# THE INFLUENCES OF PERSON-CENTERED DEMENTIA CARE

## On the satisfaction, involvement and strain of formal and informal caregivers

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**Masterthesis Sociology: Contemporary Social Problems**

*The influences of person-centered dementia care; on the satisfaction, involvement and strain of formal and informal caregivers*

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# Preface

The last five months I have been writing this thesis about person-centered dementia care to complete my master study in Sociology: Contemporary Social Problems at Utrecht University. By getting more in touch with elderly care, both in the literature and in practice, I acquired an growing interest in the field. I hope this has led to a bright thesis, which is illuminative to many people from different disciplines.

First of all, I would like to thank my supervisor Tanja van der Lippe for her excellent guidance during this process. Without her critical questions, encouraging words and faith, it would have never became the piece it is today. Also my other supervisor, Bernadette Willemse, inspired me with her knowledge about research in healthcare. Her enthusiasm and confidence kept me motivated. Besides, I want to thank all the employees of the Trimbos-institute, who provided me with a comfortable, educational and above all supportive environment during my internship. A word of thanks cannot remain off to family and friends. Your wise counsel and kind words have served me well through the whole process.

Finally, I would like to thank my grandmother who was delighted to contribute to this thesis by serving as a model for the cover. A thesis about person-centered care is just not the same without a personal touch.

She said to me: ´But darling, I do not have dementia!´
I replied to her: ´Well, that´s the beauty of the concept. Person-centered care should be for *everyone*.´

Ceciel Heijkants
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# Summary

More and more people are affected by dementia, in the Netherlands about 260.000 people suffer from the disease. Not only do the people with dementia suffer, also their direct social environment encounters difficulties. Professional nurses struggle with the demands and stress in caring for persons with dementia, with difficulties such as understaffing, high turnover, minimal training and limited professional nurse leadership in nursing homes. More than half of the family members who take care of a relative with dementia are heavily burdened. Even if the person with dementia lives in a nursing home, a lot of family members feel strained by the care for their relative. In former times, dementia care was primarily focused on the quality of physical care, but nowadays care is increasingly adapted to personal preferences and tastes. This method is also referred to as ‘person-centered care’, and the principles of person-centered care rest on the notion of valuing people with dementia and their caregivers. It is therefore important to treat people as individuals, with their unique history, identity, personality and resources. The aim of this thesis is to provide insights into the effects of person-centered care on formal caregivers’ and family caregivers’ satisfaction, involvement and emotional exhaustion / strain. Firstly, to create a better picture of the current level of person-centered dementia care in the Netherlands. Secondly, to render more conclusive answers about the effects of person-centered care on satisfaction, involvement and strain of nurses and family. And lastly to see if working person-centered provides solutions for current problems in dementia care by developing practical implications. Cross-sectional survey data from the Living Arrangements for people with Dementia (LAD) study were used, from which 456 nurses - and 373 family questionnaires of 54 different nursing homes were analyzed. To find out whether family members and professional caregivers differed in their view of person-centeredness, their perceptions of the provision of person-centered care were compared to each other. For nurses a multilevel linear regression analysis was used to study the mediating effects of person-centered care on job demands and resources to explain why working more person-centered would lead to more satisfied, involved and less emotionally exhausted personnel. For the analysis of family members data linear regression was used to analyze the relationship between person-centered care and satisfaction, involvement and experienced strain. The results of the study show that both staff and family members experience the Dutch dementia care to be quite person-centered, although some variation between residential facilities was observed. The results also show that the perceived amount of person-centered care associates with more satisfaction, involvement and with less emotional exhaustion/strain,

for caregivers as well as for family members. For caregivers part of these found relationships between person-centeredness and the outcome measures are explained by the influence of working person-centered on job demands and resources. In the lights of these results, this thesis advices to stimulate the practice of person-centered care in nursing homes. Since there are many frameworks and manuals for how person-centered care should be implemented in practice, this research adds to current knowledge by placing the results of this study in a broader context. By relating the results of the previously described study with current trends and developments in the Dutch dementia care, opportunities and challenges for nursing homes are uncovered. The trends discussed in this thesis are: the increasingly self-organizing nature of nursing homes and the emergence of family participation. The recommendations with which this thesis ends, advices nursing homes to carefully regard the effects of self-organization on the job demands and resources of nurses and presents nursing homes with opportunities to shape family participation.

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# INTRODUCTION

Dementia is a disease that currently affects the lives of 47.5 million people worldwide and 7.7 million new cases of dementia are reported every year (WHO, 2016). A Delphi consensus study predicts a doubling in the number of people with dementia, which means that in 2040 around 81 million people will be affected by the disease (Ferri et al., 2006). In the Netherlands, more than 270.000 people suffer from dementia and the disease is recognized as the most common cause of death after cancer and cardiovascular disease (Alzheimer-Nederland, 2016). Dementia is a disease with a deteriorating course, which can lead to memory loss, confusion, language difficulties and eventually the loss of physical functioning. Not only does dementia affect the individual with the disease; relatives also experience physical, emotional and social strain (Volicer, McKee & Hewitt, 2001). More than half of the Dutch family caregivers who care for a relative with dementia are heavily burdened (Alzheimer-Nederland, 2016). Nursing home staff struggle with the demands and stress in caring for persons with dementia due to understaffing, high turnover, minimal training and limited professional nurse leadership (Maas et al., 2004). The intention of this thesis is to investigate the effects of person-centered care on formal and informal caregivers´ satisfaction, involvement and emotional exhaustion or strain. This thesis adds to current knowledge by creating a better picture of the current level of person-centered dementia care in the Netherlands, by rendering more conclusive answers about the effects of person-centered care and by providing insights into how person-centered care can accommodate solutions for current problems in dementia care.

### Structure

Because dementia concerns the individual, their professional caregivers and their family, each group will be taken into consideration in this thesis. Before going in depth about the effects of dementia on these actors, there will be an outline of the recent global and Dutch-specific changes in dementia care. An explanation of person-centered care and how it affects people with dementia, formal and informal caregivers will follow. Special attention goes to what is not yet known about person-centered care in the literature. These literature gaps lead to the research questions and aims of this thesis. A theoretical framework forms the basis for the hypotheses which will be tested and reported about in the result-section. Next to a conclusion and discussion, this thesis ends with some practical implications and advices for nursing homes.

## 1.1 SHIFTING VISIONS ON DEMENTIA CARE

In former times dementia care was primarily focused on the quality of physical care. People mistakenly thought that communication with elderly patients with dementia was no longer possible in late-staged dementia. Caregivers acted according to the medical model, in which the disease was a central part of the treatment (Cantley, 2001). Care was primarily concerned with matters as providing a safe environment, meeting basic needs and giving physical care in a competent way. The behaviors displayed by people with dementia had to be managed and whenever possible: normalized. By focusing on loss of ability and deterioration, negative perceptions of individuals with dementia might be reinforced, worsening the impact of dementia even further (Epp, 2003).

In the early 1980s international criticism started to arise regarding the use of the medical model. A report was published in 1985 in which residents told federal officials that quality of care and quality of life are inseparably linked, therefore equally important to the patient (Koren, 2010). It was recognized that the perception and behavior of people with dementia is not only the result of brain damage, but differs by individual depending on individual characteristics and previous lifestyle. It was established that dementia has an influence on the way that a person experiences things, but the realization occurred that this experience had to be taken in to consideration in the care-giving practice. In response to this realization, emotion-oriented care became a popular way of caring for people with dementia. Here it was found useful to adjust the care to the experience of the person with dementia instead of trying to bring back ‘reality’ (Cantley, 2001).

The shift away from medical care toward more emotion-oriented care went one step further. Given that there is no effective treatment or medicine to cure the disease, there is increasing interest in improving the lives of the persons with dementia and the people in their direct environment (WHO, 2016). The illness is still progressive but much can be done to support and improve the lives of people with dementia, their caregivers and families (WHO, 2016). A practice that has become known as person-centered care has been making headway in Western health care research, organization, policy and business. It is increasingly used in long-term dementia care (De Lange, 2007; Munthe, Sandman & Cutas, 2012) and is defined as one of the success factors of well-designed dementia care (Willemse et al., 2011). To some extent, this trend of personalizing care can be seen as a culture or movement, embodying a special ideology or mission (Munthe, Sandman & Cutas, 2012; Brownie & Nancarrow, 2013). The overarching goals of today’s movement are to individualize care and make nursing home facilities more a home than an institution. This culture-change movement promotes reorientation of facility cultures – the values, attitudes and norms – along with supporting systems (flat organizations, flexible job descriptions and more autonomy for front-line workers). Not only is there a strive to honor residents' lives by providing quality of care and life, but culture change also recognizes the importance of staff members to pursue those goals (Koren, 2010).

### Person-centered care in the Netherlands

This trend of personalizing dementia care is also apparent within the Netherlands. Currently, dementia is a much discussed topic across a number of programs and workgroups, for example: Alzheimer Netherlands and the National Elderly Program (NPO). State Secretary Van Rijn highlighted the theme in his letter to the parliament in July 2015. The essence of the letter was to 'Live together with dementia'. The preventing and curing of dementia, better dementia care and a dementia friendly society were central elements to this statement. The workgroup 'Viewed from dementia' that was launched December 2014 also emphasizes that the perspective of the person with dementia should be central in care giving (Van Rijn, 2015). When the Dutch healthcare system was reorganized in 2015, due to financial - and quality matters, some things changed in dementia care. Prior to the changes, care for the elderly was a matter of national government, but now municipalities and families are increasingly responsible for the care of the elderly. Municipalities are responsible for arranging daily activities for the elderly and case management became part of a different act; the Health Insurance Act. A new act has been introduced for intensive and nursing home care; loosely translated as the Act of Long-term Care (De Vries & Kossen, 2015). Together, these changes and measures should contribute to the establishment of a dementia friendly society in which people with dementia can live at home for as long as possible. The government aims to let people live independently when this is feasible. Therefore, strong social networks of people with dementia and their family are needed. It is a goal of the government to fit care as well as possible with personal abilities and desires of people with dementia and their caregivers (Van Rijn, 2015). So not only worldwide, but also in the Netherlands, person-centered care is receiving increasing attention.

## 1.2 THE MEANING OF PERSON-CENTERED CARE

The type of care which is strived for within Dutch policy is a holistic kind of care. Holistic dementia care is most often referred to as person-centered although terms such as ‘individualized’, ‘resident-focused’ and ‘patient-centered’ are also utilized (Epp, 2003). Although the term ‘person-centered care’ is frequently used in the literature, there is no agreed definition of the concept (Edvardsson, Winblad & Sandman, 2008). This is partly due to the evolving and emerging nature of person-centered care and the differing appearance of it depending on the needs, circumstances and preferences of the individual receiving the care. There also is a tendency for person-centered care to mean different things to different people in different contexts. To some, it means individualized care, to others it is a value. There are people who see it as a set of work-related techniques and other who stress its humanistic perspective (Brooker & Latham, 2015). The humanistic perspective states that humans have a capacity and need for growth that does not diminish with age. By providing care that is based on acceptance, caring, empathy, sensitivity and listening, this human growth can be optimized. In order for humans to actualize human growth, they should have access to and opportunities for learning, personal challenges and intimate relationships (Rogers, 1980). Kitwood is generally seen as the founder of the concept of person-centered care and developed it in response to the medical view on dementia, which he labels as the ‘standard paradigm’. Within the ‘standard paradigm’ care practices are developed out of convenience, without considering the needs of the care receivers. For example when people with dementia showed difficult behavior, tranquillizers were used to calm them down, without considering what might lie behind the display of the behavior. Since there is not one single agreed upon definition of person-centered care, the basis of the concept lies within various sources. The psychosocial theory of personhood is one of those sources (Kitwood, 1993). According to Kitwood (1993), personhood is what makes us human at all times, regardless of age or ability level. The risk with dementia is that personhood seems lost, but the assumption is that it is always there to be found. It is therefore important to place the person with dementia central rather than the disease process itself. Kitwood (1997) also noticed that nurses have a tendency to unintentionally depersonalize people with dementia. He called these personhood impairing processes ‘malignant social psychology’. With this term Kitwood tried to draw attention to how treatment by others contributed to the deterioration of the person with dementia. This means that, although most of the work of nurses is done with kindness and good intent, some of the communication styles of nurses can work depersonalizing. Kitwood outlined seventeen different processes of this kind of which ´infantilization´ is one. By treating a person very patronizingly, as a parent treats a young child, the physical well-being of a person with dementia is undermined. This is why Kitwood calls for a more optimistic and person-centered approach in which personhood is strengthened and nurtured. Four essential elements of person-centered care were spelled out by Brooker (2004), the so-called VIPS:

- **V**alue based
- **I**ndividualized approach
- **P**erspective of the person with dementia central
- **S**ocial environment that supports

The principles of person-centered care rest on the notions of valuing people with dementia and their caregivers, promoting their citizenship rights regardless of age or cognitive impairment. It is important, therefore, to treat people as individuals, with their unique history, identity, personality and resources. Viewing the world from the perspective of the person with dementia supposedly helps to understand behavior and experiences that people with dementia display. People with dementia are less able to provide for themselves in their need for social contact, love, warmth, pursuits, self-esteem and the need to belong. Giving person-centered care would help provide a social environment that supports those psychological needs (Brooker, 2004). This thesis considers person-centered care as the term for how much attention there is in care giving for the identity, inclusion, attachment, comfort and occupation of the person with dementia in order to provide this holistic kind of care.

## 1.3 THE TRINITY OF DEMENTIA

In providing person-centered care, a lot of actors are of great importance. Person-centered care is established by an interplay between a variety of actors like: the government, the nursing home facilities, the healthcare staff, the people with dementia and their relatives. Three of these actors catch the eye when considering person-centered care. The first and foremost are the people with dementia themselves. They are the recipients of the care and how this care is provided fundamentally influences their wellbeing and quality of life. To provide this kind of care in nursing homes, professional caregivers are needed. They need to be aware of the needs and preferences of the persons in their nursing home. This is what makes them the second actor in the triad. The final part of the trinity is the family of the person with dementia, also referred to as informal caregivers. When a person with dementia is admitted to a nursing home, the saying ‘out of sight, out of mind’ should not apply. Families wish to be involved in care-giving and this is of upmost importance for their relative, as seeing familiar faces may provide comfort and a feeling of being at home. These three actors come in contact with person-centered care and the way care is offered influences them in different ways. The following three paragraphs will describe the impact of person-centered care on residents, formal caregivers and informal caregivers of the person with dementia.

### *1.3.1 Residents and person-centered care*

Being treated in a personal way has a number of positive effects on the wellbeing and behavior of a person with dementia. Person-centeredness is associated with improved wellbeing (Baker, 2015), quality of life of residents (Ducak, Denton & Elliot, 2016) and improved quality of care (Eldh et al., 2015). When staff-resident interaction focuses on residents' need for identity, attachment and inclusion, the well-being of residents increases. The need for residents' comfort is the most influential factor of resident well-being (Willemse, Downs, Arnold, Smit, de Lange & Pot, 2015; Baker, 2015). Person-centered care is also an effective way to significantly reduce the use of medication (Baker, 2015; Fossey et al., 2006), the expression of sadness (Sposito, Barbosa, Fiqueiredo, Yassuda & Marques, 2015), the degree of pain and depression (Baker, 2015) and agitation in care home residents, both immediately and up to six months after (Edvardsson, Winblad & Sandman, 2008; Chenowetch et al., 2009; Cohen-Mansfield, Libin & Marx, 2007). Next to a reduction in agitation, Edvardsson, Winblad and Sandman (2008) also find a reduction of discomfort and aggression when person-centered care is implemented. Resistance-to-care behaviors are also significantly reduced in interventions that put the person central, for example by playing the residents' preferred music while bathing (Konno, Kang & Makimoto, 2014). Treating residents in a person-centered way correlates with less behavioral problems, less restrictions in daily activities and less cognitive restrictions (Willemse, Smit, Lange & Pot, 2011). A reduction in residents' level of boredom and helplessness is the result of adopting the Eden alternative, a person-centered intervention (Brownie & Nancarrow, 2013). The implementation of person-centered care has a positive effect on the behaviors of residents with dementia. After the implementation of person-centered care residents with dementia were increasingly able to focus longer on a task, they gazed directly at healthcare professionals for longer periods of time and the frequency at which their eyes were closed decreased (Sposito et al., 2015). Residents with dementia who take part in individualized social activities have better nocturnal sleep and spent less time napping during the day (Richards, Beck, O'Sullivan & Shue, 2005). So person-centered care is associated with better well-being, with less negative behaviors (e.g. sadness, agitation, aggression) and with more positive behaviors like higher level of focus on tasks and a better circadian rhythm.

### *1.3.2 Formal caregivers and person-centered care*

Person-centered care is relational and communicative in nature so it seems likely that this form of care does not only affect care recipients but professional caregivers as well. Nurses interact with people with dementia on a daily basis leading to different, both positive and negative, experiences with person-centered care. On the one hand, person-centered care seems to have a positive value for nursing care staff. Training hospital staff in person-centered dementia care is an effective way to improve attitudes towards and satisfaction in caring for people with dementia (Surr, Smith, Crossland & Robins, 2016). Increased satisfaction is the resultant of the practice of individually approaching residents and building a relationship with them (Brownie & Nancarrow, 2013). Nurses who work in acute care environments also experience significantly higher levels of satisfaction with care and work when they experience a more person-centered psychosocial climate of units (Lehuluante, Nilsson & Edvardsson, 2012; Sjögren, Lindkvist, Sandman, Zingmark & Edvardsson, 2014). The apparent improvement in job satisfaction is associated with person-centered care as perceived by staff (Edvardsson, Fetherstonhaugh, McAuliffe, Nay & Chenco, 2011). Intentions to implement person-centered care strategies in care for people with dementia predict that staff experience a greater sense of autonomy and competence to provide care (Berkhout et al., 2004; Mullan & Sullivan, 2015; Pol-Grevelink, Jukema & Smits, 2012; Te Boekhorst, Willemse, Depla, Eefsting & Pot, 2008). Higher levels of person-centered care associate with lower levels of job strain and lower levels of stress of conscience. The level of person-centeredness is measured by direct care staffs' self-reported ratings on the extent to which the organization, process and content of care reflects the central elements of person-centered care, such as prioritizing relationships with residents, adapting care delivery to resident needs and preferences, facilitating meaningful activities and shared decision-making (Edvardsson, Sandman & Borell, 2014).

On the other hand, Willemse et al. (2015) find a weak association between person-centeredness, more job satisfaction and more personal accomplishment. Resident- and demand orientated care does not always show significant effects on job satisfaction (Pol-Grevelink, Jukema & Smits, 2012). When care is perceived as more person-centered by professional caregivers, this is even associated with more emotional exhaustion, although the association is weak (Willemse et al., 2015). No significant changes over time in emotional exhaustion are reported by staff who were assigned to a person-centered care group in a study that consisted of a dementia care mapping-, person-centered- and a control group. However, the group receiving dementia care mapping training shows a decrease in emotional exhaustion (Jeon et al., 2012). There are also apparent differences between the kind of person-centered care given and the department nurses work in. In psycho geriatric wards job demands were positively affected by resident-oriented care, multi-sensory stimulation interventions and small-scale care, but negatively influenced by person-centered care. Multi-sensory stimulation actively stimulates the senses of hearing, touch, vision and smell in a resident-oriented environment (Berkhout et al., 2004; Van Weert et al., 2005; Te Boekhorst et al., 2008). At somatic wards, a positive trend was observed suggesting a reduction of job demands by giving demand-oriented care (Boumans et al., 2008). Resident-oriented care at somatic wards showed a downward trend on job demands (Berkhout et al., 2004). Boumans et al. (2008) even measured negative effects of person-centered care on both autonomy, social support and job demands. Van den Pol-Grevelink, Jukema and Smits (2012) conclude that person-centered care has positive effects on general job satisfaction, job demands on psycho geriatric wards, emotional exhaustion and personal accomplishment. However, job satisfaction dimensions such as contact with a supervisor, contact with colleagues and job satisfaction were not affected by person-centered care.

### Literature gaps

Although the practice of person-centered care is increasingly stimulated in the field, the effects of person-centered care on professional caregivers show various outcomes. Most of the results are positive, but there is an indication that person-centered care leads to more emotionally exhausted staff (Willemse et al., 2015). Current research also has a focus on job satisfaction and emotional exhaustion as a result of person-centered care, but a more positive measure of activation of person-centered care is not receiving many attention. The circumplex model of emotions of Russell (1980) states that various types employee well-being can be mapped in a model defined by two orthogonal dimensions that run from pleasure to displeasure and from activation to deactivation (Peeters, De Jonge & Taris, 2014). The essence of the model is that all human emotions in the context of the workplace can be defined on those dimensions. Satisfaction of employees is an indicator of the (un)pleasantness of a job. There is evidence of person-centeredness being associated with more job satisfaction, but this is not always strongly evident. When looking at the other orthogonal dimension ‘activation’, only the negative dimension of activation is considered in research to examine the effects of person-centered care on staff outcomes. Emotional exhaustion could be given as an example of this negative measure, whereas the more positive measures like involvement are not included in the literature. Involvement is important when looking at performance of employees, because it is more strongly related to performance than satisfaction, even after controlling for satisfaction (Peeters, De Jonge & Taris, 2014). More conclusive results about the effect of person-centered care on the satisfaction, involvement and emotional exhaustion of nurses would thus be a great addition to existing literature.

### *1.3.3 Informal caregivers and person-centered care*

One of the most fundamental prerequisites of connectedness for older people are meaningful relationships with family and friends, involvement in meaningful activities and connections with wider society (Cooney, Dowling, Gannon, Dempsey & Murphy, 2014). Family involvement in care for nursing home residents has been associated with better psychological and psychosocial well-being of the residents (Greene & Monahan, 1982; McCallion, Toseland, & Freeman, 1999) and higher life satisfaction when residents receive at least monthly visits from the family (Mitchell & Kemp, 2000). The quality of the social environment is important to the residents' feeling of being 'at home' (Cutchin, Owen & Chang, 2003; Sikorska, 1999). After nursing home placement, most family members continue their involvement in their relative's life (Gaugler, 2005), but the relationships they have with their relative may be placed under strain (Ell & Northen, 1990). Strain is still commonly felt among family caregivers, even after admitting a family member to a nursing home (Pot, Deeg & Van Dyck, 1997). One of the most difficult and stressful decisions one has to make is when a family caregiver has to decide that home care is no longer an option and the relative is better off in a nursing home (Rashkis & Rashkis, 1981). There is an indication that person-centered care is associated with less strain experienced by family (Willemse et al., 2011). Many families consider person-centered care to be the most important issue in care for their relative and report more satisfaction and involvement with care if they think their relatives are more personally cared for (Heggestad, Nortvedt & Slettebø, 2015). When staff have more positive, sensitive communication with the informal caregiver's relative and show they know the needs and preferences of the relative, family members are more satisfied (Ejaz, Noelker, Schur, Whitlatch, & Looman, 2002; Engel, Kiely, & Mitchell, 2006; Thompson, Menec, Chochinov, & McClement, 2008).

### Literature gaps

Not a lot of research focuses on the effects of person-centered care on the family members of people with dementia, although we know that their involvement and satisfaction with care are important to the resident. There already is an indication that person-centered care is associated with more satisfied and less strained family members, but these relationships are not often subject of study. While resident satisfaction is the primary concern, increasing attention is given to the perspective of family members because relying on answers from residents raises further challenges due to cognitive decline and low response rates (Castle, 2004). Family member satisfaction is distinct from, but related to, the potential role of family members as proxies of their relatives' quality of life (Andresen, Vahle, & Lollar, 2001; Crespo, Quiros, Gomez, & Hornillos, 2012). If person-centered care can diminish the strain felt among family caregivers it could open windows for adjustments to be made in policy. In most research the person-centeredness of the nursing home is evaluated by caregivers. When looking at family members' outcomes it would seem relevant to ask for their experience of person-centeredness, because their perception of person-centeredness might differ from the formal caregivers perspective. More adequate results about how person-centeredness in a nursing home influences the satisfaction, involvement and experienced strain of family members would thus fill in a gap in existing literature.

# 2 RESEARCH PROBLEM AND AIM

In person-centered care a triad of actors are of importance: the residents, the formal caregivers and the family caregivers. According to relevant literature, receiving person-centered care is good for the care recipients' wellbeing; it promotes positive behavior and decreases negative behaviors. When considering caregivers, there is disagreement in the literature about the association between person-centered care, job satisfaction and emotional exhaustion. There is growing, but mixed evidence that person-centered care has positive outcomes for staff. It might even be associated with more reported emotional exhaustion of formal caregivers (Willemse et al., 2015). The relationship between person-centered care and job involvement has never been studied according to the examined literature. Since there is an increase in the use of the person-centered care method, an overview of the effects of the approach is required. It is important to keep staff satisfied and involved with their job, since there is a high annual percentage of nursing staff turnover (Brodaty, Draper & Low, 2003). Job satisfaction and involvement associate with each other strongly and have a negative influence on the desire to leave the profession (Maurits, de Veer, Van der Hoek & Francke, 2015). To prevent a shortage of workforce in the future, because of the rising number of people with dementia, a better understanding of formal caregiver's satisfaction, involvement, and emotional exhaustion in nursing homes may help in designing interventions or policy development to decrease turnover (Brodaty, Draper & Low, 2003).

The well-being of the nursing home resident depends on relationships with staff, as well as on the maintenance of relationships with family and friends (Ell & Northen, 1990). The strain that family members experience due to home care giving, does not simply disappear by admitting the relative to a nursing home. It is worth exploring any factor, such as person-centered care, which has a possibility to reduce effects of this experienced strain. The association between person-centered care and family satisfaction and involvement presents opportunities to shape family participation, which will be increasingly important in the future, but prior to this, this assumption has to be better founded (Willemse et al., 2011). Currently, we do not know much about the impact of person-centered care on the family, which seems to play a crucial role in the wellbeing of their relative and themselves. It seems appropriate to include family members in discussions about person-centered care to make sure the subjective experiences of these stakeholders are represented and accounted for (Sjögren et al., 2015).

The aim of this thesis is, therefore, to provide insights into the influences of person-centered care on formal and informal caregivers. Until now existing research was based on the experience of person-centered care of healthcare staff alone, but this thesis strives to introduce the investigation of the family perspective. By taking in to account the degree of person-centered care as experienced by formal and informal caregivers, a better picture of the current level of person-centered dementia care in the Netherlands is created.

RQ1: *What is the relationship between formal and informal caregivers´ perception on the person-centeredness of the nursing home?*

Additional to the descriptive research question, this thesis seeks to provide more insight in the influences of person-centered care on satisfaction, involvement and strain of formal and informal caregivers. More insight in to the impact of person-centered care on nurses is interesting, since effects are now mixed. No previous research has focused on family caregiver involvement and person-centered care.

RQ2: *How is person-centered care related to formal- and informal caregivers' satisfaction, involvement and strain?*

The answers on the research questions following from the study lead to recommendations about (if and) how working person-centered can provide solutions for current problems in dementia care by placing the results of this thesis in a broader context. These recommendations are provided at the end of the thesis and are aimed at nursing homes in the Netherlands.

# 3 THEORY

When looking for explanations of the effects of person-centered care on formal and informal caregivers, different theoretical frameworks are applicable. For nursing home staff giving person-centered care is a job and family members experience person-centered care in a more relational way. They observe the care, evaluate it and form feelings and thoughts about this. Which processes specifically play a role in the life of a professional caregiver and a family caregiver will be specified below. First the demands and resources in formal caregiving are addressed and connected to person-centered care leading to hypotheses, followed by the same structure for family caregivers.

## 3.1 DEMANDS AND RESOURCES IN FORMAL CAREGIVING

While working with people with dementia can be very satisfying, the job is not always easy. Some elements may be experienced as rough and straining, while other elements of the job can motivate and stimulate staff. The working method of caregivers is very important for the job experience. That is why this theoretical exploration will go deeper into the question of how person-centered care can be related to job characteristics and how these characteristics can influence job satisfaction, involvement and emotional exhaustion. Processes between person-centered care and job satisfaction, involvement and emotional exhaustion will be explored with the aim to create a better understanding of this relationship.

### *3.1.1 Person-centered care and job related wellbeing*

Before going into detail, it is necessary to state how person-centered care influences the job related well-being of residents. The three outcome measures of interest, job satisfaction, involvement and emotional exhaustion, will be discussed in following order. Earlier research states a positive association between the degree of person-centeredness experienced by caregivers and job satisfaction (Edvardsson et al., 2011; Lehuluante, Nilsson & Edvardsson, 2012; Sjögren et al., 2014; Surr, Smith, Crossland & Robins). This increase in satisfaction is the result of individually approaching residents, leading to more developed and satisfying relationships between caregiver and receiver (Brownie & Nancarrow, 2013). According to Lodahl and Kejnar (1965) employees become involved in an organization by a process of socialization. By incorporating work-relevant norms and values, employees internalize values about the goodness and importance of the job. Internalization of the values of person-centered care may therefore mean the acceptance of this working method in the personal behavior systems and ways of thinking of nurses. When this internalization takes place, people will be more involved in their job. It therefore seems reasonable to think that when the values and norms around person-centered care are more internalized and perceived by healthcare staff, they will be more involved. Previous research did not evaluate the relationship between person-centered care and job involvement, but since job involvement and job satisfaction are inherently interrelated, the assumption arises that person-centered care will be positively related to involvement (Peeters, De Jonge & Taris, 2014). With regard to emotional exhaustion, there is more uncertainty in the literature. There is evidence that the perception of person-centeredness in a nursing home relates to more emotional exhaustion reported by healthcare staff than in regular care, but these relationships are not strong (Willemse et al., 2015). Exhaustion refers to the depletion of emotional resources caused by interpersonal demands (Peeters, De Jonge & Taris, 2014). Person-centered care is based on interpersonal contact between caregiver and receiver, so might be more emotionally exhausting for formal caregivers. Since person-centered care relates to less problematic behavior by residents as explained in paragraph 1.3.1, staff are also less likely to be exposed to stressing situations at work. Another possible explanation might lie in the fact that person-centered care prepares staff more sufficiently for the challenging task of providing dementia care. There is an indication that staff who embrace a more person-centered way of caring, perceive themselves to be better trained in dementia care. It is possible that person-centered care provides staff with a useful framework for perceptions of competence to deal with the emotionally demanding dementia care (Zimmerman et al., 2005). This is why the following hypothesis is formulated:

Hypothesis 1: The extent to which the nursing home is seen as person-centered by formal caregivers, relates positively with job satisfaction and job involvement and relates negatively with emotional exhaustion of formal caregivers.

### *3.1.2 Person-centered care and job characteristics*

Next to the direct association between person-centered care and wellbeing of formal caregivers, person-centered care might also have an effect on nurses’ job characteristics. One way to consider job outcomes is to essentially state that organizational outcomes are the result of two job characteristics; job demands and resources (Demerouti, Bakker, Nachreiner and Schaufeli, 2001). Job demands are aspects of a job that require a number of efforts or skills and can be found on the physical, psychological, social or organizational level of the profession. Job demands are therefore associated with physiological and/or psychological costs. Job demands are not necessarily negative in nature, but they may turn into job stressors when meeting the demands requires immense effort. Job resources are aspects of the job that are functional in achieving work goals, reducing job demands or stimulating personal growth, development and learning. Resources are visible in different areas of the job, they can be located at the level of the organization as a whole, at the interpersonal- and social relations, at the organization of work and at the level of the task (Peeters, De Jonge & Taris, 2014). Resources are a wide concept, which can be subdivided in to control, social support of supervisor and social support of coworkers. Demands can be of a more quantitative or emotional nature. According to the Demand-Control-Support Model (DCSM) of Johnson and Hall (1988) it are those psychosocial job characteristics which together create healthy work (quantitative/emotional job demands, control, support of supervisor/coworker).

It is possible that job demands are less often experienced as quantitative in nature when nurses work more person-centered. The way of working does not require staff to finish a certain amount of tasks in a limited amount of time. It could also be considered less demanding because staff are able to focus on the desires and needs of the individual rather than on the tasks that need to be performed (Te Boekhorst et al., 2008). Although one may expect that person-centered care might be very time-consuming, results of Hoeffer et al. (2006) state otherwise. When caregivers used a more person-centered approach while bathing and showering (e.g. social conversation, reassuring, acknowledgement for likes or dislikes), elders were more likely to show calm behavior. This had a lessening effect on the amount of hassles and time to perform the act. Other research shows that person-centered care associates with less experienced quantitative demands by formal caregivers (te Boekhorst et al., 2008).

Therefore, the more qualitative, emotional demands could be considered more demanding. Emotional demands are those aspects of the job that require sustained emotional effort because of interactional contact with residents (de Jonge & Dormann, 2003). For example, nurses are confronted with many human problems and suffering and may have problematic social interactions with residents. In addition, dealing with those situations requires expressing emotions desired by the nursing home, which are sometimes not genuinely felt by the employee (Peeters, De Jonge & Taris, 2014). Although most of the emotions automatically elicited within a nurse are congruent with the emotions required by the nursing home. An example is that nurses feel sympathy for a resident who is in pain, without having to actively try to feel this sympathy (Peeters, De Jonge & Taris, 2014). The person-centered way of working might thus be more emotionally demanding, but providing person-centered care might also give caregivers better coping skills to deal with emotions of nursing home residents, because they have a better understanding of where they come from (Zimmerman et al., 2005). By knowing the person better, behavior and expressed emotions can be more thoroughly understood and prevented from occurring. From a social exchange point of view emotional exhaustion is triggered by the lack of reciprocity in social exchange processes at the interpersonal level (Schaufeli, Dierendonck & Gorp, 1996). Person-centered care has the capability to restore this unequal relationship, since person-centered care results in more social and positive interactions with residents (Chenoweth et al., 2009).

The reduction of the daily routine, by focusing on demands rather than tasks in person-centered care, gives staff a feeling of autonomy and less strain (Willemse et al., 2011), potentially resulting in more experienced control by caregivers. The way person-centered care is set up, promotes team working between nurses (Binnie & Titchen, 1999). According to McCormack and McCance (2006) and Koren (2010) person-centered care should enhance the effectiveness of staff relationships and encourage teamwork by supporting and empowering staff. By searching for the best person-centered care practice, it is vital that coworkers communicate with each other about what methods of care best benefit different individuals. This innovative form of dementia care should therefore increase the amount of social support experienced by both supervisor and coworker. All together person-centered care seems to be related negatively to experienced demands (quantitative and emotional) and seems positively associated with resources (control, support supervisor/coworker). This leads to the following hypotheses:

Hypothesis 2: The extent to which the nursing home is considered as person-centered by formal caregivers relates negatively with quantitative and emotional job demands.

Hypothesis 3: The extent to which the nursing home is considered as person-centered by formal caregivers relates positively with the job resources: control, support of supervisor and support of coworker.

### *3.1.3 Job characteristics and job related wellbeing*

From the theoretical investigation we now deduce that person-centered care has a positive influence on job satisfaction and involvement and a negative influence on emotional exhaustion. By assuming that person-centered care has an influence on job demands and resources, we also have to know what effects to expect from the demands and resources on the job related wellbeing of staff. The Job Demands-Resources Model (JD-R Model) of Demerouti, Bakker, Nachreiner and Schaufeli (2001) assumes that adverse health and poor motivation amongst employees result from (high) job demands and (low) job resources. Two underlying psychological processes play a role in the development of health and motivation. In the first process, the *energetic* or *health impairment process,* chronic job demands exhaust employees, leading to the depletion of energy, stress reactions and to health problems. The second process, the *motivational process,* assumes that job resources have motivational potential and lead to high work engagement and consequently to good job performance. The presence of job resources leads to engagement and this affective-motivational state fosters positive organizational outcomes, such as organizational commitment and job performance. This is why this study assumes that having more job demands leads to less favorable outcomes, like more emotional exhaustion and less satisfied and involved nurses. The resources, in contrast, may lead to more satisfied, involved and less emotional exhausted personnel, because they have more resources to draw from. In accordance with the health impairment process and motivational process the following hypotheses are proposed:

Hypothesis 4: Quantitative and emotional demands relate negatively with job satisfaction and involvement, and positively with emotional exhaustion.

Hypothesis 5: The job resources; control and support of supervisor and coworker, relate positively with job satisfaction and involvement, and negatively with emotional exhaustion.

Based on this theoretical framework a model for formal caregivers is created, that will be studied in this thesis. Figure 1 displays the model of interest for this thesis.

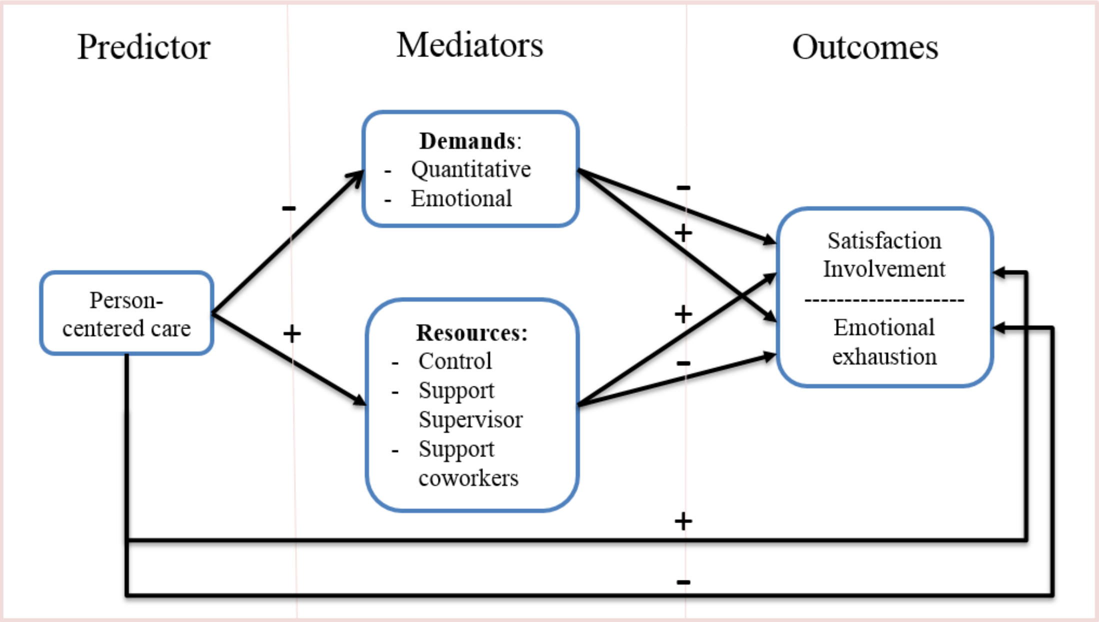

*Figure 1.* Study model for formal caregivers.

## 3.2 DEMANDS AND RESOURCES IN INFORMAL CAREGIVING

Giving informal care to residents of a long-term care facility can both be straining and satisfying, just like the experience of formal caregivers. The position in which the informal caregiver is situated when providing care, shows resemblances with the work experience as described for the professional caregiver. How the care of residents reflect on informal caregivers´ outcomes will be discussed in the subsequent paragraph. Followed by a paragraph about how person-centered care fits within the experience of informal care giving.

### *3.2.1 The stress-process model of informal caregiving*

The set of circumstances in which an informal caregiver finds oneself can be described by the Stress Process Model of Informal Caregiving (Aneshensel et al., 1995; Pearlin et al., 1990). In this model several components of the care stress process of the informal caregiver are included: stressors, resources, background characteristics, outcomes and an intermediate process that explains the relationship between stressors and outcomes (see Figure 2).

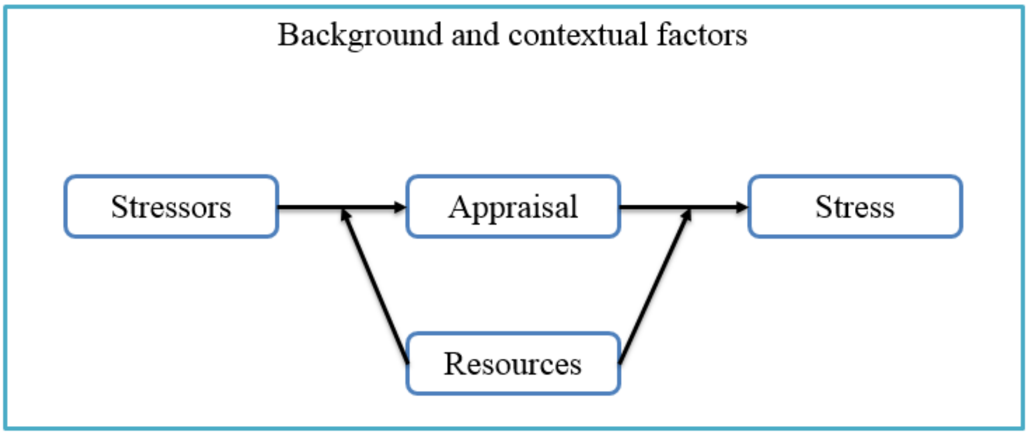

*Figure 2.* The Stress Process Model of Informal Caregiving. Adapted from "Profiles in caregiving: The unexpected career." by C.S. Aneshensel et al., 1995; Pearlin et al., 1990.

#### **Stressors**

Stressors are circumstances that are threatening to the health of the informal caregiver and show resemblance to the demands as described for formal caregivers. The problems that arise directly from the disease are referred to as primary stress factors. This entails for example the behavioral problems displayed by persons with dementia, which could be a source for mental problems for family caregivers. Secondary stress factors arise in response to the primary stressors. So for instance family members could get into a disagreement with each other about the division of care (Pot, Kuin & Vink, 2007).

### Appraisal

These stressors turn into outcomes by a process called ‘appraisal’. The informal caregiver makes an estimate of the extent to which the stressor is a threat, while taking his or her own abilities and needs into account. If the informal caregiver comes to the conclusion that the stressor exceeds his or her coping capacity, the caregiver will experience stress. This will result in disadvantageous emotional, physiological or behavioral responses, which in turn threatens the mental and physical health of the caregiver. Research from Haley et al. (2003) confirmed the appraisal process. Caregivers of relatives with either dementia or lung cancer who subjectively appraised caregiving tasks as less stressful, reported lower depression and higher life satisfaction.

### Resources

Resources help to explain the variances between the experienced stressors of informal caregivers. Personal resources, like an internal locus of control and personal accomplishment, can have a stress-buffering effect. By having these resources, informal caregivers feel like they are capable of changing the situation and therefore experience less stress (Pot, Kuin & Vink, 2007). Resources in the social domain are efficient in lessening negative outcomes for caregivers (Haley et al., 2003). The better the social network of an informal caregiver, the less negative outcomes for caregivers. Material resources also play a buffering role in the stress process. If an informal caregiver has better tools, stressors can become less stressful. An electric wheelchair, for example, could make walking with a relative a lot less demanding for elderly spouses.

### Outcomes

The appraisal process shows resemblances with the energetic or health-impairment process of the JD-R Model. Not all stressors (demands) are negative in nature, resources can resolve or buffer against these demands. In the case of the family caregiver the process of appraisal determines if the demands or stressors exceed their resources and determines the outcome for the individual. Outcomes refer to long- and short-term effects on psychological functioning, experienced health, physical reactions, use of healthcare and mortality. Previous research indicated that higher levels of both primary and secondary stressors were associated with poorer self-reported health, more negative health behaviors and greater use of health care services by family caregivers of elders with dementia (Son et al., 2007).

#### Background and contextual factors

The stress process takes place in a social, economic, political, cultural and religious context. Caregivers are part of a society in which certain norms and values are prominent. These norms, beliefs and assumptions are shaping for how the experience of dementia is interpreted and responded to. In Western countries for example, it is a moral duty to take care of a sick spouse. This moral duty can place a burden on people who are not able or do not have the resources to fulfill this duty (Pot, Kuin & Vink, 2007).

### *3.2.2 Person-centered care in the stress-process model of informal caregivers*

The stress process model as depicted in Figure 2 has been used to explain the stressors experienced by family caregivers nursing their relative at home. After admitting a relative to a nursing home stressors associated with the home situation disappear, but are often replaced by new sorts of stressors. The separation of spouses and the adjustment to new living arrangements are often catalysts for stress. The relationship of the family caregiver and the professional caregiver could be a new sort of stressor, especially when the family caregiver does not agree with the way care is offered and when family members feel they have a diminished role in the care for the relative (Pot, Kuin & Vink, 2007). The assistance of family caregivers with daily living for instance, can become more difficult than at home because it involves more hassle (Stephens, Kinney, & Ogrocki, 1991). These new stressors can, by a process of appraisal, turn into stress, but can also be influenced by contextual and background characteristics. The living arrangement of a person with dementia can be one of those characteristics (Pearlin et al., 1990). The way care is offered provides in a social environment that is distinctive for a nursing home. Person-centered care can be therefore seen as a contextual characteristic influencing the experience of the informal caregiver. Problem behaviors of the person with dementia are often the most frequently endorsed primary stressor among family caregivers (Schulz, O'Brien, Bookwala & Fleissner, 1995). Residents who receive person-centered care feel better and show more positive and less negative behaviors as described earlier in this thesis (paragraph 1.3.1). Person-centered care creates living conditions suitable for elderly patients with dementia, causing less stress for the person receiving care. It is therefore assumed that person-centered care invokes less primary stressors for family than regular care does. By admitting a relative to a nursing home, family lose their sole responsibility for promoting and maintaining the dignity of the person being cared for. Families often struggle with the perception that care provided in nursing facilities is impersonal. Next to care of technical quality, families expect staff to provide care which is individualized and sensitive. Families are often upset when they think staff sees residents as part of their workload; as an object rather than a person (Duncan & Morgan, 1994). Person-centered care can, in theory, take away this secondary stressor of family caregivers. This kind of care focuses on the individual as a person and is thereby assumed to be less stress-invoking for family caregivers. Because family members feel secure in the knowledge that their relative is both well looked after and having a good time, their own stressors (like guilt) are relieved (Ryan, Nolan, Reid, & Enderby, 2008). Personal resources of family members are likely to be positively affected by person-centered care. Seeing their family member being personally cared for can reassure family members, allowing a more positive outlook on the situation. A positive attitude helps family members to get more use of other resources. Providing person-centered care requires a good relationship with the nursing home, they need to get to know the family and the person with dementia to give proper person-centered dementia care. This could result in better relationships with the organization as a whole and with nurses on an interpersonal level. A trusting, supportive relationship with staff helps family members to take break from the care. These improved relationships form a great resource from which family members can withdraw.

Person-centeredness could thus be considered as a contextual characteristic which positively effects stressors and resources and by a process of appraisal leads to more satisfied, involved and less strained family caregivers. Although the original model of Aneshensel et al. (1995) and Pearlin et al. (1990) focused on stress outcomes alone, it is assumed that the process of appraisal could also result in positive outcomes since stressors are not necessarily negative in nature. This resulted in the following hypothesis for the relationship between person-centered care and family outcomes:

Hypothesis 6: When care for a relative with dementia is perceived to be more person-centered according to family caregivers, family caregivers will be more satisfied and involved with the provided care in the nursing home and will experience less strain.

Since it is the first time that family outcomes are studied in this area, this study will only test the relationship of person-centered care with family caregivers outcomes without the intermediate processes. Before intermediate processes are tested it seems reasonable to test if the relation between person-centered care and family outcomes exists at all. Figure 3 shows the model that will be tested in current thesis.

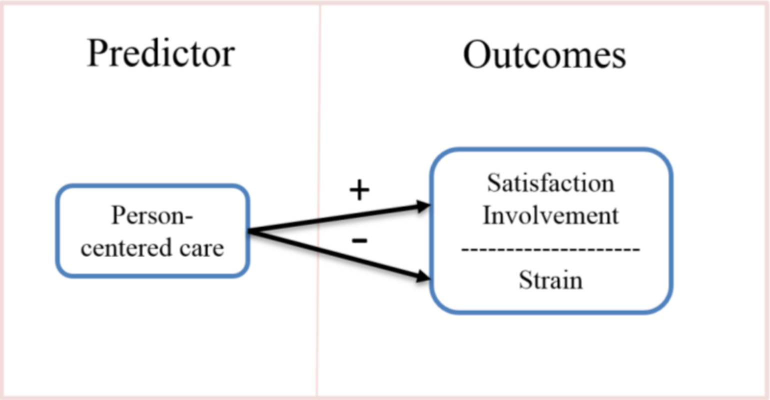

*Figure 3.* Study model for informal caregivers.

# 4 METHOD

## 4.1 STUDY DESIGN

Cross-sectional survey data were used from the Living Arrangements for people with Dementia (LAD) study. The LAD-study monitors nursing-home care for people with dementia in the Netherlands since 2008 on multiple areas (Willemse et al., 2011). The aim of the study is to provide insight in to the changing organization of long-term dementia care and its effects on quality of care and staff. The LAD-study also provides participating residential facilities with a report of their strengths and weaknesses as compared to other participating nursing homes. This gives them insight into where opportunities lie for improvement. Every two years when the measurement takes place, residential facilities are recruited. This results in only partly the same residential facilities every wave. The first wave of the LAD-study took place in 2008-2009 comprising of 136 residential facilities and was financed by the Ministry of Health, Welfare and Sport (HWS). In 2010-2011 the second wave, with 144 participating facilities, was financed by HWS and Alzheimer Netherlands. The third measurement round was conducted between March 2013 and January 2014 and was funded in half by the Ministry and in half by the participating residential facility. The data of this wave were used in this study. New to this wave was the voice that participating facilities had in the themes that the study would focus on. The residential facilities choose the following themes: person-centered care, family participation and the use of treatment services.

## 4.2 PARTICIPANTS

A wide range of different types of long-term care facilities for people with dementia are represented in this study, from large-scale nursing homes to small-scale care facilities. Because participating facilities had to contribute to the study financially in this wave, the sample of participating facilities was much smaller than in earlier measurements of the LAD-study. A sample of 54 facilities spread across the Netherlands eventually participated in this study. Most of these facilities provided small-scale care to more than 36 residents (see Table 1). Large scale nursing home care was the least provided kind of care in the sample.

**Table 1**

*Frequency Table of the Kind of Care Provided in the Participating Nursing Homes*

| Kind of care provided | N | % of total |
|---|---|---|
| Nursing homes where large-scale nursing home care is provided | 4 | 7 |
| Residential homes with psychogeriatric units where large-scale nursing home care is provided | 6 | 11 |
| Housing facilities providing small-scale care with more than 36 residents on site | 22 | 41 |
| Housing facilities providing small-scale care with up to 36 residents and other sorts of nursing home care on site | 13 | 24 |
| Housing facilities providing exclusively small-scale care for a maximum of 36 residents | 9 | 17 |
| Total | 54 | 100 |

At each participating facility a Research Assistant (RA) was assigned to purchase the names of all nursing staff working on the psycho geriatric ward. All nursing staff working in the living arrangement with a permanent or temporary contract were eligible to participate in this study. Students, trainees, hosts, housekeeping and nutrition assistants were therefore excluded from this study. To stimulate participating one gift card was raffled among the participants per residential facility.

The RA also drew a random sample of residents of the nursing home which included one third of the population of each facility. If a facility housed 12 residents or less, all residents were selected. For a manual of the random sampling, see appendix A. From the randomly selected residents the first family contact was approached to participate in the study. By filling out and returning the questionnaire the family member had a chance to win a gift card. Within each residential facility one gift card was raffled among family members.

A total of 1670 staff-questionnaires were distributed of which 501 were returned, resulting in a response rate of 30%. The response rate of family members was higher, 52%. Of the 829 distributed questionnaires, 431 were returned. When participants had missing values on any of predictor- or outcome variables they were excluded from the analyses, this resulted in 463 remaining nurses and 391 family members. Analyses were only done with participants who have valid answers to all variables, so 7 nurses and 18 family members were automatically excluded by the analyzing program because they had missing values on the control variables. The final sample for this study comprised of 456 nursing staff and 373 family members. On average 9 formal and 7 informal caregivers participated in the study per residential facility. There were great differences between the number of participating formal caregivers within nursing homes, ranging from 1 to 32. The same was true for participating informal caregivers, ranging between 2 to 20. On average more caregivers participated in the study when the nursing home was bigger. See Figure 4 for an example of the number of participating nurses and family members in the first and last two nursing homes.

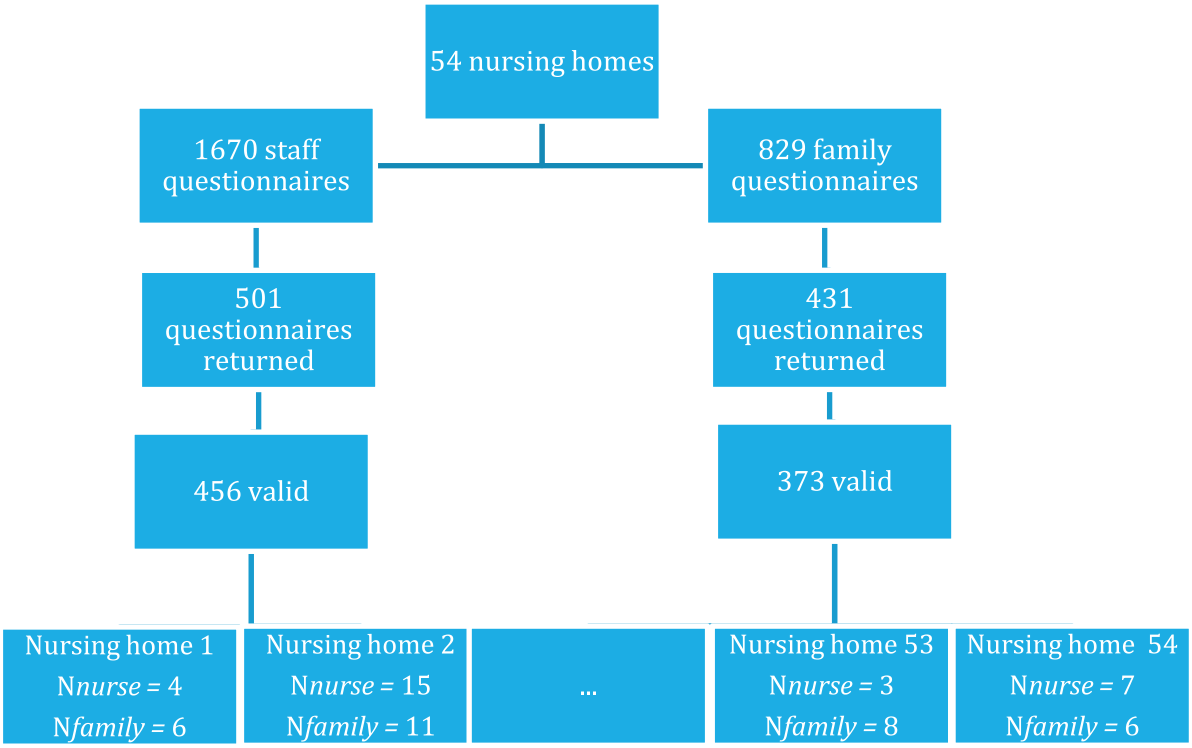

*Figure 4.* Flowchart of questionnaires sent and valid participants plus examples of the amount of participating nurses and family members in nursing home 1, 2, 53 and 54.

## 4.3 DATA COLLECTION

Nursing staff received an email with login details and a link to participate in the online self-report questionnaires. If caregivers were not willing or able to fill in the questionnaire online, hardcopy versions could be sent to their home address. Family members received a hardcopy version of the questionnaire at their home address. The RA directly posted the envelopes with the questionnaires after they were addressed, so no addresses were made public. The selection of family members was done without the presence of the location manager and the RA made sure the location manager could not know who was selected by shredding all the names and addresses after the visit. Professional- and family caregivers were informed about the process and aim of the study in the accompanying letter. By anonymously returning the survey (either digitally or in a pre-stamped envelope) staff members and family members consented to participate in the study voluntarily. By returning a different form in a different mail or pre-stamped envelope the participants could indicate if they wanted to run for the gift card. Written informed consent was not obtained, however the accompanying letter clearly stated that they had the right not to participate in this study without further consequences.

## 4.4 MEASURES

### *4.4.1 Formal caregivers' measuring instruments*

**Dependent variables**

In this study there are three job related outcome measures of interest: satisfaction, involvement and emotional exhaustion. Two of the outcome variables (job satisfaction, involvement) were measured with the Leiden Quality of Work Questionnaire (LQWQ; Van der Doef & Maes, 1999). The LQWQ is based on the Demand-Control-Support Model (DCSM) and the Michigan model (Caplan et al., 1975) and measures 11 job characteristics on a four-point Likert-type scale. In this questionnaire items can be scored from 1 (totally disagree) to 4 (totally agree).

The subscale *Job Satisfaction* consisting of three items (Cronbach's $\alpha$ = 0.85) indicated a higher level of job satisfaction when higher scored. 'If I had the choice, I would take this job again.', 'I am satisfied with my job' and 'I would advise a friend to take this job', were the items that measured job satisfaction.

*Job Involvement* with the organization was measured by the subscale Involvement with the Organization (Cronbach's $\alpha$ = 0.91). Caregivers could state how much they disagreed or agreed with five items. Higher scores on these five items is an indication of more involved personnel. Examples of statements are: ‘I am proud to be working at this residential facility’ and ‘This facility is a pleasant organization to work for’.

The degree of *Emotional Exhaustion* of staff was measured with the equally named subscale emotional exhaustion of the Utrecht Burnout Scale (UBOS; Schaufeli & Dierendonck, 2000). The items of this scale are related to the working experience of the nurse and how it makes them feel. A total of eight items measured this construct on a six-point Likert-like scale (0 = never and 6 = always/daily) and had a satisfactory Cronbach’s alpha of .86. Higher scores indicate more emotional exhaustion experienced by nursing staff. Some examples of items to which nurses could respond were: ‘At the end of a working day I feel empty’ or ‘I think I am too committed to my job’.

### Independent variable

In this study the focus goes to the effect of one predictor, person-centered care. *Person-centered care* was assessed with the Measuring Person-Centered Care in Long Term Care: Staff Questionnaire (Porock & Chang, 2013). A confirmatory factor analysis was run to test if the factorial structure as described by Porock and Chang (2013) was applicable to the data of this study. The staff data was good in terms of the overall factorial structure as well as the RMSEA and GFI indices. Concluding that the data had a good fit to the original model, the 26 items that measured ‘person-centeredness’ were used to measure the degree of person-centered care according to formal caregivers. This scale includes 26 items formulated as statements in order to map staff perceptions of provided person-centered care. Professional caregivers were asked to rate how they perceived the care to be person-centered on a five-point Likert-type scale (0 = hardly ever and 4 = nearly always). Staff could respond to items such as the following example: ‘I know what the residents like and what they don't like’. Five items were negatively formulated and were reversed before calculating the total scores. An example of a reversed item is: ‘I follow the family's decision about resident's care even if it conflicts with the resident’s choices.’ A sum score can be calculated (0-4) when staff had at least 23 valid scores on the items and a higher score indicates care to be more person-centered according to the staff. The staff measurement of person-centered care has shown satisfactory estimates of reliability (Cronbach’s α = 0.81).

### Mediating variables

The Leiden Quality of Work Questionnaire (LQWQ; Van der Doef & Maes, 1999) was also used to measure four of the five mediators. Nurses could state how much they (dis)agreed with statements concerning aspects of their job (1 = totally disagree and 4 = totally agree).

The Decision Authority subscale (Cronbach's α = 0.65) measured *Control* in four items, in which a higher score denoted higher levels of control. These four items were: 'I continuously have to do what others tell me to do', 'My job allows me to make a lot of decisions on my own', 'I have a lot to say about what happens on my job' and 'In my job, I have freedom to decide how I do my work'. The first example had to be recoded, so that a higher score equaled more control.

The *Social Support Supervisor* subscale (Cronbach's α = 0.92) and the *Social Support Coworkers* subscale (Cronbach's *α* = 0.84) each encompassing four items from the LQWQ measured social support of supervisor and social support of coworkers, with higher scores indicating higher levels of social support. Social support of supervisor was measured with the following statements: 'I can count on the support of my immediate supervisor when I have a problem in my work', 'I trust my immediate supervisor', 'My immediate supervisor defends my interests' and 'I feel appreciated by my immediate supervisor'. To find out whether nurses feel supported by coworkers the following statements were used: 'I feel appreciated by my colleagues', 'In my department/residential facility we associate with each other collegially', 'My colleagues offer me a helping hand when needed' and 'My colleagues offer me emotional support when I have a hard time'.

The Job Demands subscale (Cronbach's α = 0.71) measured *Quantitative Job Demands* with five items of which two were reverse coded. A mean was computed for nurses who at least had four out of five valid answers. A higher mean score suggests higher quantitative job demands were encountered by nurses. An example of a statement in which nurses could indicate the amount of work and time they have for their job is: 'I have enough time to provide good quality of care to the residents'.

To measure emotional job demands the subscale *Emotional Job Demands* was used in accordance with the short version of the Demand-Induced Strain Compensation model (DISC; De Jonge et al., 2007). Staff could state how often the three propositions given were true from, 1 = hardly ever to 5 = nearly always. The higher the score, the more emotional job demands were experienced by staff in their work. The following propositions were presented to nurses: 'In my job I have to deal with people (e.g. residents, family members, colleagues or supervisors) whose problems affect me emotionally', 'In my job I have to deal with people (e.g. residents, family members, colleagues or supervisors) who quickly become angry with me' and 'I have to do a lot emotionally strenuous work'. The subscale has shown sufficient estimates of reliability (Cronbach's α = 0.67).

### Control variables

Several characteristics of formal caregivers were used as control variables in this study. Professional caregivers were asked whether they were male (defined as 0) or *female* (defined as 1). The *age* of the formal caregivers was taken into the analysis as an interval variable. To construct the variable *living with partner*, the married and cohabiting nurses were coded as 1 and the singles as 0. The *educational level* of each formal caregiver was classified on a five-point scale, ranging from 1 to 5. This scale was based on the Dutch scholarly system. In the Netherlands the general secondary educational system has three main options: the MAVO, the HAVO and the VWO, the latter prepares students for University. Professional education is provided in two options: the MBO (secondary professional education) and the HBO (higher professional education). Training of professional caregivers is provided through these two systems, MBO and HBO. The MBO and HBO are also subdivided in several grades. The scale used in this study ranged from 1 to 5, in which 1 to 3 stand for the MBO educated caregivers and the 4 to 5 for the HBO educated caregivers. When formal caregivers indicated that both their father, mother and themselves were born in the Netherlands they had the *Dutch nationality* indicated by number 1, all other variations were stated as non-Dutch referred to by 0. Since students, trainees, hosts, housekeeping and nutrition assistants were excluded from this study, nurses were asked whether they had a *permanent contract* (1) or a temporary contract (0) and for how many *contractual hours per week*. By subtracting the year in which the questionnaire was completed (2013) by the year the health care professional entered into service in the facility, the interval variable *years of employment in current facility* was construed. So the control variables; female, living with partner, Dutch nationality, permanent contract were dichotomous variables, while the remaining variables were measured on an interval level.

## *4.4.2 Informal caregivers' measuring instruments*

### Dependent variables

*Satisfaction* with the nursing home was rated by family caregivers giving a score to the nursing home (0 = very bad and 10 = excellent). Family members were requested to answer the following question 'Which grade, ranging from 0 to 10, would you give to this residential facility?'.

*Involvement* in the care of family caregivers' relative was assessed by a selection of statements from the Family Perceptions of Caregiving Role (FPCR) questionnaire (Maas & Buckwalter, 1990; Trimbos-Instituut, 2010). Family members have responded to 15 statements of the subscale 'Role' relating to the role they play in the care of their relative with dementia. The questions address the collaboration between family caregivers and nursing home staff. A seven-point Likert-type scale (1 = strongly disagree and 7 = strongly agree) assessed whether family members feel involved in the care of their relative. Eight items were reverse coded of which the following statement is an example: ‘I feel like an outsider in the care of my relative’. The subscale has shown satisfactory estimates of reliability (Cronbach’s α = 0.89).

*Strain* experienced by family caregivers was assessed by a Dutch tool; the Experienced Burden by Informal Care (Pot, Dyck & Deeg, 1995). Family caregivers were asked if they could associate with different situations in nine statements, which shown satisfactory estimates of reliability (Cronbach’s α = 0.80). Answering options were given on a five-point Likert-type scale (0 = no and 5 = yes). Each item was then recoded to either state if family members were strained (1) or not strained (0). The answer options from 0 to 2 stated family members as not strained, and answers of 3 or above meant that family members experienced strain on the item of concern. A sum score was therefore to be computed, ranging from 0 to 9. Higher scores indicated more experienced strain. An example of an item of the scale is: ‘My independence is in a fix due to my involvement with the care for my relative’.

### Independent variable

*Person-centered care* was assessed with Measuring Person-Centered Care in Long Term Care: Family Questionnaire (Porock & Chang, 2013). A confirmatory factor analysis stated that the family data did not match well with the factorial structure as described by Porock and Chang (2013) in terms RMSEA and GFI indices. Therefore, a fixed factor analysis was used to construct the person-centered care scale of family. Six items with a factor loading less than .4 were excluded from the scale. This resulted in a factor solution including 24 items and an explained variance of 47,7 percent. The scale used items formulated as statements to measure family perceptions of the practice of person-centered care by rating the frequency of staff and family actions. An example of an item is: ‘The staff know about my family member’s past history and experiences’. Family caregivers were asked to rate statements about staff knowing what is meaningful and important to the relative in question on a five-point Likert-type scale (0 = hardly ever and 4 = nearly always). A total score can be calculated (0-4) and a higher score indicates a higher degree of person-centered care as perceived by family members. The scale has shown satisfactory estimates of reliability (Cronbach’s α = 0.95).

### Control variables

Various characteristics of family caregivers were used as control variables in this study. Family caregivers were asked whether they were male (defined as 0) or *female* (defined as 1). The *age* of the family caregivers was taken into the analysis as an interval variable. Family caregivers also stated whether their relative living in the nursing home is male (defined as 0) or if the *resident is female* (defined as 1). The variable *spouse of resident* was construed by defining those who indicated themselves as spouses of their relative with 1. All other relationships were therefore defined by 0. The highest level of education family caregivers had completed with a diploma formed the basis for the control variable, *education level.* There are three general subsequent educational trajectories in the Netherlands: elementary education, secondary education and tertiary education. Within secondary and tertiary education different levels are distinguishable. Secondary education can be subdivided in three levels, ranging from lower vocational training to higher education. Tertiary education has three levels, higher vocational training, higher education and academic education (University). The control variable was based on these subsequent educational trajectories and resulted in an interval variable ranging from 0 'zero education' to 7 'academic education'. Family members were also asked whether they lived within a one hour travelling distance of the nursing home (yes '1' or no '0'). This way the variable *travelling distance* was construed. So, only two variables were measured on an interval level and the remaining variables were dichotomous.

## 4.5 DATA ANALYSIS

Descriptive statistics were used to describe the sample. Correlations, minimum, maximum, mean and standard deviations were reported for both the formal and informal caregiver sample. Subsequently, scales were created to get an image of which formal and informal caregivers scored high or low on person-centered care, satisfaction, involvement and emotional exhaustion/strain. So for example the variable 'high on pcc' was created, labeling people who scored three or higher on person-centered care with one. In this case three was chosen as cutoff point, because it was the mean score on person-centered care (originally ranging from 0-4). Also the variable 'low on pcc' was created to see who scored lower than three on the person-centeredness scale. By creating these scales for all variables, bivariate analyses showed if formal and informal caregivers score differently on satisfaction, involvement and strain by their personal characteristics (sex, age, educational level etc.). To see how the person-centeredness according to formal and informal caregivers relate to each other, this study examined the correlation between the means of the groups on facility level, to provide an answer to research question 1. All the above described analyses were run in IBM SPSS Statistics 22.

The results of a log likelihood test and intraclass coefficients stated that it was useful to take the clustering of the professional caregivers within a nursing home into consideration. The first level grouped individuals and the second level represented the residential facilities. Multilevel linear regression analysis was therefore used to study the mediating effects of job demands and resources for formal caregivers with the widely used method described by Baron and Kenny (1986). It should be noted that in all of the steps of the mediation analysis, control variables were taken into account. Firstly, a multilevel linear regression was performed to study the relationship between the predictor variable ‘person-centered care’ and the outcome variables ‘job satisfaction’, ‘involvement’ and ‘emotional exhaustion’ to provide an answer to hypothesis 1. Next, multilevel linear regression was undertaken to assess the relationship between the predictor ‘person-centered care’ and the mediators ‘quantitative job demands’, ‘emotional job demands’, ‘control’ and ‘support of supervisor’ and ‘- coworkers’ to provide an answer to hypothesis 2 and 3. Then multilevel linear regression analysis was performed to examine the effect of person-centered care and the mediators on the outcome measures to provide answers to hypothesis 4 and 5. Mediation was present if (a) there was a relationship between person-centered care and the outcome measure, (b) there was a relationship between person-centered care and the mediator, (c) there was a relation between the mediator and the outcome measure and (d) the relationship between the predictor and outcome measure weakened or disappeared when the mediators were added. When the relationship between the predictor and outcome variable was weakened due to the mediator, a Sobel test determined whether the reduction was significant and therefore whether the mediation effect was significant. These analyses all took place in StataSE 12.1.

For the analysis of the family caregivers’ data linear regression was used to analyze the relationship between person-centered care and satisfaction, involvement and experienced strain, while controlling for personal characteristics to provide an answer to hypothesis 6. Multilevel linear regression was taken into consideration, but did not estimate the model more sufficient than simple linear regression. The family data was also analyzed in Stata, but no multilevel regressions were used. All the in Stata performed analyses were done to answer research question 2.

# 5 RESULTS

The upcoming results section of this thesis consists of four parts. The first part describes the data on a univariate and bivariate level and part two tries to provide an answer to research question 1. The third part provides the results of the formal caregivers' dataset attempting to give answers to hypothesis 1 to 5 and the fourth part will present the informal caregivers' outcomes of the analyses answering hypothesis 6. Together part three and four try to provide an answer to research question 2.

## 5.1 A DESCRIPTION OF FORMAL AND INFORMAL CAREGIVERS

Table 2 shows the characteristics of formal and informal caregivers who participated in this study. The majority of the professional caregiver respondents were women (96%), certified nursing assistants (educational level 3), with a mean age of 42 years old. Most of the staff were Dutch (93%) and were married to or living with someone (80%). They had about 7.6 years of work experience in their current workplace, where most of them worked with a permanent contract (93%) an average of 25.4 hours per week. Professional caregivers were on average satisfied with their job (mean = 3.11), involved in the organization (mean = 2.95) and did not show levels of high emotional exhaustion (mean = 1.51). The amount of person-centeredness as experienced by formal caregivers, correlates significantly with their satisfaction, involvement and emotional exhaustion (see Appendix B for all correlational values).

Compared to the nurses more males (29%) were included in the family sample. Family caregivers were on average 60 years old and had an average education level 4 (SD = 1.67). Most of the family caregivers were not the spouse of the person with dementia (85%) and the majority of the residents was female (72%). Almost all of the family members lived within a one-hour traveling distance from the nursing home (92%). Family members were on average satisfied with the nursing home (mean = 7.96), involved in the care of their relative (mean = 5.52) and experienced little strain (mean = 3.10). The scores of informal caregivers on person-centered care, satisfaction, involvement and strain significantly correlates with each other. Appendix B shows the correlational output of all variables used in this study of the formal and informal caregivers.

**Table 2**

*Descriptive Statistics for the Sample of Formal Caregivers (N=456) and Informal Caregivers (N=373)*

| | Formal Caregivers | | | | | Informal Caregivers | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Min. | Max. | Mean | SD | | Min. | Max. | Mean | SD |
| **Dependent variables** | | | | | **Dependent variables** | | | | |
| Job satisfaction | 1.33 | 4.00 | 3.11 | .522 | Satisfaction | 2.00 | 10.00 | 7.96 | 1.169 |
| Job involvement | 1.00 | 4.00 | 2.95 | .460 | Involvement | 2.00 | 7.00 | 5.52 | .966 |
| Emotional exhaustion | .00 | 4.50 | 1.51 | .831 | Strain | .00 | 9.00 | 3.12 | 2.431 |
| **Independent variables** | | | | | **Independent variables** | | | | |
| Person-centered care | 1.92 | 3.85 | 3.03 | .329 | Person-centered care | 1.08 | 4.00 | 3.04 | .617 |
| **Mediators** | | | | | **Control variables** | | | | |
| Quantitative demands | 1.00 | 4.00 | 2.42 | .438 | Female | .00 | 1.00 | .71 | .453 |
| Emotional demands | 1.00 | 5.00 | 2.84 | .668 | Age | 36 | 93 | 60.02 | 10.059 |
| Control | 1.50 | 4.00 | 2.95 | .339 | Spouse of resident | .00 | 1.00 | .15 | .355 |
| Support supervisor | 1.00 | 4.00 | 3.05 | .538 | Education level | .00 | 7.00 | 4.22 | 1.672 |
| Support coworkers | 1.75 | 4.00 | 3.23 | .426 | Travelling distance < 1 hour | .00 | 1.00 | .92 | .276 |
| | | | | | Resident is female | .00 | 1.00 | .72 | .452 |
| **Control variables** | | | | | | | | | |
| Female | .00 | 1.00 | .96 | .184 | | | | | |
| Age | 19 | 64 | 41.62 | 12.223 | | | | | |
| Living with partner | .00 | 1.00 | .80 | .400 | | | | | |
| Education level | 1.00 | 5.00 | 3.07 | .637 | | | | | |
| Dutch nationality | .00 | 1.00 | .93 | .256 | | | | | |
| Permanent contract | .00 | 1.00 | .93 | .248 | | | | | |
| Years of employment in current occupation | .00 | 47.00 | 7.56 | 7.519 | | | | | |
| Contract hours per week | 1.00 | 36.00 | 25.35 | 6.160 | | | | | |

### Formal caregivers’ description

In order to investigate whether there were differences in which formal caregivers scored high or low on job satisfaction, involvement and emotional exhaustion a bivariate analysis was carried out. Three parts of the results visualized in Table 3 showed significant Pearson Chi-Square values ($p < .05$) and will be outlined here. First of all, the educational level of health care staff seems to associate with the perceived amount of person-centeredness. The more educated nurses see their nursing home more often as above average person-centered than their lower educated counterparts. The second and third significant differences are observed in the amount of person-centeredness as perceived by healthcare staff. Nurses who score more often at the high end of the person-centeredness scale, show more high job satisfaction and less emotional exhaustion in comparison to their coworkers who thought the nursing home scored below average on person-centeredness.

### Informal caregivers’ description

The same bivariate analysis as seen by the formal caregivers was carried out for the family caregivers sample. Table 4 shows all the results and the significant results will be highlighted here. When family caregivers are the spouse of the resident, they more often experience high strain in comparison to informal caregivers who are not the spouse of their relative. The higher educated family caregivers perceive nursing homes more often as less person-centered than lower educated family caregivers. When informal caregivers live within a one-hour traveling distance of the nursing home, they experience more satisfaction than family caregivers living further away. The experienced strain of family caregivers does not only differ between spouses and non-spouses, there also is a difference visible regarding the sex of the resident. Male residents are more often associated with high experienced strain by family caregivers, in comparison to female residents. The vision of person-centered care of family caregivers seems to hold relationships with the experienced satisfaction and involvement. When family caregivers think the nursing home is above average person-centered, they experience more often high satisfaction and involvement than the family members who are less positive about the person-centeredness of the nursing home.

**Table 3**

*Frequencies and Percentages of Formal Caregivers Scoring High or Low on PCC, Job Satisfaction, Involvement and Emotional Exhaustion by Control Variables (N = 456)*

| | **PCC** | | **Job Satisfaction** | | **Involvement** | | **Emotional Exhaustion** | | |
|---|---|---|---|---|---|---|---|---|---|
| | Low | High | Low | High | Low | High | Low | High | N |
| **Sex** | | | | | | | | | |
| Male | 8 (50%) | 8 (50%) | 3 (8%) | 13 (92%) | 4 (25%) | 12 (75%) | 11 (69%) | 5 (31%) | 16 |
| Female | 214 (49%) | 226 (51%) | 33 (8%) | 407 (92%) | 62 (14%) | 378 (86%) | 338 (77%) | 102 (23%) | 440 |
| **Age** | | | | | | | | | |
| <= 45 | 121 (51%) | 118 (49%) | 21 (9%) | 218 (91%) | 32 (13%) | 207 (87%) | 186 (78%) | 53 (22%) | 239 |
| > 45 | 101 (47%) | 116 (53%) | 15 (7%) | 202 (93%) | 34 (16%) | 183 (84%) | 163 (75%) | 54 (25%) | 217 |
| **Relationship** | | | | | | | | | |
| No partner | 50 (55%) | 41 (45%) | 7 (8%) | 84 (91%) | 14 (15%) | 77 (85%) | 72 (80%) | 19 (20%) | 91 |
| Partner | 172 (47%) | 193 (53%) | 29 (8%) | 336 (92%) | 52 (14%) | 313 (86%) | 277 (76%) | 88 (24%) | 365 |
| **Educational level** | | | | | | | | | |
| <= 3 | 198 (51%) | 192 (49%) | 32 (8%) | 358 (92%) | 57 (15%) | 333 (85%) | 304 (78%) | 86 (22%) | 390 |
| > 3 | 24 (36%) | 42 (64%) | 4 (6%) | 62 (94%) | 9 (14%) | 57 (86%) | 45 (68%) | 21 (32%) | 66 |
| **Nationality** | | | | | | | | | |
| Non Dutch | 16 (50%) | 16 (50%) | 2 (6%) | 30 (94%) | 1 (3%) | 31 (97%) | 23 (72%) | 9 (28%) | 32 |
| Dutch | 206 (49%) | 218 (51%) | 34 (8%) | 390 (92%) | 65 (15%) | 359 (85%) | 326 (77%) | 98 (23%) | 424 |
| **Contract** | | | | | | | | | |
| Temporary | 14 (47%) | 16 (53%) | 4 (13%) | 26 (87%) | 5 (17%) | 25 (83%) | 23 (77%) | 7 (23%) | 30 |
| Permanent | 208 (49%) | 218 (51%) | 32 (8%) | 394 (92%) | 61 (14%) | 365 (86%) | 326 (77%) | 100 (23%) | 426 |
| **Years of employment** | | | | | | | | | |
| <= 20 | 204 (49%) | 215 (51%) | 36 (9%) | 383 (91%) | 61 (15%) | 358 (85%) | 322 (77%) | 97 (23%) | 419 |
| > 20 | 18 (49%) | 19 (51%) | 0 (0%) | 37 (100%) | 5 (14%) | 32 (86%) | 27 (73%) | 10 (27%) | 37 |
| **Contract hours per week** | | | | | | | | | |
| <= 24 | 123 (51%) | 116 (49%) | 14 (6%) | 225 (94%) | 34 (14%) | 205 (86%) | 183 (77%) | 56 (23%) | 239 |
| > 24 | 99 (46%) | 118 (54%) | 22 (10%) | 195 (90%) | 32 (15%) | 185 (85%) | 166 (77%) | 51 (23%) | 217 |
| **PCC** | | | | | | | | | |
| <= 3 | - | - | 26 (12%) | 196 (88%) | 39 (18%) | 183 (82%) | 149 (67%) | 73 (33%) | 222 |
| > 3 | - | - | 10 (4%) | 224 (96%) | 27 (12%) | 207 (88%) | 200 (85%) | 34 (15%) | 234 |
| N | 222 | 234 | 36 | 420 | 66 | 390 | 349 | 107 | 456 |

* For Job Satisfaction and Involvement low means <= 2.5 and high > 2.5. Low Emotional Exhaustion means <= 2 and high > 2.

*Note.* The grey marked areas showed significant Pearson Chi-Quare values (p < .05).

**Table 4**

*Frequencies and Percentages of Informal Caregivers Scoring High or Low on PCC, Satisfaction, Involvement and Strain by Control Variables (N = 373)*

| | **PCC** | | **Satisfaction** | | **Involvement** | | **Strain** | | |
|---|---|---|---|---|---|---|---|---|---|
| | Low | High | Low | High | Low | High | Low | High | N |
| **Sex family member** | | | | | | | | | |
| Male | 52 (49%) | 55 (51%) | 2 (2%) | 105 (98%) | 9 (8%) | 98 (92%) | 92 (86%) | 15 (14%) | 107 |
| Female | 110 (41%) | 156 (59%) | 5 (2%) | 261 (98%) | 23 (9%) | 243 (91%) | 213 (80%) | 53 (20%) | 266 |
| **Age** | | | | | | | | | |
| <= 60 | 91 (42%) | 125 (58%) | 5 (2%) | 211 (98%) | 20 (9%) | 196 (91%) | 181 (84%) | 35 (16%) | 216 |
| > 60 | 71 (45%) | 86 (55%) | 2 (1%) | 155 (99%) | 12 (8%) | 145 (92%) | 124 (79%) | 33 (21%) | 157 |
| **Relationship** | | | | | | | | | |
| Not spouse of resident | 140 (44%) | 178 (56%) | 7 (2%) | 311 (98%) | 28 (9%) | 290 (91%) | 270 (85%) | 48 (15%) | 318 |
| Spouse of resident | 22 (40%) | 33 (60%) | 0 (0%) | 55 (100%) | 4 (7%) | 51 (93%) | 35 (64%) | 20 (36%) | 55 |
| **Education level** | | | | | | | | | |
| <= 4 | 83 (39%) | 132 (61%) | 4 (2%) | 211 (98%) | 19 (9%) | 196 (91%) | 175 (81%) | 40 (19%) | 215 |
| > 4 | 79 (50%) | 79 (50%) | 3 (2%) | 155 (98%) | 13 (8%) | 145 (92%) | 130 (83%) | 28 (17%) | 158 |
| **Travelling distance** | | | | | | | | | |
| > 1 hour | 15 (48%) | 16 (52%) | 2 (6%) | 29 (94%) | 4 (13%) | 27 (87%) | 23 (74%) | 8 (26%) | 31 |
| < 1 hour | 147 (43%) | 195 (57%) | 5 (1%) | 337 (99%) | 28 (8%) | 314 (92%) | 282 (82%) | 60 (18%) | 342 |
| **Sex Resident** | | | | | | | | | |
| Male | 48 (45%) | 58 (55%) | 1 (1%) | 105 (99%) | 9 (8%) | 97 (92%) | 75 (71%) | 31 (29%) | 106 |
| Female | 114 (43%) | 153 (57%) | 6 (2%) | 261 (98%) | 23 (9%) | 244 (91%) | 230 (86%) | 37 (14%) | 267 |
| **PCC** | | | | | | | | | |
| <= 3 | - | - | 7 (4%) | 155 (96%) | 24 (15%) | 138 (85%) | 126 (78%) | 36 (22%) | 162 |
| > 3 | - | - | 0 (0%) | 211 (100%) | 8 (4%) | 203 (96%) | 179 (85%) | 32 (15%) | 211 |
| N | 162 | 211 | 7 | 366 | 32 | 341 | 305 | 68 | 373 |

* Low means <= 5.5 and high > 5.5 for Satisfaction. For Involvement low is <= 4 and high is > 4. Low Strain means <= 5 and high Strain is defined by > 5.

*Note*. The grey marked areas showed significant Pearson Chi-Quare values (p < .05).

## 5.2 COMPARING THE FORMAL AND INFORMAL CAREGIVER PERSPECTIVE ON PERSON-CENTERED CARE

When the means of formal and informal caregivers on the variables were displayed in Table 2, it became clear that there was no difference in the experienced amount of person-centeredness by nursing staff and family caregivers. Formal caregivers scored on average 3.03 on the person-centeredness scale and informal caregivers 3.04 (see Table 2). Figure 5 shows the degree of person-centeredness according to formal and informal caregivers within a residential facility. The family data shows more variation than the caregiver data, both between and within residential facilities. The mean of formal and informal caregivers on person-centered care seem to contradict each other within some residential facilities, but are significantly correlated to each other (Pearson correlation = .409, p = .002). So, on average family members and caregivers have the same perspective on the amount of person-centered care.

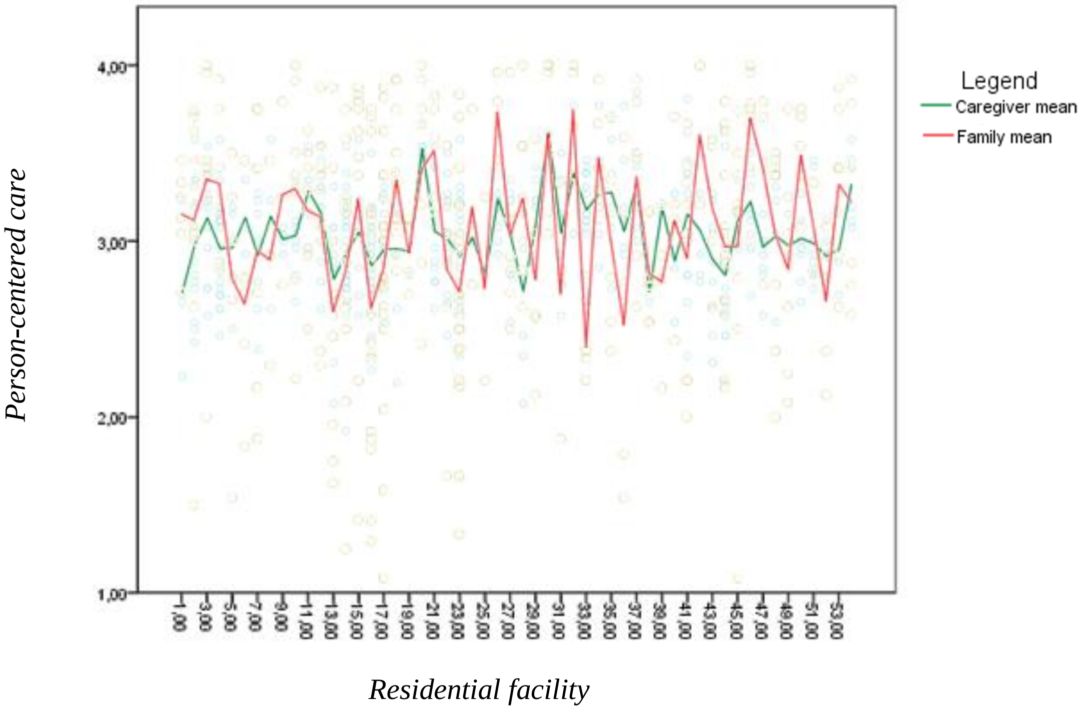

*Figure 5.* Degree of person-centeredness according to formal and informal caregivers by residential facility.

## 5.3 FORMAL CAREGIVER RESULTS

To find out what the effects of person-centered care are on job satisfaction, involvement and emotional exhaustion, this study will look at an intermediate process. This will be done by the widely used mediation steps of Baron and Kreps (1986). This section of the results will go through these steps one by one, to confirm or disconfirm hypothesis 1 to 5.

### Step one

The first step in mediation analysis according to Baron and Kreps (1986) is to state the relationship between the predictor variable, in this case person-centered care (PCC) and the outcome variables, while taking in to consideration the control variables. The results in Table 5 show that PCC has a strong positive relationship with job satisfaction and involvement. This means that when staff feel that care given is more person-centered, they report more satisfaction and involvement. PCC also strongly relates to emotional exhaustion, but in this case negatively. Professional caregivers who think the care is person-centered, report less emotional exhaustion. When no variables are in the model, the clustering of the data within residential facilities explains 18 percent of the variance in job satisfaction and 16 percent of the variance for involvement and emotional exhaustion. This indicates that it is important to take the clustering of the data in to account. The current model explains the variability more sufficiently on residential level than on individual level (Table 5). Only one of the control variables shows a significant relationship to one of the outcome measures. Living with a partner associates negatively with job satisfaction. So when formal caregivers live together with a partner at home, they tend to report less job satisfaction. According to the results, hypothesis 1 can be confirmed. The extent to which the nursing home is seen as person-centered by caregivers, relates positively with job satisfaction and job involvement of formal caregivers and relates negatively with emotional exhaustion of formal caregivers.

**Table 5**

*Multilevel Linear Regression Between the Predictor, Control Variables and the Outcome Measures; Satisfaction, Involvement and Emotional Exhaustion (N = 456)*

| | **Job Satisfaction** | | | **Job Involvement** | | | **Emotional Exhaustion** | | |
|---|---|---|---|---|---|---|---|---|---|
| | b | se | p | b | se | p | b | se | p |
| *Predictors* | | | | | | | | | |
| PCC | $.52^{***}$ | .071 | .000 | $.33^{***}$ | .063 | .000 | $-.76^{***}$ | .114 | .000 |
| *Control Variables* | | | | | | | | | |
| Female | .21 | .121 | .084 | .19 | .108 | .082 | -.15 | .195 | .445 |
| Age | .00 | .002 | .782 | -.00 | .002 | .412 | .00 | .003 | .236 |
| Living with partner | $-.11^{*}$ | .059 | .050 | -.04 | .053 | .442 | .13 | .095 | .164 |
| Education level | -.03 | .035 | .335 | -.04 | .032 | .168 | .09 | .057 | .107 |
| Dutch nationality | -.01 | .086 | .951 | -.08 | .078 | .299 | .02 | .140 | .888 |
| Permanent contract | .03 | .094 | .715 | -.06 | .085 | .504 | -.13 | .152 | .400 |
| Years of employment | .00 | .003 | .876 | -.00 | .003 | .400 | -.00 | .005 | .636 |
| Contract hours per week | -.00 | .004 | .268 | .01 | .004 | .117 | .01 | .006 | .114 |
| Snijders/Bosker $R^2$ individual level | | .19 | | | .11 | | | .12 | |
| Snijders/Bosker $R^2$ residential facility level | | .34 | | | .20 | | | .21 | |
| Intraclass coefficient | | .18 | | | .16 | | | .16 | |

* $p < .05$. ** $p < .01$. *** $p < .001$

### Step two

The first step of the mediation analysis is completed satisfactory; PCC has a significant relationship with every outcome measure. Therefore, step two can be performed, in which the relationships between PCC and the mediator variables are examined. Table 6 indicates that PCC correlates negatively with the mediators that are labeled as demands (quantitative and emotional job demands). So when staff experience more person-centeredness in a nursing home, this is often accompanied by less quantitative and emotional job demands. Experiencing more person-centeredness in a nursing home associates with having more time to provide good care for residents and not feeling emotionally affected by the job. This therefore confirms hypothesis 2; the extent to which the nursing home is seen as person-centered by formal caregivers relates negatively with quantitative and emotional job demands.

With regard to the job resources a positive relationship is observed. When staff perceive the care given as more person-centered, they report more social support of supervisor and coworkers and having a feeling of control. The experience of person-centeredness makes nurses feel they are involved in shared decision making and feel supported by their supervisor and coworker. This confirms hypothesis 3, stating that the extent to which the nursing home is seen as person-centered by formal caregivers relates positively with the job resources: control, support of supervisor and support of coworker.

Some of the control variables showed a significant relationship with the outcome measures. Female formal caregivers and caregivers with a permanent contract experience more support from their coworkers than male caregivers and caregivers with a temporary contract. Staff also indicate that the experience of support received of supervisor decreases with age. Emotional job demands are positively related to education level, Dutch nationality and contractual hours per week. Living with a partner and more contractual hours per week associate with more quantitative demands experienced. None of the control variables have a significant relationship with the degree to which nurses feel in control.

**Table 6**
*Multilevel Linear Regression between the Predictor, Control Variables and Psychosocial Job Characteristics of Formal Caregivers (N = 456)*

| | **Quantitative job demands** | | | **Emotional Job demands** | | | **Control** | | | **Social Support Supervisor** | | | **Social Support Coworkers** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | b | Se | p | b | se | p | b | se | p | b | se | p | b | se | p |
| *Predictors* | | | | | | | | | | | | | | | |
| PCC | -.33$^{***}$ | .058 | .000 | -.23$^{*}$ | .095 | .017 | .23$^{***}$ | .047 | .000 | .35$^{***}$ | .075 | .000 | .21$^{**}$ | .060 | .000 |
| *Control Variables* | | | | | | | | | | | | | | | |
| Female | .14 | .099 | .157 | -.17 | .168 | .314 | .11 | .082 | .180 | .20 | .128 | .117 | .26$^{*}$ | .105 | .013 |
| Age | .00 | .002 | .087 | .00 | .003 | .594 | -.00 | .001 | .077 | -.00$^{*}$ | .002 | .039 | -.00 | .002 | .450 |
| Living with partner | .10$^{*}$ | .048 | .045 | .06 | .081 | .485 | -.08 | .040 | .051 | -.07 | .062 | .243 | -.09 | .051 | .065 |
| Education level | -.02 | .029 | .520 | .10$^{*}$ | .049 | .047 | .04 | .024 | .082 | .01 | .037 | .869 | -.03 | .031 | .344 |
| Dutch nationality | .05 | .071 | .496 | .28$^{*}$ | .119 | .019 | .05 | .059 | .389 | -.01 | .092 | .897 | .06 | .075 | .452 |
| Permanent contract | -.10 | .077 | .199 | .12 | .129 | .336 | .07 | .064 | .293 | .03 | .100 | .744 | .19$^{*}$ | .081 | .022 |
| Years of employment | .00 | .003 | .612 | .00 | .004 | .282 | .00 | .002 | .655 | .00 | .003 | .338 | -.00 | .003 | .501 |
| Contract hours per week | .01$^{*}$ | .003 | .014 | .01$^{*}$ | .005 | .042 | .00 | .003 | .789 | .01 | .004 | .074 | -.00 | .003 | .524 |
| Snijders/Bosker $R^2$ individual level | .12 | | | .06 | | | .08 | | | .08 | | | .07 | | |
| Snijders/Bosker $R^2$ residential facility level | .20 | | | .12 | | | .15 | | | .10 | | | .10 | | |

* p < .05. ** p < .01. *** p < .001

### Step three

Step 3 of the mediation analysis comprises a multilevel regression analysis of the effect of PCC and the mediators on the outcome measures. In Table 7, the results of this analysis are shown. The quantitative job demands experienced by nurses hold strong relationships to all three outcome measures. The relationships between quantitative job demands and job satisfaction and involvement are negative, so more demands are associated with less satisfied and less involved personnel. More quantitative job demands also relate to more emotionally exhausted personnel. Experienced emotional job demands have no significant relationship with job involvement, but are an indication of less satisfied and more exhausted staff. None of the resources have a significant relationship with emotional exhaustion, but all relate positively to job satisfaction and involvement. Hypothesis 4 can be confirmed. Quantitative and emotional demands relate positively with emotional exhaustion and negatively with job satisfaction and involvement. It should be noted that the relationship between emotional demands and involvement is not significant here. Hypothesis 5 is also confirmed. The job resources relate positively with job satisfaction and involvement and negatively with emotional exhaustion. Although resources do not have a significant influence on the amount of emotional exhaustion experienced by healthcare staff.

All together current model with PCC and the mediators explains more variance (about 40%) than it did when only the predictor was in the model (about 20%), see Table 5. The model still explains the variability more sufficiently on residential level than on individual level (Table 7). Two control variables show a significant relationship with involvement only. The contractual working hours seem to have a positive impact and the higher education of nurses a negative influence on the involvement of the nurses.

**Table 7**

*Multilevel Linear Regression Between the Predictor, Mediators, Control Variables and the Outcome Measures; Satisfaction, Involvement and Emotional Exhaustion of Formal Caregivers (N = 456)*

| | **Job Satisfaction** | | | **Job Involvement** | | | **Emotional Exhaustion** | | |
|---|---|---|---|---|---|---|---|---|---|
| | b | se | p | b | se | p | b | se | p |
| *Predictor* | | | | | | | | | |
| PCC | .25$^{***}$ | .062 | .000 | .08 | .054 | .140 | -.39$^{***}$ | .103 | .000 |
| *Mediators* | | | | | | | | | |
| Quantitative job demands | -.22$^{***}$ | .051 | .000 | -.24$^{***}$ | .045 | .000 | .70$^{***}$ | .085 | .000 |
| Emotional job demands | -.06$^{*}$ | .029 | .027 | -.04 | .025 | .163 | .34$^{***}$ | .048 | .000 |
| Control | .23$^{**}$ | .066 | .001 | .12$^{*}$ | .058 | .039 | -.02 | .110 | .849 |
| Support Supervisor | .21$^{***}$ | .041 | .000 | .31$^{***}$ | .036 | .000 | -.10 | .068 | .129 |
| Support Coworker | .30$^{***}$ | .047 | .000 | .15$^{***}$ | .041 | .000 | -.01 | .078 | .921 |
| *Control Variables* | | | | | | | | | |
| Female | .08 | .102 | .414 | .10 | .090 | .263 | -.18 | .171 | .290 |
| Age | .00 | .002 | .065 | .00 | .001 | .512 | .00 | .003 | .637 |
| Living with partner | -.03 | .049 | .593 | .03 | .043 | .484 | .04 | .082 | .590 |
| Education level | -.04 | .030 | .230 | -.05$^{*}$ | .026 | .050 | .08 | .050 | .109 |
| Dutch nationality | .00 | .072 | .945 | -.07 | .064 | .240 | -.12 | .121 | .339 |
| Permanent contract | -.05 | .079 | .485 | -.12 | .069 | .072 | -.08 | .131 | .559 |
| Years of employment | .00 | .003 | .688 | -.00 | .002 | .261 | -.01 | .004 | .291 |
| Contract hours per week | -.00 | .003 | .448 | .01$^{**}$ | .003 | .035 | .00 | .005 | .775 |
| Snijders/Bosker $R^2$ individual level | | .43 | | | .43 | | | .38 | |
| Snijders/Bosker $R^2$ facility level | | .57 | | | .57 | | | .55 | |

* p < .05. ** p < .01. *** p < .001

### Mediation effects

Another important phase in step 3 is to look at the effects the predictor still has on the outcome variables when the mediators are taken into account (Table 7). When both the mediators and control variables are considered in the analysis, the effects of PCC on the outcome measures are still significant for job satisfaction and emotional exhaustion. This means that partial mediation took place for job satisfaction and involvement. Full mediation took place for job involvement, the relationship between PCC and involvement did not remain significant. To deduce whether the reduction in the relationship between the predictor and outcome variable was significant for job satisfaction and emotional exhaustion, a Sobel test was carried out. This also provides the chance to look at the mediators separately to see which one of them is responsible for the reduction of the PCC b-value in relation to job satisfaction, involvement and emotional exhaustion.

In Figure 6 a visual representation of the values used in a Sobel test are displayed. *A*, *B*, and *C'* are path coefficients. *A* is the unstandardized regression coefficient for the association between PCC and the mediator. *B* is the unstandardized coefficient for the association between the mediator and the outcome variable when PCC is also used as a predictor. *C'* is the unstandardized coefficient for the relationship between PCC and the outcome variable when the mediators are in the model. Values in parentheses are the standard errors of those path coefficients. Using the $A$ $(S_a)$ and $B$ $(S_b)$ values, the Sobel test determines whether the mediation effect was significant. In other words, to see if *C'* was significantly lower than the coefficient of the relationship between PCC and the outcome variables without the mediators in the model. The values $A$ $(S_a)$ can be found in the top row of Table 6, the values $B$ $(S_b)$ and *C'* can be found in Table 7, therefore only the results of the Sobel test will be presented in Table 8.

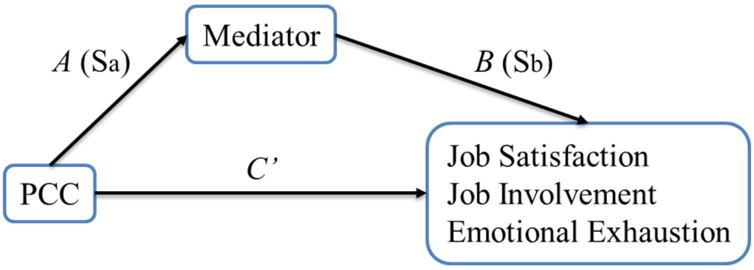

*Figure 6.* Visual representation of mediation analysis.

Table 8 shows that the effect of PCC on job satisfaction is significantly partially mediated by all mediators except by the emotional job demands. This means that PCC does not only have a direct relationship with nurse satisfaction, but also significantly influences quantitative job demands, control and support of supervisor and coworkers, which in turn influence satisfaction. Job involvement is fully mediated by the quantitative job demands and the social support of supervisor and coworkers. For the emotional exhaustion, only the demands seem to play a mediating role. When more PCC is experienced by nurses, less quantitative and emotional job demands are reported, associating to less emotionally exhausted staff.

**Table 8**
*Sobel Test to Control the if Relation between PCC and the Outcome Measures is Significantly Partially Mediated (N = 456)*

| | **Job Satisfaction** | | | **Job Involvement** | | | **Emotional Exhaustion** | | |
|---|---|---|---|---|---|---|---|---|---|
| | *t* | se | p | *t* | se | p | *t* | se | p |
| Quantitative Job Demands | $3.44^{***}$ | .021 | .001 | $3.89^{***}$ | .020 | .000 | $-4.68^{***}$ | .049 | .000 |
| Emotional Job Demands | 1.57 | .009 | .116 | - | - | - | $-2.29^{*}$ | .034 | .022 |
| Control | $2.84^{**}$ | .019 | .005 | 1.91 | .014 | .057 | - | - | - |
| Social Support Supervisor | $3.45^{***}$ | .021 | .001 | $4.10^{***}$ | .026 | .000 | - | - | - |
| Social Support Coworker | $3.07^{**}$ | .021 | .002 | $2.53^{*}$ | .012 | .011 | - | - | - |

$^{*}$ p < .050. $^{**}$ p < .010. $^{***}$ p < .001
*Note.* Those mediators who did not have a significant relationship with the outcome measures were not included in the test.

## 5.4 INFORMAL CAREGIVER RESULTS

Following the analysis of the formal caregivers' experience, the experience of the informal caregiver is now considered. In order to look at the relationship that PCC has with family satisfaction, involvement and strain a linear regression was carried out for which the results are shown in Table 9. In accordance with hypothesis 6, the results show that when care for a relative is perceived to be more person-centered, family caregivers are more satisfied, involved with the provided care in the nursing home and experience less strain. Control variables have a significant impact on experienced strain only. Spouses experience more strain than people with other relationships to the resident and for female family members experienced strain is greater.

**Table 9**
*Linear regression between PCC and Satisfaction, Involvement and Strain of Informal Caregivers (N = 373)*

| | **Satisfaction** | | | **Involvement** | | | **Strain** | | |
|---|---|---|---|---|---|---|---|---|---|
| | b | se | p | b | se | p | b | se | p |
| *Predictors* | | | | | | | | | |
| PCC | 1.37$^{***}$ | .069 | .000 | 1.07$^{***}$ | .060 | .000 | -.78$^{***}$ | .191 | .000 |
| *Control Variables* | | | | | | | | | |
| Age | -.00 | .005 | .886 | -.00 | .005 | .343 | .00 | .015 | .889 |
| Travelling Distance | .20 | .155 | .208 | .17 | .136 | .203 | -.81 | .433 | .062 |
| Spouse | .22 | .152 | .150 | -.04 | .132 | .757 | 2.17$^{***}$ | .422 | .000 |
| Sex | .08 | .100 | .439 | .03 | .087 | .770 | .68$^{*}$ | .278 | .016 |
| Sex Relative | -.07 | .097 | .490 | -.06 | .084 | .457 | -.45 | .269 | .098 |
| Education Level | .04 | .027 | .092 | .04 | .023 | .071 | -.05 | .074 | .542 |

$^{*}$ p < .05. $^{**}$ p < .010. $^{***}$ p < .001

# 6 CONCLUSION

This study aimed to compare staff and family perceptions of the provision of person-centered care and aimed to explore if these perceptions were associated with increased satisfaction, involvement and decreased strain. There is a relationship between formal and informal caregivers´ perception of the person-centeredness of a nursing home, although variation exists between residential facilities. Since their perceptions of the care are significantly correlated to each other, their perceptions seem to be congruous. The results also show that the perceived amount of person-centered care associates with more satisfaction, involvement and with less emotional exhaustion/strain, for formal as well as for informal caregivers. For professional caregivers part of these found relationships between person-centeredness and the outcome measures are explained by the influence working person-centered has on job demands and resources. Healthcare staff who work in a more person-centered environment experience more job satisfaction, involvement and less emotional exhaustion in part because they experience fewer job demands and more resources.

## 6.1 INTERPRETATION OF RESULTS

Adding the perception of the informal caregiver to the already studied formal caregiver perspective was a new way of looking at person-centeredness within a nursing home. This study shows that formal and informal caregivers in general feel the same about the person-centeredness of a nursing home. It is reassuring that no major differences were found, because that would indicate that one of these groups over- or underestimated the provided person-centered care. Since two views give a more reliable image of the reality than one, it seems reasonable that the results give a more realistic image of the amount of person-centeredness within nursing homes. The level of person-centeredness as perceived by formal and informal caregivers is quite high, but since there are no references available for the person-centeredness scale of Porock and Chang (2013) no grounded statements can be made about the level of person-centeredness. The degree of person-centeredness found is comparable with previous research in which 80 percent of the nurses indicated their nursing home as providing person-centered care (Willemse, Smit, Lange & Pot, 2011).

### Interpretation of formal caregiver results

The associations found between the perceptions of person-centered care of nurses and job satisfaction, involvement and emotional exhaustion, confirm the expectations. The findings of this study support the notion that being able to provide person-centered care is related to increased job satisfaction. Providing someone with good quality of care probably provides the nurses with a feeling of satisfaction. Focusing on needs and wishes of residents, promoting meaningful activities and a good, normal everyday life is also associated to more job involvement and less emotional exhaustion. It is possible that person-centered care indeed provides staff with a more useful framework for perceptions of competence to deal with the emotional demanding dementia care (Zimmerman et al., 2005), resulting in less experienced emotional exhaustion .

The increase in satisfaction, involvement and the decrease in emotional exhaustion is in part due to the relationship person-centered care has with the demands and resources. This thesis finds that when nursing homes are more person-centered according to healthcare staff, less quantitative and emotional demands are experienced. Because person-centered care focuses on the wishes and needs of the residents, the focus shifts from the task to the person. Providing person-centered care does not requires formal caregivers to do a certain amount of tasks in a certain amount of time (Willemse, Smit, Lange & Pot, 2011). Off course some acts need to be done, but professional caregivers might experience more flexibility in the how and when of those acts. Results from the study of Hoeffer et al. (2006) already indicated that providing person-centered care might be time saving, a possible explanation why healthcare staff experience less quantitative job demands when they perceive the care to be more person-centered. More calm behavior of residents and less hassles in performing a person-centered bath intervention associated with this lessened time to perform the act. Other research also finds that by providing residents with more person-centered care, less agitation, discomfort and aggression is observed in residents (Edvardsson, Winblad & Sandman, 2008). Putting the wishes and needs of a person central while caregiving (e.g. while bathing) results in less resistance-to-care behavior according to Konno, Kang and Makimoto (2014). Problematic behavior by residents are one of the largest factors contributing to caregiver burden (Beeri, Werner, Davidson, & Noy, 2002). So, nurses might experience less emotional demands in a more person-centered environment, because there are less often confronted with stressing situations.

Results of this thesis also state that when professional caregivers perceive the care to be more person-centered, they feel more in control and experience more social support of coworker and supervisor. Since working person-centered does not focus on the task, but on the needs of residents, there is less of a daily routine (Willemse et al., 2011). This might provide staff with more opportunity to control how and when they want to provide care. Caring in a person-centered environment is at its best when people are resourceful, able to trust colleagues and work easily as a team (Kitwood, 1997). Ideally care is much more than a matter of individuals taking care of other individuals, it should be the work of a team of people who together try to achieve a shared goal. Essential for person-centered care is the supportive social environment according to Brooker (2004), not only for residents, but for healthcare staff as well. The way employees are treated by their supervisors has an impact on residents. If staff feel abandoned for example, the residents will probably be too. Thus if an organization wants to provide person-centered care, it must also be committed to the personhood of all nursing staff (Kitwood, 1997). It therefore seems logical that the amount of person-centeredness in a nursing home according to nurses, holds relationships with more perceived support of coworkers and supervisor.

When regarding the mediating effects of the job demands and resources, this study found that several mediators explained why person-centered care is associated with more satisfied, involved and less emotionally exhausted formal caregivers. The increase in the job satisfaction and involvement of formal caregivers, was in part due to the decrease of quantitative job demands and the increase of the resources of staff. Resources have a motivational potential according to Demerouti, Bakker, Nachreiner and Schaufeli (2001), leading to highly satisfied and involved staff. This thesis confirms this expectation, the resources have a positive influence on the job satisfaction and involvement of professional caregivers. In this thesis the quantitative demands also play a role in explaining the association between person-centered care and job satisfaction/involvement, while emotional demands do not. An explanation might lie in the fact that nurses experience emotional demands as part of their job and therefore do not let emotional demands influence their satisfaction and involvement. So perhaps the quantitative job demands do affect satisfaction and involvement because it is not seen as part of the job to have to hurry and leave people without the proper care needed (Peeters, De Jonge & Taris, 2014). The increased perceived amount of control of caregivers did not explain why person-centered care was associated with more involved staff. When staff have a feeling of control they are likely to conclude that the organization trusts them and has confidence in their abilities (Clegg & Spencer, 2007). This intrinsically motivates them to do their job, resulting in more involved personnel (Peeters, De

Jonge & Taris, 2014). For nurses working in a person-centered environment, this intrinsic motivation is probably already there. According to Kitwood (1997) it is essential to attract the right kind of people for the nursing job, since knowledge and skill are relatively easy to gain, but attitudes are often difficult to change. So their intrinsic motivation and involvement might not spring from more control, but from their agreement with the way care is offered in the nursing home.

### Interpretation of family results

Since the results of family outcomes are quite new, there is not a lot of research to compare the outcomes of this study with. Other research did find an indication of family members being less strained when person-centered care was provided (Willemse et al., 2011). This study confirms this finding, stating that when family members perceive the care to be more person-centered they report less strain. This study did not focus on intermediate processes, but it seems reasonable that when family members experience the care to be more person-centered, they have less to worry about. Families expect staff to provide care to be individualized and sensitive and are often upset when they think staff sees residents as an object rather than a person (Duncan & Morgan, 1994). When the care is perceived as more person-centered, this stress is taken away and gives family members the opportunity to care for themselves too. When a nursing home works more person-centered, there is more attention for the past life of the residents. Families are a huge part of this person’s life and are encouraged to tell about the person’s hobbies, habits and lifestyle for example. This increasing contact between the nursing home and family members, might make family members feel more important. They have a say in how they want their family member to be taken care of and that makes them more involved and satisfied with the care. A reason why family members are so highly satisfied with the nursing home in this study, might lie in the fact that in most cases family members first conduct a search for a nursing home and ultimately select the setting that meets their preferences. This high self-reported satisfaction does not take away that many families consider person-centered care to be the most important issue in care, leading to more satisfied family members (Heggestad, Nortvedt & Slettebø, 2015).

# 7 DISCUSSION

## 7.1 STRENGTHS AND WEAKNESSES

Before one can conclude that person-centered care holds relationships to more satisfaction, involvement and less strain / emotional exhaustion experienced by formal and informal caregivers, some limitations of this study need to be taken into consideration. One could question the assumed directions as examined in this study. For example one may doubt if it is person-centered care that leads to more experienced social support and involvement, or that social support and involvement are prerequisites of person-centered care. The assumption would then be that for person-centered care to be successful, nurses should be involved in their job, work well together and support each other. Still, the relationship with the direction from person-centered care to social support is not entirely implausible, since social support is a job resource which can according to the literature be affected by the way a job is designed (Peeters, De Jonge & Taris, 2014). Other research also measured how different ways of working (e.g. small-scale, demand-oriented or person-centered care) associate with experienced social support of professional caregivers (Berkhout et al., 2004; te Boekhorst et al., 2008 & Boumans et al., 2008). Also for involvement the direction seems plausible, because involvement is often the result of a process of socialization (Lodahl & Kejnar, 1965). The internalization of norms and values of the organization takes time, so in terms of the time sequence it seems logical that professional caregivers first have to work in an organization before they can get involved in it. Besides, the direction between two concepts does not have an influence on the relationship between the two, so found relationships are still of value.

Another more methodological limitation of the current study is the fact that different items were used to measure staff and family perceptions of the provision of person-centered care in the nursing home. Questionnaires especially designed to measure person-centeredness from a staff- and family point of view were used, but the content of these questionnaires were not entirely the same. Due to a misfit of current data from family members with the original model a factor analysis determined that not all items were taken into the analysis. This resulted in different items that were used in the family and staff data analyses. Still a lot of the items were used, but the comparison from the family with the caregivers’ view might not be completely legitimate. Therefore, this study chose to only report the correlation between the family and caregiver person-centered care mean and not analyze it further.

Since the participating facilities had to pay a contribution to the research, a smaller amount of facilities eventually participated in this study in comparison to earlier waves. This might have created a bias in the sample. It is probable that the richer, more improvement-focused and well-organized organizations participated in this study. Since person-centered care is associated with good quality of care, organizations who participated might have invested more in this way of working than less fortunate facilities. This could have led to a sample where there is on average a more person-centered way of working that is not generalizable to the entire population of nursing home facilities in the Netherlands. No firm statements can be made about the level of person-centeredness in the nursing homes since there is no reference group available and the psychometric properties of the questionnaires of Porock and Chang (2013) are not thoroughly tested yet. In contrast to other studies, this study did not target facilities who specifically work person-centered precisely to avoid this kind of bias. So despite taking this bias in account, there is a possibility that the participating residential facilities were more person-centered than the general population of residential facilities.

Even if these facilities were more person-centered than the average nursing home, this would not affect the direction of the relationship between person-centered care and the outcome measures. It is a strength of this study that a variety of different nursing homes were included. From small-scale to large-scale, from psychogeriatric units to whole facilities, all were represented. Willemse et al. (2015) controlled if the facilities participating in measurement round three, differed from the facilities in the second round in terms of; small-scale care, staffing and the intensity of care needed by residents. There were no differences found between the two measurement rounds, so the fact that a contribution was asked of residential facilities did not have an influence on several characteristics of participating nursing homes. So the bias of the richer, better organized facilities might not be entirely applicable to the sample of this study. Improving quality of care could just as well have been reason for facilities to participate in this study.

Another strength of this study is the addition of the family perspective on person-centered care that was not studied earlier in this way. By providing the perspective of the informal caregiver on the way care is given, a more comprehensive view of the concept of person-centered care emerges. It was also quite new to relate the way of working in a residential facility to satisfaction, involvement and strain of family members. By doing this, more insight in how to improve the experience of family members with dementia nursing home care is provided.

While most studies focus on either negative outcomes (burden, strain) or positive outcomes (satisfaction, involvement), this study looked at two sides of the same coin. This allows person-centered care to be studied in a broader context, not only the positive and not only the negative. By taking this perspective, the value of person-centered care can be better estimated. Now the results of the study make a stronger case, because person-centered care does not only relate positively to satisfaction and involvement, it also predicts less experienced emotional exhaustion or strain by formal and informal caregivers.

## 7.2 FUTURE RESEARCH

Despite current research, future researchers still have a lot to explore. First of all future research should take the limitations of current research into account. To conclude if the association between person-centered care and involvement and social support coworkers really proceeds in the suggested direction, a pre- and post-test design would give concluding answers. A nursing home should be tested at a baseline and after a more person-centered way of working was implemented. This would provide insight if it are involved and supporting nurses who are able to provide person-centered care, or giving more personalized, sensitive care makes nurses more involved and supportive of their coworkers. Ideally, future research should be funded again, so that the bias of the more rich organizations is taken away and the research could be done in more residential facilities. Future psychometric testing of the scales of Porock and Chang (2013) would result in a better insight in the validity and reliability of the measurement. This way more conclusive statements could be made about the level of person-centeredness in the nursing home, since the interpretation of the level of person-centeredness is now difficult.

Next to the more practical suggestions for further research, future research can be brought to a new level in terms of content. Since this study suggests there is a relationship between person-centered care and more satisfied, involved and less strained professional caregivers the question rises whether it could be a solution for the problems that are currently existing in nursing dementia care. Does person-centered care for example also associates with the intention to leave the profession, or to keep in it? Does this way of working improves the image of nursing, making it a more desirable career path? Also in the informal caregivers research, much can be done. Why family caregivers report more satisfaction, involvement and less strain, when the care is perceived to be more person-centered, is still unknown. These gaps can be filled by focusing more research on the family, for example by looking at the stress-process model of Aneshensel et al. (1995). Of interest is what person-centered care makes family members feel less strained, so nursing homes could anticipate on the elements of person-centered care that relate to these positive outcomes. Additional research is also expedient toward understanding family caregiver’s desires for more and less involvement. Do family members want to play a bigger part in the care of their relative or are they satisfied with their current involvement? Another suggestion might be to connect the data of the family members more with the data of the nurses from the same nursing home. Does the involvement of family members for example associate with caregiver satisfaction and vice versa? Does the experience of caregivers of their job influence how strained family members are? By studying the associations between nurses and family members more, an implication for better cooperation could be suggested, resulting eventually in better care for the residents.

# 8 RECOMMENDATIONS

The last decade the personalization of care was trending. Governments, policy makers, healthcare institutions, they all stimulated the use of person-centered care. Especially in the Netherlands person-centered care was one of the top issues in the Dutch lower house in the last few years. Either by policy or the cultural movement, a great amount of person-centeredness is viewed in society. Current thesis also indicates that the dementia care given in Dutch nursing homes, is considerably person-centered. This person-centeredness is associated with all kinds of positive outcomes. What this thesis found, is that the level of person-centeredness of a nursing home is related to the satisfaction, involvement and emotional exhaustion / strain of formal and informal caregivers. When a nursing home works more person-centered according to healthcare staff and family caregivers, they indicate more satisfaction, involvement and less emotional exhaustion. With the negative image of the elderly care and high turnover in mind, it is necessary to keep nurses satisfied, involved and especially not emotional exhausted. Providing person-centered care might thus be a way to positively influence the work experience of nurses, making them less eager to leave the profession. Changing the vision and way of working with elderly with dementia could therefore be a way to reduce the upcoming future labor shortage. Family caregivers also seem to benefit from a more person-centered way of caring. Like the nurses, they feel more satisfied about the care, they feel more involved in the care for their relative and the experienced strain decreased when family caregivers thought the care given was more person-centered. Strain is still a common problem among family caregivers, so the fact that a different view on caring for someone might help reduce this, is an interesting finding. While maintaining a good quality of care the experience of formal caregivers with their job and informal caregivers with the care can be improved. In the lights of these results, the practice of person-centered care could therefore only be stimulated.

### Education of nurses

Implementing person-centered care in the education of nurses can be recommended in itself, so nurses are better prepared to work according this vision before rather than after admitting the labor market. People are better able to learn new habits, than to ‘unlearn’ old habits, like the depersonalizing tendencies of nurses as described by Kitwood (1997). By providing more attention to person-centered care in the education of nurses, they will be suited with the right information, enabling them to provide this kind of care. Nowadays healthcare staff have to follow courses about person-centered care, while they are already in employment. Most of the healthcare staff included in this thesis had an educational level 3. The core of this education is to teach students how to care for people in terms of washing, eating and dressing. They also learn that it is important to provide psychosocial care and are encouraged to help care recipients to be self-reliant. According to Dutch nursing students this education is missing depth. Students have a feeling that elderly care is about ‘delivering care’, without time for the personal aspect (Hamers et al., 2012). The institutions who provide this students’ education could implement more attention to person-centered care in their curriculum. Currently this attention is lacking in part because some people think that to provide person-centered care, you need to be able to do household chores (Hamers, 2011). The realization needs to occur that person-centered care is more than just providing in a home-like environment, but also includes the supporting of personhood and providing care recipients in needs in which they cannot provide themselves (Brooker, 2004). The investment of placing person-centered care in the curriculum, might be a great one, since this will probably be at the expense of other subjects in the curriculum. But by providing this subject, more students’ attention will be drawn to the occupation, because students indicate that they get inspired by personal life stories of people (Hamers et al., 2012). This investment will result in better prepared healthcare staff, who will be according to this thesis be more likely to be satisfied, involved and less emotionally exhausted.

Off course it is wise to start paying attention to person-centered care at the beginning of nurses’ education, but much can be done when healthcare staff is already working in practice. Since there are many frameworks and manuals for how person-centered care should be implemented in practice, this research will not provide another one, but will place the results of current study in a broader context. The students participating in the study of Hamers et al. (2012) also indicated that there is not enough attention to recent developments in their education. The following recommendations are therefore focused on two recent developments in dementia care, to create an instructive piece for students as well as for nursing homes. By relating the results of the previously described thesis with current trends and developments in the Dutch dementia care, opportunities and challenges will be uncovered. Two developments (self-organization and family participation) will be discussed to draw the attention of nursing homes to certain points.

## The trend of self-organization

The first notable development in dementia care is the change of organizing structures in more flat organizations. The idea is that traditional operating organizations are not flexible enough to respond to the often changing demands of the client. An organization with self-organizing or self-directing teams, who have varied tasks and are able to solve their own problems, are considered better able to take good and fast care of their clients. By giving the teams autonomy and control, they can act more independently (Bureau voor Toegepaste Sociale Gerontologie, 2016). This self-organizing team structure thus fits well with the idea of person-centered care, in order to provide care that meets the demands of the client the nurses have to work together as a team. This way of organizing the nurses' job might improve nurses' satisfaction, involvement and strain, just because they think the care given is more person-centered. But working with these teams is relatively new, especially within the elderly care. By looking at what we know from the current thesis about the job demands and resources of professional caregivers and their associations to job related wellbeing, some recommendations are formulated to give shape to these teams.

Self-organizing teams have a comprehensive task, from providing care, to scheduling, cleaning and fixing everyday problems. Organizations should be aware that this task might be too demanding for a regular nurse. Quantitative job demands come forward in current study as one of the most important factors in determining the satisfaction, involvement and emotional exhaustion of healthcare staff. It is therefore important that organizations do not give staff too much tasks for too little persons, not depleting the energy of the personnel. By either enlarging the team or diminishing the number of tasks, this task overload can be prevented. If team members together uncover their strengths and weaknesses, they have a possibility to prevent task overload. By doing what you do best and leaving the things that cost you a lot of energy for someone else, demands are less able to work health impairing. It is therefore important that team members get to know each other and make space for personal development in regular meetings.

Self-organizing teams do on the other hand improve the amount of resources of nurses, by giving them the power to provide care in the most independent way as possible. From current thesis we know it is effective to improve the amount of control experienced by caregivers to elevate staff's wellbeing. An even greater effect is expected from the enhanced social support of coworkers. Working in these kind of teams stimulates cooperation between team members and therefore might contribute to the social support they receive from each other. Improving the social support coworkers receive from one other, can be an effective way to improve the satisfaction and involvement in their job. However, as a result of these self-organizing teams many residential facilities remove an entire layer of supervisors, causing the remaining supervisors to delegate from a greater distance to the nurses (Bureau voor Toegepaste Sociale Gerontologie, 2016). According to the results of this study, the social support experienced by a supervisor is of great importance when it comes to job satisfaction and involvement. Nursing homes should therefore not just remove a layer of supervisors without considering the consequences. A team coach could be employed as a solution for the removal of management. This team coach can be one of the nurses themselves, who is the process´ guardian and keeps an eye on the quality of care delivered (Bureau voor Toegepaste Sociale Gerontologie, 2016). This way nurses still feel supported by a supervisor and are more likely to be involved and satisfied with their job. Working with self-organizing teams thus fits well with improving person-centered care, but the effects it has on the job demands and resources of nurses should be carefully regarded by nursing homes.

### The trend of family participation

The second recent development takes place in the field of family participation. Up until the nineties family participation was thought to be something that should be limited. Now there is increasing emphasis for the fact that people should be more self-reliant, depending on their own social networks and not in the first case on the government. This has financial reasons, but was also brought to life to create more social cohesion in our society (De Vries & Kossen, 2015). With family participation, professional caregivers could support the private network of the family, giving family members the opportunity to provide the care as they did at home. This has the advantage that provided care more often fits with the wishes and needs of the resident. The increasing attention that goes to family involvement in intramural care is on the one hand due to the care giving facilities and government who see family involvement as an improvement of care (Willemse, 2011). Nurses and family caregivers can become partners in care, whereby family fulfils their role as representative of the person with dementia and has a say in the provided care. By providing nurses with the life history, preferences, habits and needs of the resident, better care can be provided. This can be done by a ´book of life ´, in which pictures and stories remind both the family caregiver and relative with dementia of good old times (Stichting Geriant, 2010). Several subjects can be discussed in this book such as: heritage, housing, school, leisure activities, friendships, love, family, personality, faith and a whole lot more. This book can be made by the person with dementia and their family caregivers and can form a basis for the professional caregivers´ approach to the person with dementia. This kind of books can provide practical knowledge about a resident, which helps formal caregivers in providing person-centered care. By creating a life book, family caregivers feel of use, what they know and can do is of value. With their help the best kind of care for their relative can be established. The family participation trend is also continuing because there will not be enough professional nurses to provide every nursing home resident in all their needs  (Willemse et al., 2011). To ensure the durability of the elderly care in which the number of employees sharply declines and the amount of people with dementia will double, it is necessary that family steps up.

Since it is a wish to include family members more in the care of the residents, providing person-centered care might be a beginning. By for example involving family members in the making of a ´book of life´, formal caregivers´ profit because they can use it as a guideline in their care and family members feel more involved. This gives them the space, opportunity and feeling that they have a say in the care provided. Family caregivers can not only be a partner in the care giving process, but are sometimes also in need of care. So as a professional caregiver it is not only important to stimulate family participation, but support family caregivers in their requests for help (Vilans, 2013). Family caregivers are experts when it comes to the person with dementia, because of the personal relationship they have together. Professional caregivers should encourage the interpersonal contact between family caregivers and their relatives by organizing family diners or activities (Vilans, 2013). Family caregivers could participate more in the organization of activities or in simple care tasks such as setting the table for breakfast or making coffee and tea. Person-centered care might open doors to enhance family participation, without obliging family members to participate in the care. A residential facility in the Netherlands obliged family members in 2012 to contribute four hours a month in the care for the residents. A lot of resistance emerged from this approach. Obliging family members to be involved in the care was not successful in that case, a more indirect way of inviting family members to be involved with the care has probably more chance to succeed. Givig person-centered care puts the involvement of families into a lift according to this study, providing a practical solution to staff shortages and contribute to a better quality of life for residents (e.g. by more personal attention and more welfare activities). When family caregivers focus on the personal side of care giving, in which they are considered experts, professional caregivers have more time for (physical) care related tasks. Since person-centered care is also associated with more satisfaction and involvement of nurses, better circumstances for cooperation between family and nurses arise.

### The triad

In sum, using a person-centered way of working has positive effects for nurses and families and should therefore be stimulated in the education of healthcare staff. Health care organizations might, next to using person-centered care, focus on the demands and resources of nurses in order to keep them satisfied, involved and not emotionally exhausted. When looking at the recent trend of self-organization in healthcare, it is important that residential facilities do not demand to much of nurses but provide resources. Family participation is upcoming and is easily facilitated by providing person-centered care in a nursing home. By giving person-centered care formal and informal caregivers feel more satisfied and involved, whereby prerequisites for cooperation were created. All in all, person-centered care plays a role in preventing problems (high turnover, negative image of elderly care, staff shortages), just by providing care that makes people’s lives worth living for. When considering dementia care it is easy to get lost in theories, solutions, trends and policy, but let us not forget the first and foremost actor of the triad: the people with dementia. Person-centered care has emerged to serve people with dementia in the best way possible and it is important to keep developing best care practices. Providing in the needs of people in dementia should be priority number one, since they cannot do this themselves.

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# APPENDIX A

## Sampling Protocol Residents

On the checklist you have noted how large the sample should be, check this. You draw a sample size of one third of the residents with dementia in the particular residential facility. This percentage shall represent at least 12 residents. If the residential facility has less than 36 residents, you make sure you still have 12 residents in the sample. If there are less than 12 residents with dementia, everyone is taken into the study.

- Pay attention! We want the questionnaires to be filled out by the first family contact. If a resident lacks a first family contact, another resident should be selected.

## <u>Sampling:</u>

Always take the first resident whose last name begins with the letters stated below. After selecting a resident go on to the next letter. If none of the residents have a last name with the stated letters, just take the next letter in the order. Stop if you have the right amount of residents in your sample.

1. A
2. D
3. G
4. J
5. M
6. P
7. S
8. V
9. Y
10. B
11. E
12. H
13. K
14. N
15. Q
16. T
17. W
18. Z
19. C
20. F
21. I
22. L
23. O
24. R
25. U
26. X

# APPENDIX B

## Correlations of formal caregivers data

### Correlations

| | | Person-centered care | Job Satisfaction | Job Involvement | Emotional Exhaustion | Quantitative job demands | Emotional job demands |
|---|---|---|---|---|---|---|---|
| Person-centered care | Pearson Correlation | 1 | ,356$^{**}$ | ,259$^{**}$ | -,295$^{**}$ | -,294$^{**}$ | -,096$^{*}$ |
| | Sig. (2-tailed) | | ,000 | ,000 | ,000 | ,000 | ,040 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Job Satisfaction | Pearson Correlation | ,356$^{**}$ | 1 | ,645$^{**}$ | -,392$^{**}$ | -,428$^{**}$ | -,201$^{**}$ |
| | Sig. (2-tailed) | ,000 | | ,000 | ,000 | ,000 | ,000 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Job Involvement | Pearson Correlation | ,259$^{**}$ | ,645$^{**}$ | 1 | -,361$^{**}$ | -,437$^{**}$ | -,183$^{**}$ |
| | Sig. (2-tailed) | ,000 | ,000 | | ,000 | ,000 | ,000 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Emotional Exhaustion | Pearson Correlation | -,295$^{**}$ | -,392$^{**}$ | -,361$^{**}$ | 1 | ,510$^{**}$ | ,386$^{**}$ |
| | Sig. (2-tailed) | ,000 | ,000 | ,000 | | ,000 | ,000 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Quantitative Job demands | Pearson Correlation | -,294$^{**}$ | -,428$^{**}$ | -,437$^{**}$ | ,510$^{**}$ | 1 | ,221$^{**}$ |
| | Sig. (2-tailed) | ,000 | ,000 | ,000 | ,000 | | ,000 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Emotional Job demands | Pearson Correlation | -,096$^{*}$ | -,201$^{**}$ | -,183$^{**}$ | ,386$^{**}$ | ,221$^{**}$ | 1 |
| | Sig. (2-tailed) | ,040 | ,000 | ,000 | ,000 | ,000 | |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Control | Pearson Correlation | ,241$^{**}$ | ,432$^{**}$ | ,403$^{**}$ | -,278$^{**}$ | -,454$^{**}$ | -,101$^{*}$ |
| | Sig. (2-tailed) | ,000 | ,000 | ,000 | ,000 | ,000 | ,031 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Support | Pearson Correlation | ,210$^{**}$ | ,441$^{**}$ | ,544$^{**}$ | -,268$^{**}$ | -,311$^{**}$ | -,113$^{*}$ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Supervisor | Sig. (2-tailed) | ,000 | ,000 | ,000 | ,000 | ,000 | ,016 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Support Coworker | Pearson Correlation | ,158** | ,402** | ,307** | -,125** | -,113* | -,064 |
| | Sig. (2-tailed) | ,001 | ,000 | ,000 | ,008 | ,016 | ,175 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Female | Pearson Correlation | ,000 | ,103* | ,095* | -,083 | ,002 | -,075 |
| | Sig. (2-tailed) | ,995 | ,028 | ,042 | ,077 | ,966 | ,109 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Age | Pearson Correlation | ,093* | ,033 | -,070 | ,040 | ,056 | ,043 |
| | Sig. (2-tailed) | ,046 | ,481 | ,135 | ,397 | ,236 | ,354 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Living with partner | Pearson Correlation | ,106* | -,035 | -,062 | ,041 | ,050 | ,021 |
| | Sig. (2-tailed) | ,024 | ,461 | ,190 | ,385 | ,290 | ,653 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Education level | Pearson Correlation | ,074 | -,051 | -,076 | ,087 | -,008 | ,103* |
| | Sig. (2-tailed) | ,116 | ,274 | ,106 | ,064 | ,871 | ,028 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Dutch nationality | Pearson Correlation | ,016 | -,006 | -,053 | ,000 | ,023 | ,106* |
| | Sig. (2-tailed) | ,738 | ,902 | ,255 | ,992 | ,631 | ,023 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Permanent contract | Pearson Correlation | ,025 | ,018 | -,057 | -,007 | ,014 | ,065 |
| | Sig. (2-tailed) | ,592 | ,694 | ,223 | ,874 | ,759 | ,166 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Years of employment . | Pearson Correlation | ,002 | ,022 | -,075 | ,003 | ,053 | ,083 |
| | Sig. (2-tailed) | ,970 | ,645 | ,111 | ,941 | ,260 | ,076 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |
| Contract | Pearson Correlation | ,057 | -,027 | ,079 | ,054 | ,067 | ,096* |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| hours per week | Sig. (2-tailed) | ,226 | ,561 | ,092 | ,249 | ,153 | ,040 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 |

**Correlations**

| | | Control | Support Supervisor | Support Coworker | Female | Age | Living with partner | Education level |
|---|---|---|---|---|---|---|---|---|
| Person-centered care | Pearson Correlation | ,241$^{**}$ | ,210$^{**}$ | ,158$^{**}$ | ,000 | ,093$^{*}$ | ,106$^{*}$ | ,074 |
| | Sig. (2-tailed) | ,000 | ,000 | ,001 | ,995 | ,046 | ,024 | ,116 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Job Satisfaction | Pearson Correlation | ,432$^{**}$ | ,441$^{**}$ | ,402$^{**}$ | ,103$^{*}$ | ,033 | -,035 | -,051 |
| | Sig. (2-tailed) | ,000 | ,000 | ,000 | ,028 | ,481 | ,461 | ,274 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Job Involvement | Pearson Correlation | ,403$^{**}$ | ,544$^{**}$ | ,307$^{**}$ | ,095$^{*}$ | -,070 | -,062 | -,076 |
| | Sig. (2-tailed) | ,000 | ,000 | ,000 | ,042 | ,135 | ,190 | ,106 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Emotional Exhaustion | Pearson Correlation | -,278$^{**}$ | -,268$^{**}$ | -,125$^{**}$ | -,083 | ,040 | ,041 | ,087 |
| | Sig. (2-tailed) | ,000 | ,000 | ,008 | ,077 | ,397 | ,385 | ,064 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Quantitatieve job demands | Pearson Correlation | -,454$^{**}$ | -,311$^{**}$ | -,113$^{*}$ | ,002 | ,056 | ,050 | -,008 |
| | Sig. (2-tailed) | ,000 | ,000 | ,016 | ,966 | ,236 | ,290 | ,871 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Qualitatieve job demands | Pearson Correlation | -,101$^{*}$ | -,113$^{*}$ | -,064 | -,075 | ,043 | ,021 | ,103$^{*}$ |
| | Sig. (2-tailed) | ,031 | ,016 | ,175 | ,109 | ,354 | ,653 | ,028 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Control | Pearson Correlation | 1 | ,418$^{**}$ | ,238$^{**}$ | ,077 | -,060 | -,060 | ,058 |
| | Sig. (2-tailed) | | ,000 | ,000 | ,102 | ,203 | ,202 | ,216 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Support | Pearson Correlation | ,418$^{**}$ | 1 | ,302$^{**}$ | ,094$^{*}$ | -,104$^{*}$ | -,076 | -,005 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Supervisor | Sig. (2-tailed) | ,000 | | ,000 | ,046 | ,026 | ,106 | ,920 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Support Coworker | Pearson Correlation | ,238$^{**}$ | ,302$^{**}$ | 1 | ,136$^{**}$ | -,027 | -,061 | -,060 |
| | Sig. (2-tailed) | ,000 | ,000 | | ,004 | ,560 | ,197 | ,198 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Female | Pearson Correlation | ,077 | ,094$^{*}$ | ,136$^{**}$ | 1 | -,044 | -,036 | -,091 |
| | Sig. (2-tailed) | ,102 | ,046 | ,004 | | ,349 | ,449 | ,053 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Age | Pearson Correlation | -,060 | -,104$^{*}$ | -,027 | -,044 | 1 | ,176$^{**}$ | ,022 |
| | Sig. (2-tailed) | ,203 | ,026 | ,560 | ,349 | | ,000 | ,645 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Living with partner | Pearson Correlation | -,060 | -,076 | -,061 | -,036 | ,176$^{**}$ | 1 | ,074 |
| | Sig. (2-tailed) | ,202 | ,106 | ,197 | ,449 | ,000 | | ,114 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Education level | Pearson Correlation | ,058 | -,005 | -,060 | -,091 | ,022 | ,074 | 1 |
| | Sig. (2-tailed) | ,216 | ,920 | ,198 | ,053 | ,645 | ,114 | |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Dutch nationality | Pearson Correlation | ,041 | -,005 | ,030 | -,006 | -,021 | -,008 | ,031 |
| | Sig. (2-tailed) | ,387 | ,916 | ,525 | ,903 | ,652 | ,860 | ,506 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Permanent contract | Pearson Correlation | ,031 | -,011 | ,094$^{*}$ | ,046 | ,183$^{**}$ | ,111$^{*}$ | -,081 |
| | Sig. (2-tailed) | ,502 | ,819 | ,045 | ,332 | ,000 | ,018 | ,084 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Years of employment . | Pearson Correlation | -,005 | -,001 | -,022 | -,005 | ,359$^{**}$ | ,087 | ,018 |
| | Sig. (2-tailed) | ,912 | ,983 | ,642 | ,920 | ,000 | ,063 | ,700 |
| | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Contract | Pearson Correlation | ,020 | ,090 | -,015 | -,138$^{**}$ | -,121$^{**}$ | -,272$^{**}$ | ,091 |

|  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|
| hours per week | Sig. (2-tailed) | ,666 | ,054 | ,746 | ,003 | ,010 | ,000 | ,052 |
|  | N | 456 | 456 | 456 | 456 | 456 | 456 | 456 |

**Correlations**

|  |  | Dutch nationality | Permanent contract | Years of employment. | Contract hours per week |
|---|---|---|---|---|---|
| Person-centered care | Pearson Correlation | ,016 | ,025 | ,002 | ,057 |
|  | Sig. (2-tailed) | ,738 | ,592 | ,970 | ,226 |
|  | N | 456 | 456 | 456 | 456 |
| Job Satisfaction | Pearson Correlation | -,006 | ,018 | ,022 | -,027 |
|  | Sig. (2-tailed) | ,902 | ,694 | ,645 | ,561 |
|  | N | 456 | 456 | 456 | 456 |
| Job Involvement | Pearson Correlation | -,053 | -,057 | -,075 | ,079 |
|  | Sig. (2-tailed) | ,255 | ,223 | ,111 | ,092 |
|  | N | 456 | 456 | 456 | 456 |
| Emotional Exhaustion | Pearson Correlation | ,000 | -,007 | ,003 | ,054 |
|  | Sig. (2-tailed) | ,992 | ,874 | ,941 | ,249 |
|  | N | 456 | 456 | 456 | 456 |
| Quantitatieve job demands | Pearson Correlation | ,023 | ,014 | ,053 | ,067 |
|  | Sig. (2-tailed) | ,631 | ,759 | ,260 | ,153 |
|  | N | 456 | 456 | 456 | 456 |
| Qualitatieve job demands | Pearson Correlation | ,106* | ,065 | ,083 | ,096* |
|  | Sig. (2-tailed) | ,023 | ,166 | ,076 | ,040 |
|  | N | 456 | 456 | 456 | 456 |
| Control | Pearson Correlation | ,041 | ,031 | -,005 | ,020 |
|  | Sig. (2-tailed) | ,387 | ,502 | ,912 | ,666 |
|  | N | 456 | 456 | 456 | 456 |

| | | | | | |
|---|---|---|---|---|---|
| Support Supervisor | Pearson Correlation | -,005 | -,011 | -,001 | ,090 |
| | Sig. (2-tailed) | ,916 | ,819 | ,983 | ,054 |
| | N | 456 | 456 | 456 | 456 |
| Support Coworker | Pearson Correlation | ,030 | ,094* | -,022 | -,015 |
| | Sig. (2-tailed) | ,525 | ,045 | ,642 | ,746 |
| | N | 456 | 456 | 456 | 456 |
| Female | Pearson Correlation | -,006 | ,046 | -,005 | -,138** |
| | Sig. (2-tailed) | ,903 | ,332 | ,920 | ,003 |
| | N | 456 | 456 | 456 | 456 |
| Age | Pearson Correlation | -,021 | ,183** | ,359** | -,121** |
| | Sig. (2-tailed) | ,652 | ,000 | ,000 | ,010 |
| | N | 456 | 456 | 456 | 456 |
| Living with partner | Pearson Correlation | -,008 | ,111* | ,087 | -,272** |
| | Sig. (2-tailed) | ,860 | ,018 | ,063 | ,000 |
| | N | 456 | 456 | 456 | 456 |
| Education level | Pearson Correlation | ,031 | -,081 | ,018 | ,091 |
| | Sig. (2-tailed) | ,506 | ,084 | ,700 | ,052 |
| | N | 456 | 456 | 456 | 456 |
| Dutch nationality | Pearson Correlation | 1 | -,004 | ,041 | ,007 |
| | Sig. (2-tailed) | | ,938 | ,380 | ,877 |
| | N | 456 | 456 | 456 | 456 |
| Permanent contract | Pearson Correlation | -,004 | 1 | ,224** | ,031 |
| | Sig. (2-tailed) | ,938 | | ,000 | ,510 |
| | N | 456 | 456 | 456 | 456 |
| Years of employment. | Pearson Correlation | ,041 | ,224** | 1 | -,065 |
| | Sig. (2-tailed) | ,380 | ,000 | | ,168 |
| | N | 456 | 456 | 456 | 456 |

| | | | | | |
|---|---|---|---|---|---|
| Contract hours per week | Pearson Correlation | ,007 | ,031 | -,065 | 1 |
| | Sig. (2-tailed) | ,877 | ,510 | ,168 | |
| | N | 456 | 456 | 456 | 456 |

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

*. Correlation is significant at the 0.05 level (2-tailed).

## Correlations of informal caregivers data

**Correlations**

| | | Person-centered care | Satisfaction | Involvement |
|---|---|---|---|---|
| Person-centered care | Pearson Correlation | 1 | ,720** | ,681** |
| | Sig. (2-tailed) | | ,000 | ,000 |
| | N | 373 | 373 | 373 |
| Satisfaction | Pearson Correlation | ,720** | 1 | ,630** |
| | Sig. (2-tailed) | ,000 | | ,000 |
| | N | 373 | 373 | 373 |
| Involvement | Pearson Correlation | ,681** | ,630** | 1 |
| | Sig. (2-tailed) | ,000 | ,000 | |
| | N | 373 | 373 | 373 |
| Strain | Pearson Correlation | -,186** | -,189** | -,226** |
| | Sig. (2-tailed) | ,000 | ,000 | ,000 |
| | N | 373 | 373 | 373 |
| Female | Pearson Correlation | ,049 | ,049 | ,049 |
| | Sig. (2-tailed) | ,350 | ,350 | ,349 |
| | N | 373 | 373 | 373 |
| Age | Pearson Correlation | -,025 | -,008 | -,091 |
| | Sig. (2-tailed) | ,626 | ,876 | ,079 |
| | N | 373 | 373 | 373 |
| Spouse of resident | Pearson Correlation | ,027 | ,073 | -,036 |
| | Sig. (2-tailed) | ,600 | ,159 | ,487 |
| | N | 373 | 373 | 373 |
| Education level | Pearson Correlation | -,121* | -,042 | -,008 |
| | Sig. (2-tailed) | ,019 | ,420 | ,873 |
| | N | 373 | 373 | 373 |
| Travelling distance < 1 hour | Pearson Correlation | ,043 | ,074 | ,069 |
| | Sig. (2-tailed) | ,405 | ,155 | ,186 |
| | N | 373 | 373 | 373 |
| Resident is female | Pearson Correlation | ,031 | -,017 | ,051 |
| | Sig. (2-tailed) | ,552 | ,738 | ,327 |
| | N | 373 | 373 | 373 |

**Correlations**

| | | Strain | Female | Age |
|---|---|---|---|---|
| Person-centered care | Pearson Correlation | -,186** | ,049 | -,025 |
| | Sig. (2-tailed) | ,000 | ,350 | ,626 |

| | | | | |
|---|---|---|---|---|
| | N | 373 | 373 | 373 |
| Satisfaction | Pearson Correlation | -,189** | ,049 | -,008 |
| | Sig. (2-tailed) | ,000 | ,350 | ,876 |
| | N | 373 | 373 | 373 |
| Involvement | Pearson Correlation | -,226** | ,049 | -,091 |
| | Sig. (2-tailed) | ,000 | ,349 | ,079 |
| | N | 373 | 373 | 373 |
| Strain | Pearson Correlation | 1 | ,048 | ,179** |
| | Sig. (2-tailed) | | ,358 | ,001 |
| | N | 373 | 373 | 373 |
| Female | Pearson Correlation | ,048 | 1 | -,230** |
| | Sig. (2-tailed) | ,358 | | ,000 |
| | N | 373 | 373 | 373 |
| Age | Pearson Correlation | ,179** | -,230** | 1 |
| | Sig. (2-tailed) | ,001 | ,000 | |
| | N | 373 | 373 | 373 |
| Spouse of resident | Pearson Correlation | ,294** | -,254** | ,580** |
| | Sig. (2-tailed) | ,000 | ,000 | ,000 |
| | N | 373 | 373 | 373 |
| Education level | Pearson Correlation | -,050 | -,100 | -,197** |
| | Sig. (2-tailed) | ,336 | ,054 | ,000 |
| | N | 373 | 373 | 373 |
| Travelling distance < 1 hour | Pearson Correlation | -,069 | ,024 | -,047 |
| | Sig. (2-tailed) | ,182 | ,647 | ,367 |
| | N | 373 | 373 | 373 |
| Resident is female | Pearson Correlation | -,153** | -,163** | ,001 |
| | Sig. (2-tailed) | ,003 | ,002 | ,982 |
| | N | 373 | 373 | 373 |

**Correlations**

| | | Spouse of resident | Education level | Travelling distance < 1 hour |
|---|---|---|---|---|
| Person-centered care | Pearson Correlation | ,027 | -,121* | ,043 |
| | Sig. (2-tailed) | ,600 | ,019 | ,405 |
| | N | 373 | 373 | 373 |
| Satisfaction | Pearson Correlation | ,073 | -,042 | ,074 |
| | Sig. (2-tailed) | ,159 | ,420 | ,155 |
| | N | 373 | 373 | 373 |
| Involvement | Pearson Correlation | -,036 | -,008 | ,069 |

| | | | | |
|---|---|---|---|---|
| | Sig. (2-tailed) | ,487 | ,873 | ,186 |
| | N | 373 | 373 | 373 |
| Strain | Pearson Correlation | ,294** | -,050 | -,069 |
| | Sig. (2-tailed) | ,000 | ,336 | ,182 |
| | N | 373 | 373 | 373 |
| Female | Pearson Correlation | -,254** | -,100 | ,024 |
| | Sig. (2-tailed) | ,000 | ,054 | ,647 |
| | N | 373 | 373 | 373 |
| Age | Pearson Correlation | ,580** | -,197** | -,047 |
| | Sig. (2-tailed) | ,000 | ,000 | ,367 |
| | N | 373 | 373 | 373 |
| Spouse of resident | Pearson Correlation | 1 | -,132* | ,070 |
| | Sig. (2-tailed) | | ,010 | ,175 |
| | N | 373 | 373 | 373 |
| Education level | Pearson Correlation | -,132* | 1 | -,158** |
| | Sig. (2-tailed) | ,010 | | ,002 |
| | N | 373 | 373 | 373 |
| Travelling distance < 1 hour | Pearson Correlation | ,070 | -,158** | 1 |
| | Sig. (2-tailed) | ,175 | ,002 | |
| | N | 373 | 373 | 373 |
| Resident is female | Pearson Correlation | -,140** | ,016 | -,017 |
| | Sig. (2-tailed) | ,007 | ,753 | ,737 |
| | N | 373 | 373 | 373 |

**Correlations**

| | | Resident is female |
|---|---|---|
| Person-centered care | Pearson Correlation | ,031 |
| | Sig. (2-tailed) | ,552 |
| | N | 373 |
| Satisfaction | Pearson Correlation | -,017 |
| | Sig. (2-tailed) | ,738 |
| | N | 373 |
| Involvement | Pearson Correlation | ,051 |
| | Sig. (2-tailed) | ,327 |
| | N | 373 |
| Strain | Pearson Correlation | -,153** |
| | Sig. (2-tailed) | ,003 |
| | N | 373 |
| Female | Pearson Correlation | -,163** |
| | Sig. (2-tailed) | ,002 |

| | | |
|---|---|---|
| | N | 373 |
| Age | Pearson Correlation | ,001 |
| | Sig. (2-tailed) | ,982 |
| | N | 373 |
| Spouse of resident | Pearson Correlation | -,140** |
| | Sig. (2-tailed) | ,007 |
| | N | 373 |
| Education level | Pearson Correlation | ,016 |
| | Sig. (2-tailed) | ,753 |
| | N | 373 |
| Travelling distance < 1 hour | Pearson Correlation | -,017 |
| | Sig. (2-tailed) | ,737 |
| | N | 373 |
| Resident is female | Pearson Correlation | 1 |
| | Sig. (2-tailed) | |
| | N | 373 |

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

*. Correlation is significant at the 0.05 level (2-tailed).