlation between response rate and validity (Morton et al. 2012, Holbrook et al. 2007). Non-response bias has been described as occurring when respondents and non-respondents differ on the dimensions or variables that are of interest to the researchers (Holbrook et al. 2007). Still, it is possible that the nursing homes in non-respondent municipalities represent an equally random subset as a full survey sample, or at least random with respect to the variables being measured, which would reduce the risk of non-response bias. However, this study draws on extensive cross-sectional randomised data from a national sample of staff and managers in Swedish nursing homes, which is why it seems reasonable to argue that the findings could be applied across different contexts and settings in the population.

**Instruments**

Leadership was measured using the Leadership Behaviour Questionnaire©, based on the leadership dimensions of change/development, production/task, employee/relation (CPE) (Farax group ©, Ekvall and Arvonen 1994). Due to a high correlation among the three dimensions/sub-scales, construct validity of the instrument was investigated via explorative factor analysis and confirmatory factor analysis, which showed that the original three-factor solution could not be confirmed in this sample, but suggesting a single-factor solution instead. Another recent study from a Swedish healthcare context was also unable to confirm the three-factor structure of the 24-item instrument in their sample (Lornudd et al., 2015), suggesting that this is not a local or contextual problem. Although the factor analysis showed that the instrument unidimensionally measures leadership, a high α (0.98) suggests that there may be redundant items in the instrument. Further validation estimates of the instrument could therefore be valuable.

Person-centred care was measured using the Person-centred Care Assessment Tool (P-CAT), which measures the extent to which staff perceive the care provided as being person-centred. The P-CAT has been tested for use in this context and has shown satisfactory estimates of reliability and construct validity in Sweden (α = 0.75) (Sjögren et al. 2012) as well as in an Australian sample (α = 0.84) (Edvardsson et al. 2010).
The psychosocial climate was measured using the Person-centred Climate Questionnaire (PCQ), which measures the extent to which staff perceived the psychosocial climate of their unit as supportive. The PCQ has been tested and has shown good estimates of reliability and construct validity in this context (α= 0.88) (Edvardsson et al. 2009b, Edvardsson et al. 2015).

The self-reported Swedish Demand-Control-Support questionnaire (Karasek and Theorell, 1990) was used in this study to measure the extent to which staff experience job strain and social support in the unit. The reliability coefficient Cronbach’s α was somewhat low (α= 0.50) for the sub-scale decision latitude (control) in this study, which may call into question the internal consistency of the subscale. However, as Cronbach’s α is determined by the length of the scale and the homogeneity of the sample, according to Bernardi (1994), and Tavakol and Dennick (2011), it is possible that a low Cronbach’s α may be an artefact of a homogenous sample. The short six-item sub-scale of decision latitude (control), and a homogeneous sample of nursing home staff, may explain the low α value in this study. However, further psychometric evaluation of the instrument could be valuable.

In study I, II and IV, leadership was explored by assessing behaviours. Exploring leadership by assessing behaviours as indicators has been a main strategy in previous leadership research. It has been described that managers uses their behaviours to enhance individual and group performance (Yukl et al. 2002). Thus it can be seen as managers’ leadership characterised and operationalised through their behaviours and objective measures of leadership can be collected by observing behavioural patterns. However, this approach also has shortcomings, as leadership research has failed to establish an absolute set of behaviours to evaluate, and critique has been directed against instruments with both broad and small categories, as they may miss the target and thus not fully capture the phenomenon of interest (Yukl 2010, Yukl et al. 2002). This means that the use of other leadership instruments could produce different results than the results produced by the instrument chosen. However, a main advantage is that this approach enables the exploration of leadership behaviours among large samples at a reasonable cost (Yukl et al. 2002). By measuring what can be measured, and complementing this with nursing home managers’ own descriptions of leadership, a triangulation of data and methods can be seen. By adding more
perspectives, a broader understanding of the phenomenon of leadership can be enhanced, thus potentially reducing possible weaknesses (Parry and Bryman 2006).

Three out of four studies were based on self-ratings by direct care staff. A weakness related to self-ratings concerns uncertainty about whether respondents have reported how things really are or if they have provided socially expected answers (cf. Streiner et al. 2014). As each survey was returned in a sealed envelope, attempts were made to provide the ability to answer the surveys as truthfully as desired. Whether that procedure had any significance for the outcome remains unknown, but it is reasonable that the large sample size compensates to some extent for such uncertainty. In addition, staff assessments of the leadership behaviours of their closest managers also needs to be taken into consideration. Rating someone else’s behaviour can also be seen as a peer rating rather than as self-rated data, and the validity of rating someone else’s behaviour requires some reflection. Self-reports of behaviour have been criticized as fraught with problems such as distortion or absence of self-perception, and can thus cause problems such as desirability bias. It has therefore been suggested that observer/peer ratings may be more impartial and free from distorting influences than self-ratings (Paunonen and O’Neill 2010), which supports staff-assessed leadership behaviour in this thesis.

**Statistical considerations**

This study uses the GRM model, based on IRT, to explore specific behaviours of highly rated leadership in nursing homes. IRT models links item responses to ability by knowing precisely where an item is carrying out its best measurement on the ability scale, and knowing the exact relationship between item performance and ability (Hambleton and Jones 2012). In study II, this statistical assumption was used to explore specific behaviours of highly rated leadership. To our knowledge, it has not been used for this purpose previously, which may raise concerns about its trustworthiness. However, IRT has been described as a well-established method suitable for application to leadership development, as it provides rich item information that offers a further understanding of the leadership measured (Hambleton and Jones 2012, Scherbaum et al. 2006). Still, additional research concerning the use of IRT for empirical purposes would be valuable for validating the method.
Due to cross-sectional design, the regression analysis in this thesis (study I, II and IV) does not allow for causal inferences. This means, for example, that it is possible that nursing homes with high levels of person-centred care have attracted skilled managers, and not vice versa. Similar interpretations can be made concerning the results of study IV: nursing homes with a low degree of job strain and high degree of social support have also attracted skilled managers. However, the direction of regression analysis in this thesis was based on previous theoretical assumptions (in person-centred theory and demand-control theory) thus the direction of regression is theoretically supported. Nevertheless, additional longitudinal studies and observational studies could be valuable for exploring this further.

In study II, a significant relationship was found between leadership ratings and the number of staff assessments per manager, where nursing home managers with a higher number of staff assessments/employees were positively significantly associated with higher degree of leadership. In addition, a higher number of staff assessments also showed more coherent leadership ratings. The number of staff assessments ranged from 1-71, with a mean of 16 (median 19) staff assessments per manager. It is possible that fewer staff assessments reflect higher levels of missing data, and not the actual number of employees of that manager, which might affect the interpretation of the results. It is unknown whether that is reflected here and what the reasons for missing data in such cases might be.

The appropriateness of imputing missing data needs to be reflected upon, as replacing information might be cause for questioning validity. As shown in Table 3 (in the method section), none of the scales suffered from major missing data. In the Leadership Behaviour Questionnaire, 10.1% of missing items were imputed (up to three items) which is why 96.2% of leadership sum scores could be entered in regression models. By imputing 8% (up to two items), 98.6% of P-CAT sum scores could be entered in regression models. For PCQ, 3.7% were imputed, while 98.9% of PCQ sum scores were entered in regression models. For PCQ, 3.7% were imputed, while 98.9% of PCQ sum scores were entered in regression models. Further, the sub-scales of DCSQ were imputed between 1.9-3.4% of missing items (up to one item respectively), and thus 98.3-98.6% of the DCSQ sub-scales sum scores were entered in regression models. In this thesis, missing items in the scales were replaced with the mean value of the sum score of the individual (cf. Shrive et al. 2006). Imputing the mean value for the individual does not change the variance, whereas the mean value of each sum score remains unchanged from the prior imputation. This procedure increases the statistical power, which must be seen as a strength. Thus, it seems viable to impute missing data.
**Trustworthiness in qualitative content analysis**

The trustworthiness of qualitative content analysis used in this thesis needs to be discussed.

In study III, three pilot interviews were performed and analysed to make sure the research questions served their intended purpose before continuing with the actual data collection. This procedure has been described as addressing credibility in the literature; performing pre-interviews is a way to determine whether the proposed interview questions serve their intended purpose (Elo et al. 2014). Participants in study III were recruited from nursing homes that were included in SWENIS and that were rated as high with regard to person-centred care, as measured by P-CAT. This sample selection was done in an attempt to recruit informants who were able to answer the research questions. According to Polit and Beck (2006), selecting informants and data that address the intended focus of the study is important for addressing credibility, which resonated with the procedure in this study.

When analysing the data in this study, four researchers read and analysed two interviews separately, after which the interpretive summaries were compared. These independent analyses showed great consistency, which is why the following interviews were coded by one researcher. After that procedure, the codes were discussed, sorted and re-sorted into sub-categories by the research group. The data were also interpreted with different perspectives, nursing and social work. According to Polit and Beck (2006) these procedures cover several triangulation strategies: data source triangulation, by using several informants; investigator triangulation, since all interviews except one were performed by two researchers; and theory triangulation, since the data were interpreted with different perspectives. Various triangulations have been described as enhancing credibility, because triangulation provides a basis for convergence on truth (Polit and Beck 2006).

When presenting the findings, attempts have been made to clearly describe the results, context, sampling and data collection, to permit judgements about generalisability and contextual similarities, which may allow readers to assess the extent to which the findings are transferable beyond the study context (cf. Elo et al. 2014, Polit and Beck 2006).

**Implications for practice**

The clinical implications of this thesis concern the role of nursing home managers in promoting person-centred care, as well as a healthy work environment. The main contribution of this thesis is the empirical and practical knowledge from a
nationwide sample of nursing homes, by identifying leadership characteristics and processes that are concrete and practical. These can be adapted and adjusted to suit individual leadership and can easily be translated into actions in clinical practice. A range of behaviours was identified and leadership behaviours were beneficially associated with person-centred care, psychosocial climate, job strain and social support. Together with managers’ own descriptions of how they lead, concrete examples were provided that may offer guidance or inspiration for operationalising person-centred care, and for promoting a healthy work environment. For example, important concepts in person-centred care can be exemplified and translated into action through reflective discussions between managers and staff. Person-centred care can also be promoted by a manager who leads by example, by being involved and participating in care situations and also by coaching staff in nursing interventions. This suggests that person-centred care can be implemented through nursing home managers’ leadership. Thus, further development and support given to nursing home managers in their leadership role also has the potential to benefit person-centred care provision and the work situation of staff in nursing homes. This thesis also provides knowledge that could serve as a foundation for the nursing curriculum or educational interventions.

**Future research**

The findings of this thesis offer empirical knowledge of leadership in relation to person-centred care and the work situation of staff, which may constitute the beginning of a Swedish version of a conceptual framework of clinical leadership in aged care. However, further development of a Swedish version of a framework for clinical leadership in aged care would be valuable, followed by validation research.

Continuing research on leadership for person-centred care is also needed in this context, including intervention research, including for example educational interventions for improving and facilitating person-centred care. Research concerning organisation, nursing home managers’ assignments and areas of responsibility would also be interesting. How to organize for optimising a person-centred care practice?

The findings in this thesis also suggests that the Leadership Behaviour Questionnaire© used in this thesis could benefit from further instrument development, at least for use in nursing contexts. The Leadership Behaviour Questionnaire © was initially developed for measuring leadership in industrial contexts (Ekvall and Arvonen 1991, 1994), which might be reflected here, as it does not seem to capture all leadership processes that promote person-centred care provision. Although this instrument has been extensively tested in several
countries and in various settings (including nursing), the three-factor solution of three separate leadership dimensions was not confirmed in this sample, which also suggests that further development would be valuable. A high α also suggests redundant items in the scale. Consequently, further scale development to better capture nursing-specific leadership qualities could be valuable. Further international comparative, longitudinal and interventional studies would be valuable in confirming or rejecting these findings and in exploring the trajectories and interventions that might facilitate leadership in nursing home care and the resulting outcomes for staff and residents.

Conclusions

All findings point in the same direction: that leadership, as it is characterized and measured in this thesis, is significantly associated with person-centred care provision as well as with the work situation of staff. This suggests that nursing managers have a central leadership role in developing and supporting person-centred care practices, and also in creating a healthy work environment. The results also highlight five specific leadership behaviours that are most characteristic of highly rated leadership, thereby adding concrete descriptions of behaviours to the literature on existing leadership theories. The findings also include four central processes for leading towards person-centred care in nursing homes: embodying person-centred being and doing; promoting a person-centred atmosphere; maximising person-centred team potential and optimising person-centred support structures. Taken together, it seems important for managers to translate the person-centred philosophy into actions and to promote an atmosphere pervaded by innovation and trust, in which cultural change is enhanced by positive cultural bearers. Utilizing the overall knowledge and competencies among staff and potentiating care teams was also considered important for leading person-centred care, along with optimising supportive structures for supporting and maintaining person-centred care. If aged care organisations are to be committed to person-centred care, an important implication seems to be to organise nursing homes in a way that allows nursing home managers to be close and present in clinical practice and actively lead towards person-centred care.
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