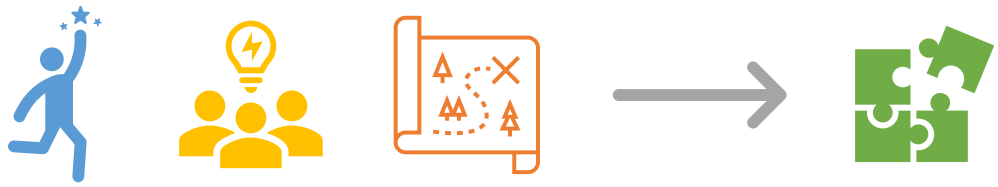
Dementia education and work life of nursing assistants in eldercare in Denmark:

Self-efficacy in dementia care and influencing factors



PhD dissertation

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List of publications

This dissertation is based on following publications:

Study 1:

Rasmussen BM; Andersen PT; Waldorff FB; Berg-Beckhoff G. **Effectiveness of Dementia Education for Care Staff and Factors Influencing Staff-Related Outcomes: An Overview of Systematic Reviews**

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Study 2:

Rasmussen BM; Berg-Beckhoff G; Waldorff FB; Andersen PT. **Experience of self-efficacy in providing care for people living with dementia among nursing assistants in eldercare**

(Manuscript to be submitted during October 2022)

Study 3:

Rasmussen BM; Waldorff FB; Berg-Beckhoff G; Andersen PT ***'Before I thought that I had to get on with it, but now I've decided to take it at their pace'*: Changes in work life for nursing assistants when participating in dementia education**

(Submitted to Working with Older people, September 2022)

Preface and acknowledgement

This PhD-project was conducted from 2018-2022 in a cooperation between Esbjerg municipality, Varde municipality and The University of southern Denmark. Each partner funded one year of academic work and study activity. Therefore, I wish to give thanks to **Arne Nikolajsen** from Esbjerg and **Claus Fjeldgaard** from Varde municipality, who provided me with this opportunity to conduct a relevant and practice-based PhD.

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English summary

Introduction: This PhD dissertation focuses on dementia education's influence on nursing assistants work life, using self-efficacy in providing daily care for people living with dementia as an indicator for work life. The complex care needs of people living with dementia necessitate highly skilled nursing staff in dementia care, who can provide individualized and tailored care, while being respectful and acknowledging. Nursing assistants is also required to continuously investigate new appropriate care solutions as cognition deteriorates. Consequently, professional development is important for nursing assistants. Municipalities can support nursing assistants through dementia education.

Objectives: The overall aim of the dissertation is to investigate dementia education and which program elements and contextual factors affect NAs work life. This is done to be able to provide practice with concrete guidelines on dementia education. The dissertation is based on three scientific papers with the following aims:

Study 1: Effectiveness of Dementia Education

- What is the effectiveness of dementia education for staff-related outcomes and which influencing factors affect the effectiveness of dementia education for staff-related outcomes?

Study 2: Self-efficacy in Dementia Care

- Which daily work experiences generate self-efficacy in dementia care for NAs in eldercare, and how are positive changes in self-efficacy experienced by nursing assistants?

Study 3: Positive changes of Self-efficacy in Dementia Care due to Dementia Education

- Which positive changes do NAs in elderly care experience in self-efficacy in dementia care when they participate in dementia education? Which factors facilitate or hinder these changes?

Methods: The first study is an overview of systematic overviews and include 17 reviews on effectiveness and factors influencing effectiveness of dementia education. The two following studies are based on qualitative semi-structured individual interviews with 18 nursing assistants in eldercare. Study 2 uses van Manen's hermeneutic phenomenological approach to lived experiences, while Study 3 used a reflexive thematic analysis by Braun and Clarke.

Results: In study 1, systematic reviews that were included in the overview revealed that dementia education is effective in increasing knowledge and self-efficacy, changing attitudes to PwD, as well as improving behavior management and communication. Several features of dementia education influenced effectiveness positively; combining lectures with time in practice, providing feedback, using active teaching methods with applicable content provided by engaging instructors that adapt teaching to participants' needs. Organizational factors were support for participation and following implementation and participants should be engaged.

Study 2 discovered that self-efficacy in dementia care reflects core features of dementia care: detective work, tuning in emotional, communication and their overall motivation for their job; the desire to change lives. Especially work-focus and self-esteem are defining for which situations encourage NAs to feel self-efficacious. Results indicate that a resident-centered work focus can lead to higher self-efficacy. Work-focus is strongly affected by organizational factors, like culture and work pressure. Finally, interviews reveal that improvements in self-efficacy can produce a positive spiral leading to further improvements in self-efficacy and more successful experiences during care.

Study 3 revealed that improvements in nursing assistants' self-efficacy in dementia care due to dementia education can be traced back to several features of the dementia education program. Active teaching methods, combination of lectures and time in practice, relevant and applicable knowledge that facilitates own successful experiences, peer inspiration and preparation identified as important features. Lack of motivation and willingness among NAs was identified as important barriers to positive changes in self-efficacy. Both willingness and motivation is further affected by NAs individual characteristics, program and organizational aspects

Conclusion:

Self-efficacy in dementia care among nursing assistants reflects important abilities in both traditional and person-centered care. Work-focus of nursing assistants affect which situations encourage self-efficacy. Dementia education is a successful tool to increase self-efficacy, nonetheless it is crucial to recognize that dementia education is complex, and results depends on more than the educational program itself, but also on contextual factors. Especially work-focus of participants and organizational aspects as culture and work pressure affect results of dementia education. Dementia education should be supported by organizational structures that facilitates the implementation of new knowledge. Work-focus among nursing assistants and its implication in dementia care should be further investigated.

Dansk resumé

Indledning: Denne ph.d.-afhandling fokuserer på hvordan et kompetenceløft i demens for social- og sundhedshjælpere og -assistenters (SOSU'er) påvirker deres daglige arbejdsliv. Til dette bruges self-efficacy i demenspleje som indikator for arbejdsliv. Borgere med demens har komplekse behov, hvilket kræver kompetent plejepersonale, der er i stand til at levere individuelt og skræddersyet pleje gennem en anerkendende tilgang. Samtidig skal SOSU'er kontinuerligt udforske nye plejeløsninger. Det er dermed vigtigt for SOSU'er konstant at udvikle sig professional. Kommunerne kan understøtte SOSU'erne ved at tilbyde efteruddannelse og kompetenceløft i demens.

Hoved- og delformål: Det overordnede formål med ph.d.-afhandlingen er at undersøge kompetenceløft i demens og hvilke elementer i undervisningen samt kontekstuelle faktorer der påvirker SOSU'ernes arbejdsliv. Dette bliver gjort for at kunne videregive konkrete guidelines omkring kompetenceløft i demens til praksis ude i kommunerne. Afhandlingen er baseret på tre videnskabelige artikler med følgende delformål:

Studie 1: Effekt af kompetenceløft i demens

- Hvad er effekten af et kompetenceløft I demens for personale-relaterede effektmål og hvilke faktorer influerer effektiviteten af et kompetenceløft i demens?

Studie 2: Self-efficacy i demenspleje

- Hvilke oplevelser I dagligdagen faciliterer self-efficacy i demenspleje for SOSU'er og hvordan oplever de positive ændringer i self-efficacy?

Studie 3: Positive ændringer i self-efficacy I demenspleje grundet kompetenceløft i demens

- Hvilke positive ændringer oplever SOSU'er I ældreplejen, når de deltager I et kompetenceløft I demens? Hvilke faktorer faciliterer eller modarbejder disse ændringer?

Metode: Det første studie er en oversigt over systematiske litteraturstudier og inkluderer 17 litteraturstudier som omhandler effekt og faktorer, der påvirker effektiviteten af kompetenceløft i demens for plejepersonale. De to følgende studier er baseret på semistrukturerede interviews med 18 SOSU'er i den kommunale ældrepleje. Studie 2 tager afsæt i Max Van Manens hermeneutisk fænomenologiske tilgang til at udforske livsverdener, mens studie 3 benytter Braun og Clarkes refleksive tematiske analysemetode.

Resultater: Studie 1 afslører gennem de systematiske litteraturoversigter, som er inkluderet, at kompetenceløft i demens er effektiv til at øge viden og self-efficacy, ændre attitude til borgere med demens samt forbedre kommunikation og SOSU'ers håndtering af symptomer på demens. Adskillige karakteristika for kompetenceløft i demens påvirker effektiviteten positivt; kombination af klasseundervisning og tid ude i praksis sammen med borgere med demens, aktive undervisningsmetoder, feedback fra undervisere, Ligesom indhold i undervisningen bør være direkte anvendelig i praksis og underviserne bør være engagerede og tilpasse sig deltagernes behov. Resultater viste også at organisationen bør understøtte deltagerne og den efterfølgende implementering af ny viden i praksis. Samtidig er det nødvendigt at SOSU'erne er engagerede.

Studie 2 viser, at self-efficacy i demenspleje reflekterer kerneopgaverne i plejen; detektivarbejde, følelsesmæssigt anknytning til borgerne, kommunikation og deres ønske om at gøre en forskel for borgere med demens. Specielt arbejdsfokus og selvtillid er definerende for hvilke situationer, der fremkalder følelsen af self-efficacy hos SOSU'er. Resultater indikerer, at et borger-centeret arbejdsfokus kan medføre højere self-efficacy. Dette arbejdsfokus er dog sårbar overfor organisatoriske faktorer såsom arbejdskultur og tidspres.

Studie 3 viser, at positive ændringer i self-efficacy på grund af et kompetenceløft i demens skyldes specifikke elementer i undervisningen. Aktiv undervisning, en kombination af klasseundervisning og tid i praksis samt relevant og direkte anvendeligt indhold faciliterer '*egne succesfulde oplevelser'*, '*inspiration fra ligesindede'* og '*øvelse og forberedelse'.* Manglende motivation og villighed bland SOSU'er blev identificeret som vigtige barrierer til positive ændringer. Både villighed of motivation bliver let påvirket af SOSU'ernes egen personlighed og faktorer i program og organisationen.

Konklusion: SOSU'ers self-efficacy in demenspleje reflekterer vigtige kompetencer i både traditionel og person-centeret pleje. Deres arbejdsfokus påvirker, hvilke situationer der fremkalder følelsen af self-efficacy. Kompetenceløft I demens er et brugbart redskab til at øge SOSU'ers self-efficacy, ikke desto mindre er det afgørende at anerkende kompleksiteten af kompetenceløft i demens og at resultater afhænger af mere end selve kompetenceløft, men også kontekst. Specielt arbejdsfokus, kultur på arbejdspladsen og tidspres påvirker betydningen af et kompetenceløft i demens. Hvis et kompetenceløft I demens skal være effektivt, bør de organisatoriske strukturer understøtte og lette implementeringen af ny viden. Fremtidig forskning bør videre undersøge betydningen af SOSU'ers arbejdsfokus og dets implikationer i selve demensplejen.

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IMBP -Integrative Model of Behavior Prediction

NAs – Nursing assistants and aids

PwD -People with dementia

Content

Chapter 1: Introduction and Background

1.1 Introduction

Dementia is a syndrome that varies in severity from mild cognitive deficiencies to severe impairment. It affects and challenges cognition i.e., memory, comprehension, orientation, learning, language, and judgement. It is often accompanied by changes in motivation, mood, emotional control and/or behavior (1). Behavioral symptoms are wandering, paranoia, physical aggressions, verbal abuse, resistive behavior, vegetative disorder, sleep disorders, territoriality, and sexually and socially inappropriate behavior (2). Consequently, dementia impacts all aspects of daily life for people living with dementia (PwD). Over time substantial caregiving support is necessary to relieve symptoms, and as symptoms can vary from day-to-day, so does the need for support (3).

According to nursing assistants (NAs) and other care staff in dementia care, dementia care is challenging, requires sensitivity and can be regarded much like a puzzle; where staff require new information and knowledge to fit the 'new pieces' of the puzzle, in relation to their care duties (4). Moreover, the vast scope of dementia symptoms requires care staff to act person-centered and to provide care according to individual's needs and personality (3, 5-9). To do this, staff must have dementia-specific knowledge, a positive attitude to PwD and skills to identify appropriate care in situations, where PwD are not able to express their needs (10, 11).

Unfortunately, the cognitive decline of PwD complicates delivery of person-centered care to a degree that the psychosocial needs of PwD are not always met (3, 5-9). To counter this, many countries have published national guidelines and regulations on professional care for PwD. Until recently, Denmark. did not have any standards or guidelines concerning dementia care. In 2016 however, the government introduced a National Plan for dementia care. (12). The plan aims to secure improved conditions in care for PwD (and their relatives), in dementia friendly communities, encompassing treatment and care that reflect the individual's need for support. The National Plan for dementia care is built on values of securing dignity, safety, influence of own life situation, respect for autonomy and personhood as well as an individual and holistic approach in treatment and care (12, 13).

It contains 23 different initiatives distributed over five areas: early detection and improved quality in diagnosis and treatment, improved quality in care and rehabilitation, support for people with dementia and relatives, dementia-friendly housing and societies, and an increase in level of knowledge and competencies for staff. The Danish Health Authority was responsible for implementing several initiatives, including initiative 22: *Dementia Education in Municipalities and Regions* and established a fund (satspulje) of 139 million (DKK) to support this initiative. Consequently, municipalities and regions could apply for grants in order to carry out dementia education for staff (14).

Esbjerg (n= 115.500 citizens) and Varde (n=49.600 citizens) municipality both applied, were granted funds, and carried out educational courses in dementia care for staff in elderly care. For them it was an opportunity to further build on experience and knowledge in dementia education. Cooperation between the two municipalities and the research Unit of Health Promotion at the University of Southern Denmark was established in this Ph.D. project on dementia education. Despite neither of the two programs having a strong theoretical background nor particularly specific goals, discussions between partners revealed two prominent themes that guided the formation of this project: improved care for PwD and increased job satisfaction and well-being for staff. However, since care and quality in care is influenced by much more than exposure to dementia education (15), the main focus of this project was to investigate effective dementia education, seen from a staff perspective.

The following plan for the Ph.D. project was established. First, to inform dementia education programs in the afore mentioned municipalities, and to identify current knowledge on dementia training and how to conduct effective dementia education. Secondly, both Esbjerg and Varde municipalities wished to investigate current dementia education programs and how this could inform future programs. For this purpose, it was important to choose an indicator that reflected several staff outcomes and to some degree also care outcomes. Self-efficacy was chosen as an indicator (see conceptual background for further explanation and references).

Evidence and research within dementia education is characterized by the complexity of the disease (16), dementia care and programs themselves (17, 18). In addition to this, the socio-ecological aspects of health (19, 20), where several underlying and interacting mechanisms

complicate research processes and answers (21). The former guidelines for developing and evaluating complex intervention (22) noted:

> *A […] key question in evaluating complex interventions is how the intervention works: what are the active ingredients and how are they exerting their effect?*
>
> *(Craig et al (2008), p1)*

Therefore, focus should not only be on whether the dementia education is effective, but also which program elements and contextual factors affect NAs' work-life.

1.2 Background

This chapter will introduce dementia care, dementia care staff and their competencies as well as dementia education as a viable option for increasing competencies in dementia care. Finally, the chapter will present both the overall aim of the dissertation and research questions of each study.

1.2.1 Dementia care

Dementia care is a complex area that involves detection and diagnosis, early cognitive and medical treatment, monitoring of disease, training, counselling, education, rehabilitation and maintenance of functions and treatment of co-morbidities (23). As the severity of dementia increases, PwD will gradually lose their ability to act, speak and comprehend their daily lives. Support is then provided in daily life and includes practical help, cleaning, verbal and non-verbal communication, behavioral management, pain management, palliative care and other service provisions (23). Many countries also include the offer of dementia friendly communities and support to relatives (24).

In Denmark, daily care for PwD is provided in different settings. The PwD's own homes, residential/nursing homes, and specialized units for PwD. As long it is possible, PwD will remain at home and receive the support they need in their own home (25, 26). As their disease progresses and overall health deteriorates, they are usually moved to either a

residential/nursing home or to a specialized unit for dementia (27). This however depends on vacancies and the severity of dementia. Care tasks differ to some degree according to location (home visitations, nursing home, or specialized dementia unit), but they are tailored to the individual's needs and carried out alongside other tasks in elderly care (28). Care tasks can include waking PwD, assisting them during mealtimes, household chores, and with various aspects of personal care from washing up and brushing teeth to other health-related issues such as incontinence. Staff also provide care for physical and medical needs e.g., wound care, rehabilitation, and medication. Staff are also required to identify activities for PwD that assist in maintaining physical and cognitive functions (29). Compared to care for people without dementia, care for PwD require more of staff, and can be especially challenging given the PwD´s decrease in cognitive abilities and subsequent behavioral symptoms (23). As a result, dementia care contains both more detailed, comprehensive, and complex tasks.

Care for PwD requires various competencies within care assessment, interdisciplinary collaboration, technological literacy, applying evidence-based approaches, securing quality and safety, management of environment as well nursing procedures and management of health conditions and the development of staff´s individual professional development (7, 11). A review aiming to categorize competencies in home care identified as many as 116 different competencies (30), which significantly increases, when adding the aspect of dementia (11).

Person-centered care is considered an essential part of (quality in) dementia care (31). This care philosophy was developed by Carl Rogers and was further unfolded by Tom Kitwood in 1988 (3, 32). It provides a conceptual approach to meeting and communicating with people living with dementia (31, 33) and guides staff when making care decisions (3). Person-centered care claims that PwD are unique, multi-dimensional beings that have considerable qualities, can draw on inner strength and can remedy everyday difficulties (31). PwD have the right to be treated with respect and as long as they are able, and should make their own decisions on care (31). Care should be tailored and customized to each person (3) as a way to honor the individual's values and preferences (31, 33). For staff to be able to provide person-centered care, they must gain an understanding of personhood by understanding PwDs life situation, ability, culture, traditions, habits, activities and beliefs (31). This can be done through analyzing situations and behaviors from the PwD´s perspective (3, 32). For

person-centered care to live up to its full potential, it should also be implemented on an organizational level (31), securing structures and systems to support staff development and quality improvement mechanisms such as care plans (3).

The complexity of tasks is often influenced by the severity of dementia and varying range of symptoms on a given day (23). Staff experience a diverse range of behavioral symptoms of dementia on a daily basis, but due to the nature of dementia they find it especially challenging to manage these symptoms (2, 34). To counter symptoms, staff need several management strategies e.g., distraction, providing space, knowing the resident, and if necessary, medication (2, 34). Research demonstrates that distressed behavior from PwD often originates from unmet needs (6, 34), and it is difficult for care staff to identify reasons for distress or how to prevent it in the future(2, 34). Consequently, care staff tend to attribute behavioral symptoms solely to the dementia diagnosis (34).

Clear communication between staff and PwD is important in the quality of dementia care, but it is also challenging for staff (4, 35, 36). As cognition deteriorates, PwD's ability to communicate verbally diminishes (37). Non-verbal communication does not require the same cognitive capacity and most PwD will be able to communicate non-verbally after verbal functions fade (38, 39). A unique part of non-verbal communication is attunement i.e., to connect emotionally with PwD, see the person behind the disease and to figuratively step into their shoes (4, 36). It includes empathy, taking the perspective of the PwD, adjusting interaction and care according to their personality and history and responding to the initiatives of the PwD (6, 9, 38, 40). In this manner, attunement facilitates communication and as a caring relationship is built between staff and the PwD. In this way it becomes easier for staff to communicate non-verbally with the PwD (9, 41).

Additionally, daily care for PwD is characterized by challenging situations for staff (4, 9, 41-45). Some of these challenges can make staff feel inadequate, powerless (4, 42, 44) and that they experience a dichotomous dilemma where they are stuck between responsibility and too little power and being undervalued and having professional pride (43). In addition, they often face particular predicaments when e.g., when, staff must decide between respecting autonomy and doing what is best for the PwD (44) or they aim for holistic and person-centered care, but time constraints and other organizational structures prevent it (6, 40).

1.2.2 Dementia Care Staff

Several health professions are involved in dementia care; neurologists, geriatrics, psychiatrist, general practitioners, nurses, NAs, dieticians, physio- and occupational therapists and social care professionals (46).

Studies have shown that providing daily practical care for PwD is not considered prestigious work (4, 9, 36) and care staff are seen as not as well educated as other health professionals (11, 47). In Denmark, NAs provide daily care for PwD. Including the nine obligatory years of schooling, both nursing aids and assistants have approximately one year of secondary schooling in health care followed by separate specializations. Both specializations combine theory and time in practice. A nursing aids' specialization lasts for one year and two months (48), while a nursing assistants' specialization lasts two years and ten months (49). Compared to this most other health professions in Denmark have three years of secondary academic education as well as a professional university education in their specialization. Moreover, specializations in nursing, physiotherapy and occupational therapy last three and a half years, respectively (50-52).

Both nursing aids and assistants focus is on supporting needs and providing daily care and increasing the quality of life for PwD (48, 49). Due to the length and content of their education and thus higher level of competences of nursing assistants, some differences in responsibility exist between nursing aids and assistants. The nursing aids' tasks are primarily to increase the life quality of people through e.g., practical help as personal care, assisting in eating situations and cleaning as well as to support people in their daily lives, encouraging independence and maintenance of function e.g., through rehabilitation (53). Besides providing daily care, nursing assistants are also in charge of distributing medicine, coordinating tasks and information as well as interdisciplinary collaboration with other health professions to secure quality of care (54). As the main aim for both nursing assistants and nursing aids is increasing quality of life, provide support and daily care as well as assist in rehabilitation, this project has chosen to consider both groups 'as one' and will refer to them as NAs.

Overall, NAs are attracted to work in elder- and dementia care due to a desire to make a difference and to increase elderly citizen's quality of life (55). The intrinsic rewards of caring such as being appreciated, feeling respected and having a caring work environment are factors that contribute to maintaining motivation (56). International studies have found that nursing assistants' perceptions of 'good dementia care' naturally align with person-centered care (6, 36, 42). Despite this, NAs tend to show increasingly negative feelings toward PwD (with severe dementia) over time (3, 10, 11, 42, 57). In Danish, this process is called *'forråelse' (cynicism[1])*, and refers to a process where staff in health and social care slowly become more cynical in their work with PwD (58, 59). This results in that NAs who previously were engaged and optimistic changes their attitudes to stereotyping and blaming PwD for challenging situations. Care can then become increasingly depersonalized (4) and affect staffs' job satisfaction. Conversely, when NAs are allowed to provide person-centered care, they experience a higher level of work satisfaction and feel good about their professional and personal integrity (6, 40, 60).

Dementia care can be challenging even for experienced NAs (61, 62) and research has shown that NAs believe they lack competencies in and knowledge of dementia care, communication skills and strategies for managing PwD or self-efficacy (4, 42, 62). NAs approaches to care are often unintentional guess work, instead of being based on deliberate, evidence-based reflections on how to meet PwD's need (35, 36, 63). Consequently, confidence in their ability to carry out high quality care is low (10, 36, 42). Studies demonstrate that this is often due to a lack of staff education and training in dementia care (10, 41, 42, 57, 64, 65).

1.2.3 Dementia Education

In research, dementia education is recommended as a means to secure NAs' competencies in dementia care (4). It can improve knowledge, confidence, and shift perceptions (36), as well as increase involvement of PwD (41), person-centered care (4, 6) emotional attunement (66) and overall quality of care.

[1] It has not been possible to find the specific English term for this. In literature it is referred to as cynicism, brutalization and/or cold heart.

Dementia education is characterized as a complex intervention. Firstly, dementia education seldomly aims to change merely one outcome (67); instead, it strives to change several outcomes simultaneously e.g., increased knowledge on dementia, self-efficacy, changes in skills and behavior in care along with outcomes on an interpersonal, and organizational level. Secondly, dementia education has several interacting components: didactical lectures, group discussions, working with cases, skills training (in e.g., communication), approaches to PwD or the use of structured tools. Thirdly, factors external to the program can hinder, facilitate, or interact with elements in the intervention, thus affecting implementation and evaluation (22, 67-69). Dementia education can have different effects in different settings, even when delivery has been identical (22, 68). Therefore, the UK Medical Research Council recommend tailoring educational programs to each intervention site, to avoid influence mechanisms of change (67, 68).

A final aspect for effectiveness of dementia education, is participants and their proficiency level in dementia care. The Novice to Expert model on professional proficiency, by Hubert and Stuart Dreyfus (70) and Patricia Benner (71, 72), focuses on professional learning and presents a developmental continuum with five stages: novice, advanced beginner, competent, proficient, and expert (73). They emphasize that learning processes are not the same across proficiency levels (73), while some levels of proficiency require building on theoretical foundations, others need practical experience or professional discussions with colleagues (74).

Consequently, it is insufficient merely to pass or fail an intervention through studies on effectiveness of dementia education (21, 75). Instead, there is a need for evaluations that strive to better understand *'What works for whom, under which circumstances, in which respect and how?'* (21, 75). Such focus on unraveling the content of the 'black box' from delivery to results makes it possible to inform and guide practice and further improve education.

1.3 Aim and Research Questions

The overall aim of this dissertation is to investigate dementia education and which program elements and contextual factors affect NAs work life. The idea was to first investigate existing knowledge using a broad perspective on outcomes and the study population. Knowing

that not all dementia education is effective, the dissertation explores the mechanisms behind positive changes for NAs when they participate in dementia education, using self-efficacy as an indicator for work life.

Study 1: Effectiveness of Dementia Education

- What is the effectiveness of dementia education for staff-related outcomes and which influencing factors affect the effectiveness of dementia education for staff-related outcomes?

Study 2: Self-efficacy in Dementia Care

- Which daily work experiences generate self-efficacy in dementia care for NAs in eldercare, and how are positive changes in self-efficacy experienced by nursing assistants?

Study 3: Improvements of Self-efficacy in Dementia Care due to Dementia Education

- Which positive changes do NAs in elderly care experience in self-efficacy in dementia care when they participate in dementia education? Which factors facilitate or hinder these changes?

Chapter 2: Theoretical Background

This chapter will introduce important concepts and terminology employed in this dissertation. First, complex interventions are presented along with different approaches for evaluating. Then, in order to explain the choice of self-efficacy as an indicator for NAs' work life (study 2 and study 3), program theory is described. Finally, theory on self-efficacy is presented.

2.1 Complex Interventions; An Approach to evaluate Dementia Education

Dementia education is considered a complex intervention. This Ph.D. project evaluate dementia education from two approaches. Firstly, study 1 consider existing research while focusing on effectiveness and factors influencing effectiveness. In study 3 an exploration is done focusing on how dementia education changes NAs' self-efficacy in dementia care.

Complexity of interventions is either due to own properties; number of components, range of outcomes targeted or flexibility of intervention or due to interaction between intervention and context (67). Complex interventions are based on an ecological perspective, where interventions and participants are affected by multiple levels of influences e.g., intrapersonal, interpersonal, institutional, community and public policy. All levels of context have the potential to interact or modify all aspects of the intervention. Therefore, context and mechanisms become significant (19, 20, 68). According to ecological models, an intervention is one aspect of many that affect outcome. Therefore, it is beneficial for dementia education to consist of several components that can work together and be adapted to context, and in this way target outcomes in several ways (19, 68).

When evaluating dementia education, different designs suit different questions and circumstances. Effectiveness is best evaluated quantitatively through randomized or quasi-experimental studies (22, 69, 76), while understanding processes and mechanisms can be done both quantitatively and qualitatively (22). It can be beneficial to use qualitative methods during the initial exploration of mechanisms, as it provides potential explanations for results, that can be further tested at a later stage of evaluation (68).

2.1.1 Effectiveness of Dementia Education

It is always important to evaluate if dementia education is effective, as it can guide decisions on whether a program should be altered or discontinued (77, 78). It can be challenging to established if programs are effective when considering overall goals and other long-term outcomes (67). So, to establish effectiveness an effect evaluation should cover several indicators. These should have theoretical support and be measurable on short or intermediate term (76). Looking at dementia education, as those included in the dissertation, project planners often aim on one hand to improve dementia care and quality of life for PwD and on the other hand to improve confidence and job satisfaction among NAs (see section 1.1 for specific goals). These outcomes can be difficult to evaluate and therefore often several additional indicators are chosen (see table 2.1).

When coping with several outcome measurements simultaneously, as in study 1, it is necessary to find a practical approach to order and present results. Kirkpatricks' model of evaluation for training programs (77, 78) is simple to understand and practice-oriented. It has been made by Donald and James Kirkpatrick in 1959 and is widely adopted within evaluation of training (79, 80). It differentiates between four levels of relevant outcome measurements: reaction, learning, behavior and results (77, 78) (see table 2,1). This model has met criticism for being simplistic, incomplete in its understanding of transfer of learning (79, 81), that the levels implies a hierarchy of evidence (82-85) and a connections between levels (86, 87). However, this was not the claim and Kirkpatrick did emphasize the importance of evaluating on all levels (78). As the model, despite critique, is fundamental in evaluating educational programs, it has been used in study 1 to order and present results.

Table 2.1 Schematic overview on Kirkpatrick model of evaluation of training and educational programs.

Level	Content
Level 1 **Reaction**	Satisfaction and other reactions to participating in training program: Contains e.g., reaction to teaching, content, teacher, and the usefulness of program.
Level 2 **Learning**	Direct consequences of participating in the training program. Contains e.g., knowledge, attitude, self-efficacy, and competencies
Level 3 **Behavior**	Behavior changes as a consequence of participating Contains e.g., changes in care, management, and communication with PwDs
Level 4 **Outcome**	Indirect consequences of training program; both related to participants and other outcomes. Contains e.g., wellbeing, job satisfaction and challenging behavior

2.1.2 Exploring Context and Mechanisms of Impact

To ensure high quality of dementia education, it is important to evaluate more than effectiveness (22, 68). While effect evaluations estimate if dementia programs work or not, they cannot tell why or if it would be beneficial to make certain changes to the program. Evaluation of implementation, processes and mechanisms are essential for understanding results and provide important knowledge on implementation and impact of context (68), in order to refine, improve and sustain interventions as well as transfer programs to another context (22, 69). Focus always needs to include contextual factors because they can facilitate, inhibit, or prohibit good results. Contextual factors can be program characteristics, policies, organizational factors, or even personal factors of participants (22, 69).According to the UK Medical Research Council, complex interventions need tailoring according to context, but it is also important to ensure that tailoring does not remove the active ingredients (69). To identify these in dementia education, mechanisms of change must be identified as well as how they are affected by context (22, 68, 69). Here it is important to have a well-described program theory as well as consider implementation, mechanisms of impact and outcomes. Figure 2.1 is MRC's depiction of process evaluation of complex interventions and illustrates how context, implementation and mechanisms of impact are interrelated with each other.

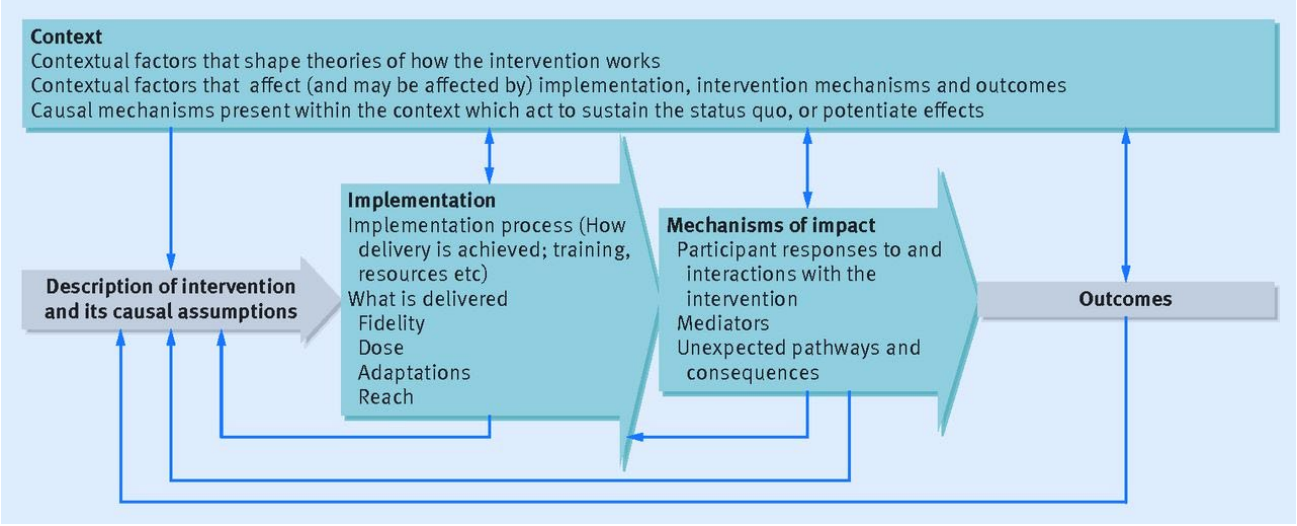

Figure 2.1 Process evaluation of complex interventions: Medical Research Council guideline, 2015

Important concepts within implementation are:

- **Dose:** Proportion of intervention that was delivered or received by target group (68)

- **Reach:** Proportion of intended target group who participate in the intervention (68)
- **Fidelity:** extent to which the intervention was delivered according to the implementation protocol (68, 88)

Important concepts within mechanisms of impact are:

- **Mediator**: Factor that explains the process through which variables are related
- **Pathways:** Mechanisms (intentional or not) through which changes occur (68, 76)

This dissertation will not actively touch upon implementation research measuring dose, reach and fidelity. However, study 1 summarizes on influencing factors, regardless of whether they concern implementation, mechanisms of impact or context. Study 3 focuses on experienced changes in self-efficacy due to dementia education and how these occurs i.e., the interaction between program and participants, context, and potential mediators. However, doing so, some aspects of implementation research naturally occur.

2.2 Program Theory

The choice of focusing in on self-efficacy in study 2 and study 3 is based on the program theory behind the dementia education programs in Esbjerg and Varde municipality.

Program theory attempts to theoretically explain how and why interventions work (21, 67, 76). It aims to inform future development of programs and how to apply interventions in new settings or populations (22, 67, 68). Program theory recommends that program planners initiate dementia education only when they have a clear description of program, implementation and assumed causal mechanisms, meaning; what do they wish to change, how will they change it and by which means (69, 89). This should be done based on existing evidence and theory, so interventions can be designed in such a way that desired outcomes might be achieved (22, 75). However, the UK Medical Research Council acknowledge that assumptions on program mechanisms are often taken from experience (21, 68).

The logic model for dementia education that was used in this project (see figure 2.3) was primarily based on conversations with Esbjerg and Varde Municipality. They did not reveal a strong theoretical foundation, but strong desires to reach both NAs confidence and actions

in care as well as their well-being and job satisfaction. The logic model drew on respectively a behavioral model and research on job satisfaction among care staff in eldercare.

2.2.1 Integrative Model of Behavior Prediction

There are several well-known behavioral theories which attempt to capture the complexity of behavior changes. They point to different indicators that interact with each other and create new actions while being affected, prohibited, or facilitated by external factors. Some of the most used theories in health research is the Health Belief Model (90, 91), Theory of Planned Behavior (92), social cognitive theory (93, 94) and the integrative model of behavior prediction (IMBP) (89, 95). Each model has its strengths and weaknesses (90-92, 96).

Therefore, Fishbein and Yzer (2003) decided to further develop Theory of Planned Behavior into the IMBP, by adding relevant aspect from two other models, so it can further consider the multifactorial aspects of behavior change (89, 95). IMBP states that behavior is based on behavioral intention, which is a function of behavioral attitude, subjective norms, and self-efficacy. These three variables are formed by beliefs on behavior, social norms, and own abilities (see figure 2.2). Actual skills and competencies in performing the behavior and environmental constraints either supports or hinders behavioral intentions (89, 95). The relationship between variables is not constant and depending on the situation, different variables are crucial for choice of behavior (89, 95). An example from my fieldnotes (no. 7) illustrates this rather well. One day a NA provided care for a PwD, who asked her to stay 5-10 minutes extra just to have a conversation. Though she would like to stay, she explained that this was not the norm in her unit and that her colleagues would be burdened by the extra task they needed to do on her behalf. Therefore, she was ambiguous and time restraint ended up deciding for her and she declined the request.

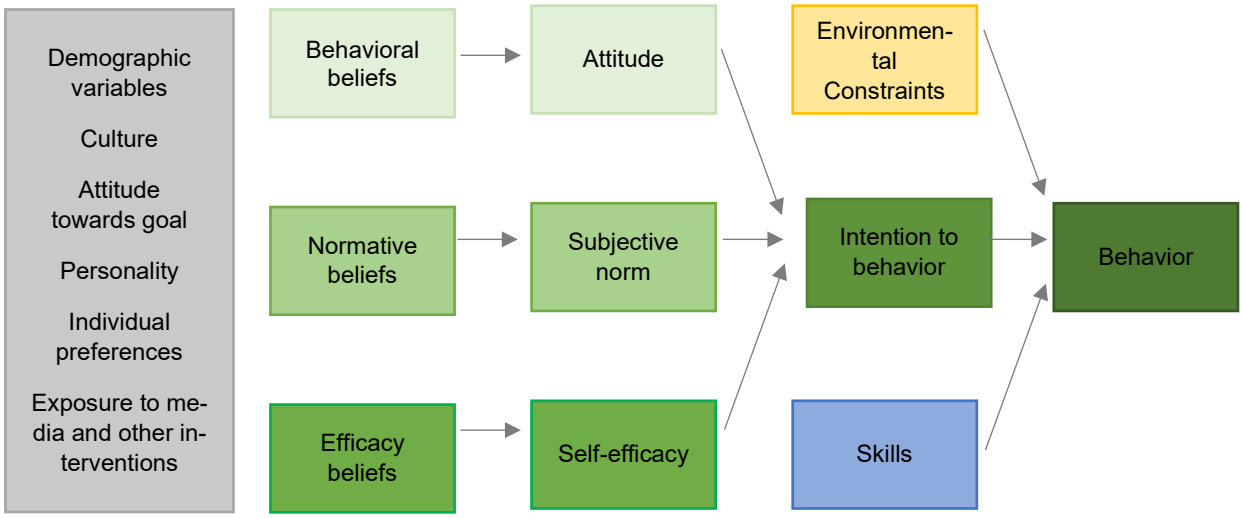

Figure 2.2 Integrated model of behavior Prediction by Fishbein and Yzer (2003)

Though IMBP is a further development of Theory of Planned Behavior, it still maintains some of the same weaknesses (97-101). Yet interventions based on Theory of Planned Behavior have generally been successful (102).

2.2.2 Job Satisfaction

Job satisfaction for NAs are generally high (103), but several studies indicate that it due to a strong motivation. A Swedish study by Kristiansen et al (104) investigated job satisfaction among NAs when caring for PwD. A core theme was 'Job satisfaction as a process moving between breaking down and occasionally building up the working person' Research has disclosed job satisfaction as intrinsically motivated i.e., it is mainly intrinsic factors which create and maintain job satisfaction (105). These are autonomy (106), self-determination, job involvement empowerment (107) and self-efficacy (108). Another important factor is the residents, hence ability to provide high quality of care (109, 110) that are personalized (103) is important for care staff. However, contact with residents in itself and having a positive attitude towards PwD (111) is also related to job satisfaction for care staff in dementia care. Extrinsic factors, on the other hand, have no or a minor impact, but result in dissatisfaction if they are not in place (105). These are e.g., support from leaders and administration (105), patient- nurse ratio, work environment (112), staffing and shifts (106) and partly also dementia education so, on one side an interrelation between self-efficacy, work conditions,

motivation and job satisfaction is emphasized, while other research also includes job performance as important variables.

2.2.3 Logic Model of Dementia Education

Based on the theory of behavior changes and job satisfaction, respectively, a combined logic model was created for the two programs. Esbjerg and Varde, respectively, provided a person-centered dementia education for their employees. They were both conducted during 2018 and 2019 (see table 2 in Paper 3) and were comprehensive in length and curriculum, used interactive methods in teaching and were conducted over multiple dates, giving participants opportunity to return to daily work with PwD and apply learning in practice between lectures.

Program *1:*
The program included 150 NAs with approximately 25 participants in each cohort. Instructors were nurses experienced in teaching and dementia. The program comprised 20 teaching lectures of three-hour duration that were held once a week. Teaching consisted of lectures in knowledge on dementia and neuro-pedagogy, person-centered care, as well as approaches to PwD. The course introduced types of dementia, how the brain is affected by dementia, legal matters that apply to caring for PwD and proceeded to teach on relatives, challenging behavior, and conflict management. During lectures, relevant theory was introduced, followed by plenary or group discussions, and working with cases. Between lectures participants could return to own their worksites and apply the newest knowledge from the educational program. Content and structure of the program was based on needs assessments made among NAs in eldercare, while implementation and transfer of new knowledge were done individually.

Program 2:
The program included 400 NAs with approximately 25 participants in each cohort. Instructors were psychologists who were experienced within teaching, but not within dementia. The program comprised five six-hour days of lectures that were held once a month. Teaching

focused on a specific approach to PwD named Cognitive, Resource focused, Acknowledging Praxis (KRAP) (113, 114) and how the approach could be used to increase the quality of life for PwD. During lectures, NAs were introduced to relevant theory and analytical matrices that could help them understand and acknowledge PwD, followed by plenary and group discussions and group work working with matrices and own cases. The program, which was a preestablished program for health and social workers, was adapted to dementia care. A comprehensive plan for implementation was made, including sharing of knowledge, access to matrices and analytical tools in practice.

On short terms, both programs aimed to increase staff knowledge, attitude, skills, and self-efficacy in dementia care. Expecting for these changes to further impact job satisfaction and for NAs to provide better care for PwD through changed behavior and actions in care (see figure 2.3). Shared for theory on behavior change as well as job satisfaction is self-efficacy, and consequently self-efficacy was chosen as a short-term indicator for work life in study 2 and study 3.

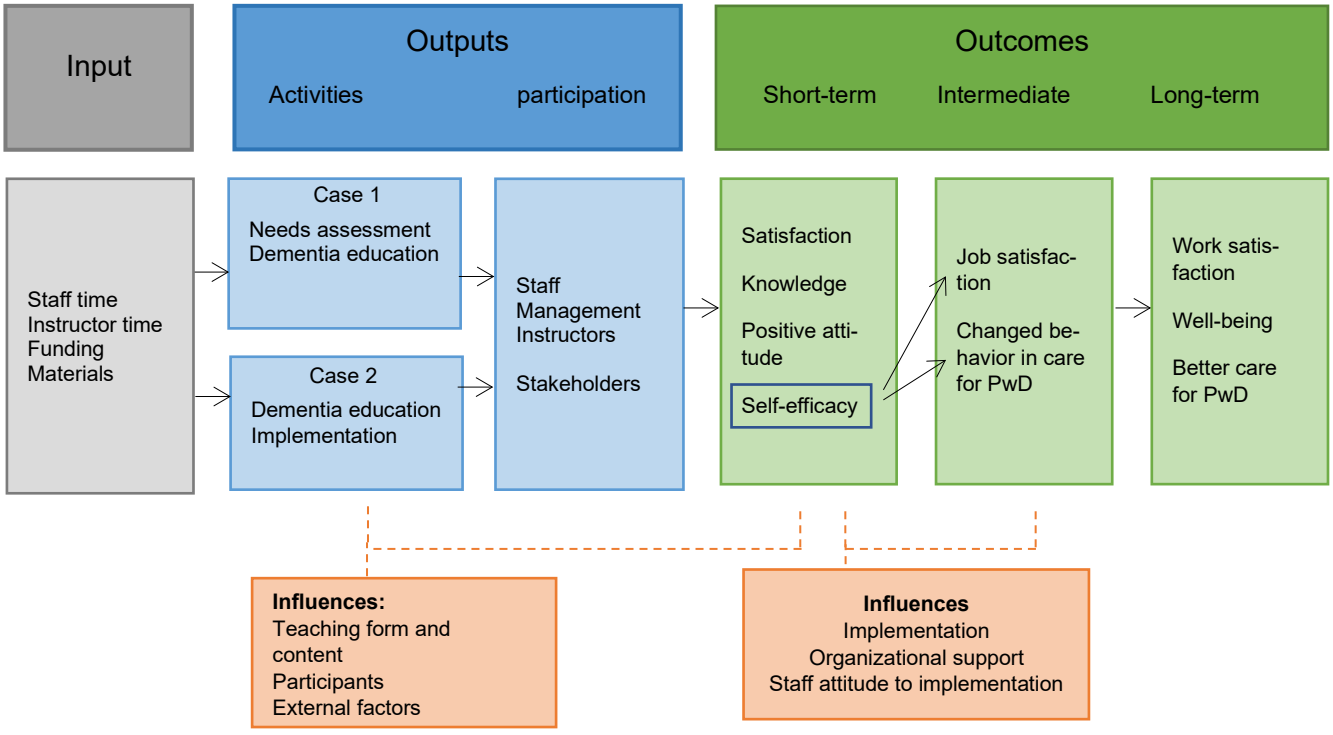

Figure 2.3 Logic model of dementia education programs based on two dementia education programs in Denmark

2.3 Indicator for Work Life: Self-efficacy

A variable that was included in both models was self-efficacy, therefore it has been chosen as indicator for NAs work life. The concept of self-efficacy was introduced by Albert Bandura (1977) and further applied on vocational behavior by Hackett and Betz (1981)(115). Self-efficacy refers to a person's confidence and beliefs in own ability to successfully perform a specific behavior or task (116, 117). Early on, there was some critique (65, 118, 119); however, today the concept of self-efficacy is well-established and acknowledged widely within research.

Self-efficacy has an overall positive influence on people by influencing goal setting, persistence and maintaining behaviors (116, 117, 120). Self-efficacy also impacts health behaviors as exercise, weight loss, alcohol consumption and oral health. Likewise, it decreases stress, symptoms of depression and it is predictive of social activities, good communication and partnership (120). In dementia care, self-efficacy among NAs affects both psychological health, stress, exhaustion and burnout (45, 121, 122) job satisfaction (108), and increases NAs ability to provide good care for PwD e.g., handle challenging situations (108, 122, 123). NAs in dementia care experience high levels of strain and are at risk of developing stress or burnout (66, 110, 124). Low levels of self-efficacy and optimistic attitudes towards PwD were related to higher levels of burnout (66).

There are three dimensions of self-efficacy: magnitude, strength, and generality (116). Magnitude covers the level of task difficulties that one is confident performing. It often increases with proficiency, where tasks that previously gave a strong feeling of achievement will become basic skills with higher level of proficiency. Strength refers to the conviction of self-efficacy and often grows with experience in performing certain or similar tasks. Generality is whether self-efficacy in one behavior can be generalized to other tasks (116).

There are four sources of self-efficacy: *mastery experiences, vicarious experiences, verbal persuasion, and emotional feedback* (93). Mastery experiences cover previous experiences, successful or not. Reminiscences of previous successful experiences decreases the perceived difficulty of the assignment (117). These experiences do not necessarily need to be the same behavior as the one in question, but could be similar (116). Vicarious experience is when NAs see other people, who are similar to themselves, perform a specific task in

dementia care, and they learn, get inspired and believe that they can perform the same task. Vicarious experiences are particularly effective if a person has not performed a given task before, e.g., technical tasks in care (116, 117). Thirdly, verbal persuasion is when colleagues, leaders, PwD or relatives to PwD tell NAs that they are competent and are able to do well. Verbal persuasion is especially successful during intensified efforts, for example when trying to find a new care solution for a person (116-118). Lastly, emotional, and physiological state provides feedback before, after or during a certain behavior; when NAs face a verbally or physically violent PwD, they can become nervous, insecure, have a stomachache, their heart is racing, and they begin to sweat. This influences their level of self-efficacy and whether NAs will believe in own abilities to handle the situation (116, 117).

Chapter 3: Positioning within Science

This Ph.D. project has its root in practice and was formed by a desire to provide an evidence base for conducting dementia education in the future. Besides this desire, my positioning as a public health researcher is affected by educational background as a bachelor within midwifery and Master of Science in Public health.

I have been influenced by the relational nature of midwifery. Hermeneutics has been valuable in this work, and especially the hermeneutic circle and fusion of horizons has provided a useful framework for gaining a deeper understanding. My background in public health has provided an understanding of the societal patterns and how these are reflected within well-being, health status, behavior and even in the importance of context for outcome of dementia education. Thirdly, prior research experiences have demonstrated the advantages of having a theoretical approach. As UK Medical research Council guidelines on complex intervention and program theory also state, theory can facilitate a deeper understanding of how and why an intervention works (67). Therefore, the project has drawn on approaches that acknowledge the individual subjective experience of truth as well as the existence of objective truths.

Though acknowledging the strength of quantitative evaluations, prior research experience has shown the importance of having participants as a focal point when beginning to understand the complexity of both self-efficacy and dementia education. In the following sections, I will first present hermeneutic phenomenology and then realistic evaluation.

3.1 Hermeneutic Phenomenology

Phenomenology and hermeneutics are founded by Edmund Husserl (1859-1938), Martin Heidegger (1889-1976) and Hans-Georg Gadamer (1900-2002). According to this philosophical paradigm, knowledge and understanding are created in the interaction between people (125-127) and depend on the relationship and conversation between them (125). The main goal is to create an understanding of the essence of a given phenomenon by going back to things themselves (128). Both Husserl and Heidegger agree on this, but they do not agree on whether it is achieved through a descriptive or interpretative process (128). Husserl in his phenomenology emphasizes a descriptive and unreflected understanding,

where a phenomenon should be grasped as it spontaneously appears to our consciousness (127, 129). However, Heidegger and Gadamer believe that understanding can never be unreflected and separated from context. Instead, they argue that a preexisting understanding of a phenomenon should actively be used when seeking a deeper and richer understanding of a phenomenon (127). Accordingly, hermeneutic phenomenology actively includes preunderstanding including theory and conceptual models in the process of analysis.

3.1.1 Phenomenology

Phenomenology is grounded by Husserl and was initially a philosophy on the nature of knowledge and how it can be achieved; however it has later also become a method of science (129). The main aim for phenomenology is to understand the essence of a phenomena by investigating experiences as they appear spontaneously and unreflected for people without interpretation (128, 130). The essence is the traits that cannot be changed if a phenomenon should remain the same (128, 129). It is this essence that is interesting to phenomenologists. It is not a matter of constructing new knowledge but finding knowledge that is hidden and bring it out in the light (129)

According to phenomenology, we experience a phenomenon in the moment without reflection, and reflection and interpretations follow later. When considering phenomena or situations, the goal is to seek the naïve experience instead of perceptions or interpretations (131). This allows a description without influence of external factors and thereby reveals a general and objective essence of the phenomenon (129, 132). The phenomenological reduction is a fundamental strategy within phenomenology (128). The heart of reduction is to recognize the eidetic traits of a phenomenon (128) and it entails remaining open to other interpretations than one's own existing understanding (129). Here, it is essential to meet the phenomenon as if it were the very first time, by being aware of pre-existing understanding and prejudice and not affected by them often through bracketing own understanding (128, 129, 132).

3.1.2 Hermeneutics

Heidegger and Gadamer break with early phenomenology. It is especially the relationship between subject and object that separate their philosophy from Husserl's, where they find

that interpretation is always present and a way of being (130). According to hermeneutics, it is not possible to achieve a prescientific and uninterpreted understanding; instead, lived life is always an interpretative process (128, 130). In this way, interpretation is the distinctive characteristics of understanding (130). People are always emerged in the world and neither time, society nor context can be put aside when striving for understanding (127).

Preunderstanding is a necessity for grasping our life world (133). It is the existing preconceptions we have about a given phenomenon, regardless of how well-informed or intuitive these are (130). In this sense, preunderstanding can also be professional and academic assumptions or theoretical frameworks (130, 133). Heidegger argues that preunderstanding should be an integrated part of the process towards understanding (130). Therefore, it is important to be willing to be ignorant i.e., questioning our own preunderstanding, in order to gain new knowledge (130, 133).

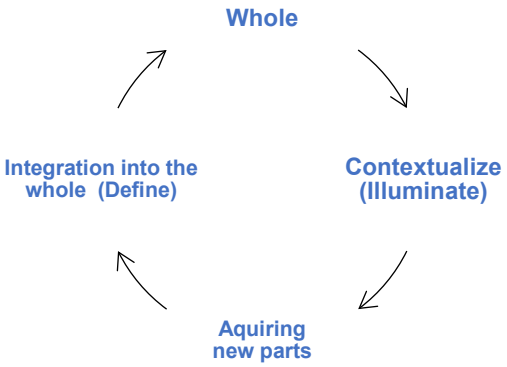

Figure 3.1 The process of gaining deeper understanding as illustrated by the hermeneutic circle

The concept of the hermeneutic circle illustrates the process of gaining an increased understanding (see figure 3.1). It is a circular motion, where preunderstanding is informed by new parts of understanding that are fused with the overall understanding, thus creating a new revised overall understanding (127, 130). This can be done continuously while producing a wider and more detailed horizon of understanding (130). It is a processual dialectic approach (128, 133), where the whole can only be understood through the parts, and the parts can only be understood through the whole understanding (133).

3.2 Realistic Evaluation

Realistic evaluation is an approach to evaluating interventions that considers the effect of context and underlying mechanisms on outcomes (21, 134). The approach promotes evidence based interventions by investigating causal mechanisms in programs (135) and is underpinned by the philosophical paradigm of critical realism (21, 136).

Several philosophers have contributed to the development of critical realism, one of the most important philosophers was Roy Bhaskar (1944-2014). Critical realism can be interpreted in many ways (136). Critical realism stresses that reality is objective and independent of human perception, but that it is experienced subjectively by people. Consequently, the same phenomenon can be experienced very differently by different people (137). Another tenet of critical realism is that underlying structures and mechanisms affect and define reality and how things are connected. These underlying structures and mechanisms are not always active and do not apply for all situations but are context specific. There are multiple layers of structures and mechanisms; they can interact and influence one another; called a dialectical interplay between social structures and human agency (135, 136). The paradigm also accents agent and power relations, including a critique of prevailing social order, however these notions are not very clear and seldomly used in evaluations of interventions (21).

Realist evaluations have an overall focus on context and mechanisms of change (21, 134) and they stress four key concepts: context, mechanisms, outcome, and context-mechanism-outcome configuration (figure 3.2). Mechanisms emerge in or interact with given contexts and affect the outcome of dementia education (134). It adds to UK Medical Research Council's guidelines with its emphasis of the contextual contingency in mechanisms.

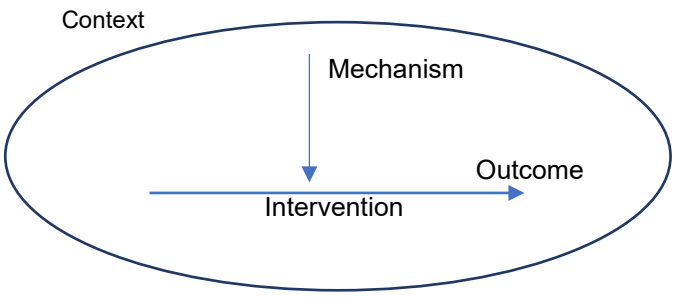

Figure 3.2: Conceptualization of context, mechanism and outcome in realistic evaluation (21)

Chapter 4: Method

This chapter will explain the methodological approach in relation to overview of systematic reviews, semi-structured interviews, and analytical methods. Table 4.1 summarizes the three studies in aim, design, analytical method, and data source.

The first study sought to summarize existing knowledge on dementia education. Focus was on effectiveness and factors influencing effectiveness; thus, an overview of systematic reviews was conducted. Afterwards, the project focused on the chosen indicator for work life: self-efficacy. However not much research has been made on self-efficacy among NAs in eldercare, so qualitative research methods was taken in study 2 and study 3. Semi-structured interviews served as data sources for both studies. In study 2, a hermeneutic phenomenological analysis was used to explore the NAs experiences of own self-efficacy in dementia care. In study 3, a reflexive thematic analysis was used to evaluate the experienced changes in NAs self-efficacy due to dementia education.

Table 4.1 Overview of aims, design, data sources and analytical method used in study 1-3

	Study 1	**Study 2**	**Study 3**
Title	Effectiveness of Dementia Education for Care Staff and Factors Influencing Staff-Related Outcomes: An Overview of Systematic Reviews	Self-efficacy in dementia care: a hermeneutic phenomenological study among nursing assistants in Denmark	*'Before I thought that I had to get on with it, but now I've decided to take it at their pace'* Changes in work life for nursing assistants when participating in dementia education
Research Question	What is the effectiveness of dementia education for staff-related outcomes and which influencing factors affect the effectiveness of dementia education for staff-related outcomes?	Which daily work experiences generate self-efficacy in dementia care for NAs in eldercare, and how are positive changes in self-efficacy experienced by nursing assistants?	Which positive changes do NAs in eldercare experience in self-efficacy in dementia care when they participate in dementia education? Which factors facilitate or work against these changes?
Design and method	Overview of systematic reviews with a narrative summary	Qualitative study with hermeneutic phenomenological analysis (van Manen)	Qualitative explorative study with a reflexive thematic analysis (Braun and Clarke)
Data source	Published peer-reviewed systematic reviews on dementia education, effectiveness and factors influencing effectiveness	Semi-structured interviews with 18 NAs in eldercare	Semi-structured interviews with 18 NAs in eldercare

4.1 Overview of Systematic Reviews (study 1)

Study 1 is an overview of systematic reviews. This is a rather new form of study design and was created to handle the excess of scientific information (138, 139). Overviews of systematic reviews can bring new insights and understanding, and they are used for providing decision makers in health care with evidence by summarizing existing evidence (138-141). Compared to other types of reviews, both aim and methods resemble that of systematic reviews (138, 139, 141); but unit of analysis is systematic reviews rather than primary studies (139). Research questions are often broader (139, 141), to contain information so policy makers can take evidence-informed decisions (138). Some of the key challenges of overviews of systematic reviews are that reviews can include the same studies, quality within reviews is affected by quality of their included studies, some reviews are out of date and as always, there is the potential for publication bias (140). Finally, an overview provides an overall picture of evidence, but at the same time it can become to some extent conservative and reproduce knowledge that already exists.

4.1.1 Search Strategy and Screening Process

The databases PubMed, CINAHL and PsycINFO were searched. Search terms were based on the PICO-model, population, intervention, comparator, and outcome (142), but only *intervention* (dementia, education) along with study design (systematic reviews) were used (139, 141). Guidelines on overviews recommend increasing the sensitivity through making broad searches (139, 141). Therefore population, comparator and outcomes were omitted as search terms, but applied during screening. Initially population was planned to be NAs, however literature revealed that very little to none was conducted on this population group only. Instead, studies include several health professions. The study population was broadened accordingly.

To cover all relevant reviews, a reference and a citation search were made for all included studies. The purpose was to identify relevant reviews which were published *prior to or after* those already included. Reviews were included through a stepwise screening process (see flowchart in study 1 figure 1). Title and abstract screenings were conducted twice, and full-text screenings were completed for all articles with special attention to inclusion and exclusion criteria (see study 1 table 1).

Table 4.2: Overview of categorization of outcome measurements according to level and themes

Level	Theme	Outcome measurements
Level 1 Satisfaction	Satisfaction	Evaluation of teaching sessions; Satisfaction; Training compliance; Learning experience; Staff perception on whether program achieved its objectives; Feedback; Staff reaction
Level 2 learning	Knowledge	Knowledge, Staff knowledge; Knowledge on dementia; Knowledge of Alzheimer's Disease; Knowledge and understanding of dementia; Knowledge on dementia, pacing and wandering in dementia; Understanding of PwD; Understanding dementia; Knowledge on dementia care; Understanding of person-centered care. Knowledge on feeding problem for PwD; Knowledge on behavioral management; Knowledge on management of agitated behavior; Knowledge on caregiving behavior; Knowledge of support strategies; Knowledge on pain; Knowledge on restraint use
	Attitude	Attitude; Attitude towards dementia; Beliefs; Beliefs about dementia; Belief about challenging behavior; Attitude to People with dementia; Attitude about ageing; Attitudes/practice towards PwD in hospital; Perception of residents/PwD; Relationship with PwD; Attitude to dementia care; Attitude toward restraints
	Self-efficacy	Confidence; Confidence in dementia; Confidence in recognizing, assessing, and managing dementia; Confidence in caring for confused elderly; Sense of competence; Competence; Self-efficacy; Self-perceived efficacy; Caring efficacy; Self-esteem; Self-worth; Positive coping;
Level 3 Behavior	Behavior management	Behavior management; Behavior management strategies; Behavior management techniques; Dementia management; Problem solving; Reaction to behavior; Ability to manage problems; Management of abuse; Skills; Care quality; Care practice improvements
	Communication	Communication; Communication skills; Communication strategies; Communication techniques; Satisfaction with own communication; Use of appropriate communication techniques; Use of inappropriate communication techniques; Interaction behavior; Emotion-oriented communication skills; Skills; Patient-centered communication; Ineffective communication strategies; Verbal communication; Announcing single activities; Positive statements; Verbal relevance; Positive verbal interactions; Person-centered responses; Number of utterances; Total number of questions; Total number of prompts; Repetitions; Encouragements; Cues; Affective positive and negative communication; Instrumental positive and negative communication; Total speech; Positive speech; Negative speech; Biographical statements; Call by name; Short instructions; General instructions; Multiple instructions; Self-perceived skills to caring for People with dementia using both closed and open-ended questions; Non-verbal communication; Respectful and less controlling; Personal attending; Social flexible behavior/relaxed; Engagement in social interactions; Relevance; Eye-contact; Affective touch; Instrument touch; Smiling; Communication with relative to People with dementia; Communication patterns around behavior management between staff
	Restraint	Restraints; Physical or chemical/sedative restraints; Physical restraint
	Medication	Medication; Use of psychotropic medication; Anti-psychotic use; Prescription of neuroleptics; Antipsychotic prescribing.
Level 4 Outcomes	Staff well-being	Mental health; Psychological wellbeing; Caregivers affective state; Mood; Depression; Burnout; Anxiety; General stress level; Work stress; Stress; Experience of Stress; Strain; Burden; Emotional exhaustion; Somatic symptoms; Health complaints; General health.
	Staff Job satisfaction	Job satisfaction; Satisfaction with care provision; Caregiver/carer satisfaction; Feeling and perception of working with People with dementia; Experience of caregiving; Preparedness to care; Intrinsic motivation; Perception of caregiving; Absenteeism; Retention; Career commitment.
	Challenging behavior	Behavior; Resident behavior; Behavior problems; Challenging behavior; Behavioral improvements; Behavioral symptoms; Frequency and severity of behavior problems; Disruptive behavior; Calmer behavior; Agitation; Agitated behavior; Observed agitation; Irritability; Aggressive behavior; Aggression; Verbally aggressive behavior; Physical aggressive behavior; Incidents of aggression toward staff; Records of noteworthy incidents of combative behavior the past year; Patient to staff assaults.

All reviews were presented to a Ph.D. supervisor along with reasons for inclusion or exclusion. In cases of uncertainty, I discussed details with a supervisor until we reached consensus on in- or exclusion. In total we discussed 13 articles superficially and eight in detail.

4.1.2 Data Management, Quality Assessment and Analysis

Reviews were coded for data extraction in Nvivo12 according to description, quality, and effectiveness and/or factors affecting effectiveness. Outcomes on effectiveness were categorized into the four levels of Kirkpatrick's model of evaluation (see table 4,2). Results within each outcome domain were divided into five categories of effectiveness (see paper 1, table 2), while factors influencing results were categorized according to factor type (see paper 1 table 3). The quality of the included reviews was assessed using the quality assessment tool 'Assessment of Multiple Systematic Reviews' (AMSTAR 2) (143). Reviews were categorized as having low (<0.4), medium (0.4-0.6), or high (>0.6) methodological quality (see study 1 table 1). Studies with low quality rating, were included in the result table, but ignored in the narrative summary.

4.2 Qualitative Methods (study 2 and study 3)

The overview of systematic reviews as well as other searches of background literature revealed that knowledge on how and why dementia education influence self-efficacy in dementia care for NAs is neither concrete nor specific. Consequently, it would be preferable to have an explorative (qualitative) approach to the relationship and mechanisms between dementia education and self-efficacy (68). Furthermore, in qualitative studies there is a lack of research about self-efficacy in dementia care for NAs. Therefore, before qualitatively exploring changes in self-efficacy for NAs due to dementia education, it was necessary to investigate self-efficacy in dementia care for NAs (125, 126).

4.2.1 Background Interviews and Observations

At the beginning of the project, I found that my knowledge within eldercare and dementia was lacking, so to prepare for data collection, I explored the area in various ways. Several background interviews were conducted with leaders in eldercare (n=3), dementia consultant

(n=1), project leaders (n=3) as well as instructors in the two dementia education programs (n=2). Next, I observed two days of teaching in both dementia education programs. Here I was mainly observing the teaching, content, and methods as well as having informal conversations with participants to understand their context. Finally, throughout the project results were discussed with stakeholder, receiving input from them, and adding their perspectives to mine.

4.2.2 Semi Structured Interviews

Interviews were chosen as a main data source for both study 2 and study 3 as both studies focus on participants' experiences. Interviews should provide space and room for the individual to elaborate in detail on their experiences with people with dementia (PwD) and consequently we decided on semi-structured interviews. Focus group interviews can provide narratives from NAs on self-efficacy, but the structure and framing encourage participants to expound upon to each other's narratives and interrupt each other (125), which would be counterproductive to the aim.

Participants

To be included in the project, participants had to be NAs employed at either a nursing home, at a specialized dementia unit or home care in two different municipalities of Denmark and have participated in a dementia education program in either Esbjerg or Varde municipality within the last six months (see table 4.3) (see. 2.2.3 for more information on dementia education program). There is always a risk of selection bias. In this study, a convenience sampling method was used; all participants were identified and recommended by their team leaders. This could lead to participants being more compliant and it is most likely that the sample does not include those who are very dissatisfied with the program. Since focus of study 3 is not whether dementia education is effective, but how it works when it is effective, the mentioned disadvantages of sampling method was evaluated to be acceptable for the study.

Interviews

Several types of individual interviews exist, from structured to unstructured. Based on a desire to be able to direct participants in a relevant direction, and at the same time allow them to freely speak within the area of interest, semi-structured interview was chosen. In order to frame the interview well and create a basis for a good interaction with the informants (125), interviews were conducted at their work place. Team leaders were asked to book a separate room for interviews during NAs working hours. Interviews lasted 60 minutes on average.

When conducting interviews, knowledge is created in the interaction and relationship between interviewer and interviewee (125, 126). An interview is an interpersonal situation and therefore, knowledge gained through interviews will always be contextual (126) and the technique require interpretation and understanding (125). Consequently, a comfortable atmosphere was established so informants would be able to open up and recourse their experiences with their own words. This was done by encouragement, reacting positively and showing respect for their experiences (126). I introduced myself, my lack of knowledge within their area of work, and told them that I might ask weird questions or ask them to elaborate on things they themselves perceived as easily understood. During the interview, I adjusted my conversational style to mirror theirs (126).

Table 4.3 Participants in study 2 and 3

	Employed at			**Total**
	Home care	Nursing home	Specialized dementia unit	
Program 1	0	4	6	10
Program 2	4	4	0	8
Nursing aids*	3	1	3	7
Nursing assistants **	1	7	3	11
Experience <10y	1	4	4	9
Experience 10<20	2	3	1	6
Experience 20<30	1	1	1	3

*1 year and 2 month of training ** 2 years and 10 months of training

Interview Guide

Interviews were based on an interview guide with open-ended questions (See table 4.4). in a manner that provides the elements needed to answer the research questions, (125).

Table 4.4 Interview guide used during interviews with NAs

Theme	Open ended questions	Clarifying questions**
Introduction	Introduction to myself and the study. Information on data protection and their rights.	
Reaction to dementia training	1a. Please tell me a about the dementia training. 1b. Please describe a training day to me.	Questions on specific content, teaching methods, structures, materials, and the teachers.
	2a. How did you experience to participate in the program? 2b. What did you especially like about the program? 2c. Was there anything that you didn't like about the program?	Specific questions on reaction to each element of the program.
Self-efficacy	1a. Please describe to me a typical day at work.	
	2a. Can you describe a situation from work where you felt competent at your job? 2b. Why do you think that you felt capable and in control in that specific situation?	
	3a. Please describe a specific situation from work that you found extremely challenging or where you failed in doing a good job. 3b. Why do you think you felt incapable in that specific situation? What do you normally do to handle the challenging situations?	
Motivation	1a. Please describe a typical work situation where you are highly motivated for you work. 1b. Please describe a typical situation where you are not motivated for your work at all. 1c. Please describe a situation where you are really frustrated with your job.	
Effect of dementia training	1a. What is the main pay off for you from the program?	
	2a. In which way has the dementia training affected your daily work or the way that you carry out your daily work? 2b. And if it has changed anything, why? 2c. Did you become better at caring for PwD during the program?	
	3a. Is there anything that has affected your learning in the program in a positive or negative manner?	Questions on which influence/effect they themselves and their organization could have

Transcriptions and Ethical Aspects

This thesis follows the Danish code of conduct for research integrity (144). After transcribing interviews, all empirical material was managed in accordance with the European General Data Protection Rules and stored at a secure platform with restricted access, only for relevant members of the study, with plan to erase data when study period expires.

In accordance with the Declaration of Helsinki (145), all participants were informed about the purpose of the studies and they all gave oral consent to participating in the interview and using the empirical material in studies. All participants were informed about the right to withdraw from the study at any time. It is important to note that according to Danish legislation, this qualitative study does not require any ethical approval. Data were also registered by RIO (see appendix 1).

4.2.3 Analysis of Interviews

Study 2 and study 3 used the same data material but applied two different analytical methods, which depended on the research questions. The aim of study 2 was to explore the lived experience of nursing assistants' self-efficacy in daily care for PwDs and therefore a hermeneutic phenomenological analysis was used (see further information under study 2). The aim of study 3 was to investigate changes in self-efficacy in dementia care and therefore used a reflexive thematic analysis (see further information under study 3). Coding and analysis of study 2 was done first, before reanalyzing interviews for study 3. In this way coding, analysis, and results of study 2 informed parts of coding process in study 3. All coding was done by the Ph.D. student, with continuous analytical discussions with supervisors.

Hermeneutic Phenomenological Analysis (study 2)

Study 2 in the Ph.D. project is a hermeneutic phenomenological study on self-efficacy in dementia care among NAs in eldercare. This method was chosen based on a wish to take an experiential approach and investigate self-efficacy from the perspective of NAs in eldercare. Max Van Manen (1942-present) is a hermeneutic phenomenologist, who in 1990 presented a concrete methodological approach to analyzing lived experiences (131). Van Manen provides detailed directions on how to approach data and analysis, still leaving room for movement and reflection guiding the researcher to the results. As a researcher for whom it is the first time to conduct a fully hermeneutic phenomenological study, Van Manen's approach is detailed enough to guide through the coding and analytical process.

A hermeneutic phenomenological analysis begins during interviews. The first was to have a phenomenological attitude i.e., being curious, investigative, and interested in the essence of experiences, not opinions or perceptions(131). The next step was to investigate experiences as they are lived (131). During interviews with NAs and initial reading of interviews, I tried to constantly have curious attitude and test preunderstanding to provide room for provoking and revising understanding, as illustrated by the hermeneutic circle.

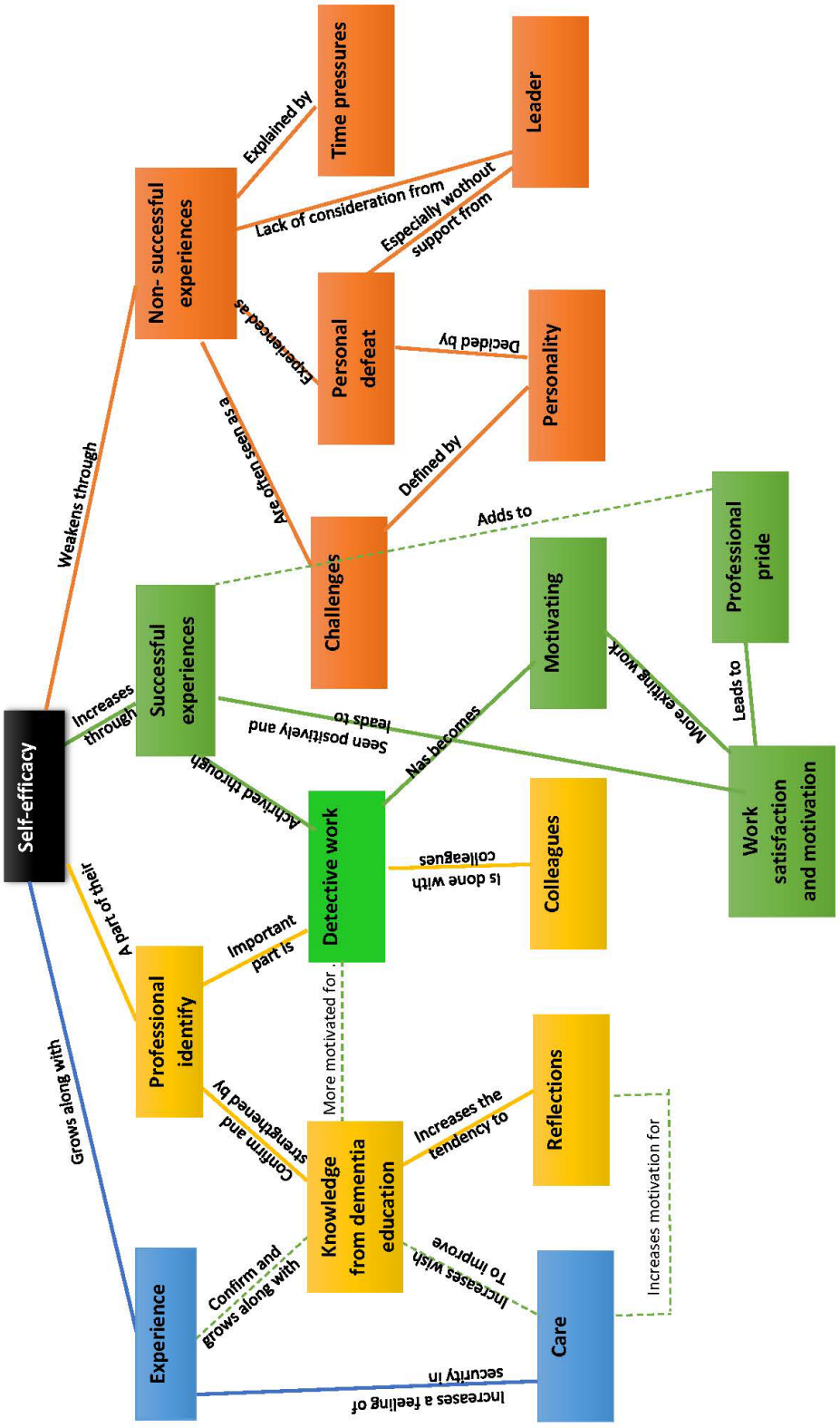

Figure 4.1: Concept map of self-efficacy in dementia care among NAs in eldercare (version 1)

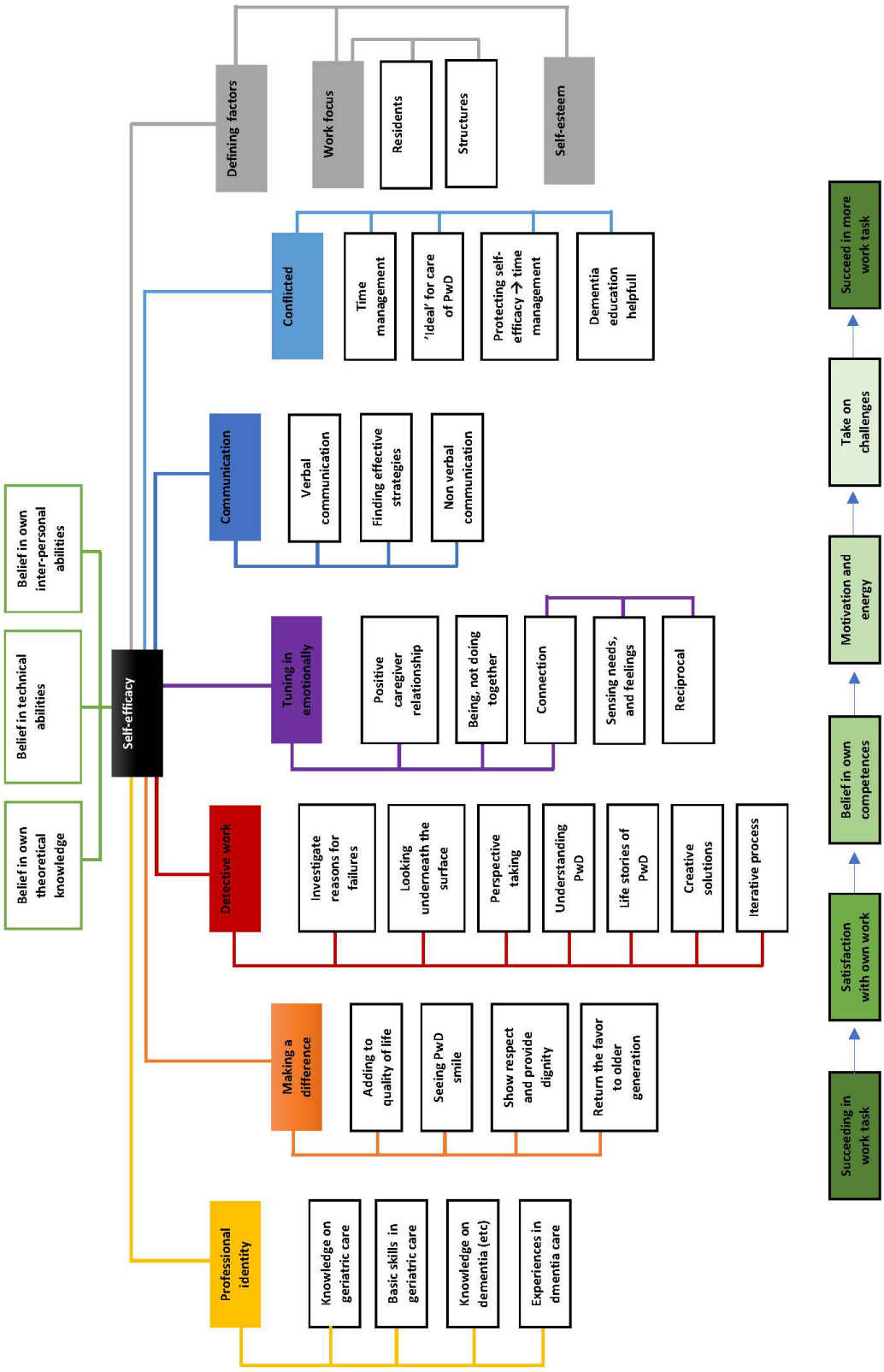

Figure 4.2: Concept map of self-efficacy in dementia care among NAs in eldercare (version 5)

Thirdly, to grasp the essential meaning of self-efficacy in dementia care among NAs in elder-care, I needed to have hermeneutic phenomenological reflections. This included analysis, coding (131), and making several concept maps (146, 147) (see figure 4.1.and 4.2). According to van Manen, there are three main approaches to conducting a thematic analysis: wholistic (attend the text as a whole), selective (identifying which statements are particular important) and detailed approaches (line-by-line) (131). A combination of a wholistic and selective approach was used for coding of interviews.

Fourth, writing was used as a tool for analyzing and gaining insight on my own understanding of data and self-efficacy in dementia care (131). This was done as early in the process as possible. Especially during the last phases of analysis, it was beneficial to write because writing mediated reflections and the ability to see more clearly (131); several times, gaps in understanding or potential assumptions were revealed through writing.

Reflexive Thematic Analysis (study 3)

Thematic analysis is one of the most common approaches in qualitative research. It aims to identify and make sense of patterns of meaning across a dataset. The method works well together with the chosen hermeneutic approach to understanding, and experiential investigations that aim to capture participants perspectives (148, 149). Thematic analysis is not one singular approach, but a diversified approach used by several paradigms and philosophies (148, 149). It is theoretically flexible and can be used interpretatively, for inductive (data driven) and deductive (theory driven) coding (149, 150). The reflexive thematic analysis was used as described by Victoria Braun and Virginia Clarke (149), where subjectivity and reflexive engagement with data is viewed as an analytical resource (149, 151). Braun and Clarke suggest six phases during analysis (148, 150, 151). The analysis was done across the two training programs, with focus on similarities in effect and mechanisms of change.

Firstly, I familiarized myself with the data. Braun and Clarke argue that analysis involves immersion in the data, reading, reflecting, questioning, imagining, wondering, retreating and returning (149, 150). This was done by listening to interviews multiple times, transcribing them and reading the transcripts 2-3 times before starting the coding process (see table 4,5). Notes were taken on thoughts, ideas, or analytical observations during the coding

process. In this phase thematic maps were made (see final version: figure 1 in paper 3). Initially, I made inductive codes on all interviews and afterwards I added a theoretical layer of coding on self-efficacy by Bandura (93). During the coding process, clusters of codes slowly appeared; however, according to Braun and Clarke, coding is a constant interpretative reflexive process where it is best to construct themes late in the process (149). Thirdly, preliminary themes were made, and I examined whether they would work together and tell a complete and complex story. As phase four and five, themes were reviewed again, this time to investigate whether data within each theme supported the overall themes, and if themes were supported by the overall data set. Finally, the results were written down, where writing was a part of the analytical process because new realizations might occur during the final phase (149).

Table 4.5: Examples of coding process for factors in code group: factors that influence positive changes in self-efficacy

Quote	**Initial coding**		**Preliminary theme**	**Final theme**
I don't really know when I should do it […] now I have almost forgotten it already. I thought that I easily would be able to explain it, how to use the model, but when I looked at it, it didn't make any sense at all. (NA13, home visitations)	Time pressure	Compatibility between tool and providing care for PwD	Important structures	Organizational - structure
Those who are participating now, and there are other courses as well, and it is difficult to manage. Right now, there are a lot of courses. I went yesterday because we will start to register our working hours and we are off [to courses] all the time. It kills the effect. (NA15, nursing home)	Too many courses impact negative at the same time	Too many educational courses	Important structures	Organizational - structure
It is too bad that we have a leader who doesn't know anything about anything. My leader is a physiotherapist. He is really competent and nice, but he looks at things differently than me. He is in a completely different world. He thinks in medicine while I think that you could do so much more than medicine. A former leader at another facility knew a lot about dementia, and you could feel that. Her experience was contagious. I would like for him to participate in the program as well. *(NA1, nursing home)*	Leader does not know much about dementia and	Support from leader		Organizational - leader
You can't care for a citizen on a piece of paper. It was all about columns and tables. In my world, you can't do that [provide care] in columns and tables. (NA14, home visitations)	Tool is not useful in practice but merely administrative	Compatibility between content and participants' work focus		Program - Content

So, when things become so black and white, I give up! I think; 'do you know what? I can't use this for anything, and I really don't want to listen to it when things only can be understood in one way […] I give up, and it provokes me, and it's really annoying. It provokes me! (NA14, home visitations)	Provoked by ridged approach from teacher	Did not approve of the instructor	Reaction to instructor	Participants - Satisfaction
We just don't have the time for it. I'd rather hold their hands and sing a song, then I want to fill out matrices. It makes more sense to me. (NA11, nursing home)	Time pressured and prefer holding hands		Focus during work	Participants - work focus

Chapter 5: Results

In following sections, I will present details on the most important findings of the three studies.

5.1. Study 1

This overview of systematic reviews aimed to established current knowledge on effectiveness of dementia education for staff-related outcomes and investigate which influencing factors affect the effectiveness. Seventeen systematic reviews were included in the overview with results from hospitals, nursing homes and home visitations. All systematic reviews reported on effectiveness of dementia education, while ten also reported on factors that influence effectiveness (see table 1 in paper 1). Reviews were low to medium quality (AMSTAR1); however, no reviews were excluded from the tables based on a quality rating (see table 1 in paper 1). Instead, the reviews which had the highest quality assessment were prioritized during the narrative summary of findings. All reviews included several studies with quality issues, and consequently expressed reservations regarding strength and validity of results on behavior, job satisfaction and staff well-being.

5.1.1 Effectiveness of Dementia Education

Results on effectiveness (see table 3 in paper 1) reveal that care staff (CS) are consistently satisfied with dementia education. Reviews find that dementia education generates positive results on knowledge, attitude, and self-efficacy, but also that knowledge is rarely maintained over time (152-155), indicating that it can be difficult to create sustainable environment for implementation of new practices. Staff's attitudes toward dementia are not affected as easily as knowledge and self-efficacy (87, 156, 157), but when changed, they are better maintained over time (157, 158). NAs' ability to manage behavioral symptoms of dementia and communicate with PwD can be improved through dementia education, while results on neither medication management nor use of restraints seem to be affected. Finally, the overview discloses a positive effect on job satisfaction, but overall, dementia education did not directly affect staff well-being (see table 3 study 1). Several reviews identified that challenging behavior among people with dementia (PwD) decreases when CS receive dementia education.

5.1.2 Factors Influencing Staff-related Outcomes

The overview identifies significant differences between reviews in how they report on factors that influence effectiveness of dementia education. Some reviews make broad conclusions (153, 154), while other provide more specific results (87, 152, 158, 159).

Results show that certain characteristics of dementia education have an impact on effectiveness (see table 5.1). Setting plays an important role, where a combination of in-service training and classroom lectures is most effective and can lead to positive changes in both self-efficacy and behavior, including communication skills and behavior management (87, 158). Interactive teaching methods are related to positive results in general (160) and increase learning overall (87), self-efficacy (87), communication (160), and satisfaction with the program (87, 154, 157). The findings (Results) also point to the benefit of teaching that focuses on skills development, reinforcement, (155, 160) using behavior-oriented and person-centered approaches (152, 159). Teaching content should be relevant and directly applicable for CS in their work with PwD as it results in an increase in satisfaction and concrete behavioral changes (87, 158). The professional background of the instructor seems to have a minor impact (157), but expertise within dementia care and teaching style is important for participants' satisfaction and learning (87). Finally, inconsistent results were identified on how program structure affects the effectiveness of dementia education e.g., longer duration was found to have both positive (87, 158), negative (158) and no influence (152, 156, 158, 159),

Table 5.1. Factors that influence the effectiveness of dementia education for professional caregivers (Study 1, table 4)

Factors influencing effectiveness of dementia training for staff				
	Positive Influence	No effect	Negative influence	Comments
Teaching				
Structure				
Duration, intensity, and workload (high)	Attitude [8, 12, 13] Self-efficacy [13] Outcomes [12]	General [8, 11] Satisfaction [13] Challenging behavior [10]	Satisfaction [13]	[8,11] Higher duration and workload do not increase the effect of the education further, if all content is conveyed. [2,10, 12] Feedback and supervisions during teaching increase and maintain the effect, while booster sessions help implementation of new skills
Feedback and supervision	General [10] Knowledge [12]			
Booster sessions	Communication [2]			
Setting				

In-service training		Learning [12]		[12] In-service training might be ineffective due to external factors rather than the setting itself. [13] Opportunity to implement knowledge into practice is essential. If nurses do not work in practice, then internship in a residential setting is needed. [6] Group-based and individual learning is equally effective.
Classroom teaching combined with practice	Satisfaction [12, 13] Self-efficacy [12, 13] Behavior [12]			
Classroom teaching	Knowledge [13] Self-efficacy [13]	Behavior [12] Communication [6]		
e-learning	Satisfaction [3,12]	Attitude [13]		
Content				
Relevant and applicable in practice	Satisfaction [12, 13] Behavior [12]			[12, 13] Content should be relevant and directly applicable in practice. Tools and structured approaches are positive elements if they are directly applicable in practice and care for people with dementia. Written material should be clear, easy to follow and concise. It must be easy to access, if online.
Structured approach, strategy, or a tool	Satisfaction [13] Behavior [12, 13] Outcomes [12]			
Clear, concise material	Satisfaction [12, 13]			
Only written material		Learning [12]		
Teaching methods				
Experiential	Satisfaction [3, 9]	Knowledge [12]		[12] Teaching by engaging participants compared to passive teaching increases the effectiveness. Inclusion of reflections, discussions, video, role play, and other active learning methods are evaluated positively. Within E-learning, interaction increases satisfaction.
Action	Satisfaction [3, 9] Self-efficacy [12]			
Active	General [6] Satisfaction [9, 12] Learning [12] Communication [6]			
Theoretical approaches				
Knowledge focused	Knowledge [11]	Behavior [4]	Staff well-being [11]	[11] Many theoretical approaches can be equally beneficial. Behavior-oriented seems most efficient; over time, person-centered seems most efficient. Emotion-oriented and communication-oriented approaches have less evidence in favor of their use.
Skill oriented	Communication [6] Challenging behavior [4]			
Reinforcement	General [4]			
Behavior oriented	Attitude [11] Self-efficacy [11] Communication [11] Challenging behavior [10]			
Person-centered	Knowledge [11] Staff well-being [11] Challenging behavior [10]	Self-efficacy [11] Attitude [11]		
Emotional oriented	Satisfaction [13] Staff well-being [11] Challenging behavior [11]	Self-efficacy [11] Job satisfaction [11]		
Communication oriented	Knowledge [11] Self-efficacy [11] Staff well-being [11] Job satisfaction [11]			
Facilitator				
Professional background		General [8]		

Style of teacher	Satisfaction [12, 13]			[8] Facilitator characteristics have no impact on results if proper teaching is conducted. [10, 11] Facilitator expertise and style matters to satisfaction.
Expert/skilled trainer	Satisfaction [12]			
Participant characteristics				
Willing to change	General [6]			[13] Poor motivation and engagement in lectures. Also, poor uptake with too few participants in class affects effectiveness negatively.
Not completing education		Knowledge [13]		
Poor engagement in lectures		Knowledge [13] Attitude [13]		
External factors				
Organizational support of implementation	Behavior [6, 12]	General [3]		[10] All studies found organizational barriers and management support of participating in program essential.
Management support to participate in teaching	Communication [2] Staff well-being [11]			
Lack of support to participate in teaching		Knowledge [12, 13]	Satisfaction [13]	

(1) Abley et al., 2019. (2) Eggenberger et al. 2013. (3) Elliott et al., 2012. (4) Kuske et al., 2007. (5) Machiels et al., 2017. (6) Morris et al., 2018. (7) Riesch et al., 2018. (8) Scerbe, et al. 2019. (9) Scerri et al.,2017. (10) Spector et al., 2013. (11) Spector et al. 2016. (12) Surr et al. 2017. (13) Surr and Gates, 2017.

Reviews identified characteristics of participants that are relevant for effectiveness of dementia education. Most importantly, the best results occur when participants are willing to participate and are willing to change behaviors as this increases effectiveness in all outcome measurements (158, 160). The reviews identify two kinds of organizational support that play an important role: support for participating in teaching and support for implementing new knowledge. Both are found to increase the effectiveness of dementia education (87, 158).

5.2 Study 2

The qualitative interview study aimed to investigate which daily work experiences generate self-efficacy in dementia care for NAs in the elderly care setting, as well as which internal processes promote this. The study showed that NAs' level of self-efficacy varies greatly. While some NAs have strong belief in their own ability, others experience insecurity and low self-efficacy. NAs draw self-efficacy on their educational competences and professional identity, which provide them with a basic belief in their abilities as NAs. Additionally, their proficiency and concrete professional experiences within health care, can add to their level of self-efficacy.

Firstly, this study demonstrates that NAs experience a positive spiral between self-efficacy, motivation, and increased competences. This positive spiral helps NAs to grow more confident and dare to undertake increasingly complicated tasks in care for residents with more severe dementia. According to NAs, increased feeling of self-efficacy remotivates them, so they consistently invest energy and effort in their interaction with PwD. Secondly, the findings indicate that NAs gain an investigative approach, in which they are more reflective, improve analyzing skills in various situations and some of develop creative ways to improve care solutions. NAs find that if they assume the perspective of PwD, they are able to be emotional attuned with PwD and see 'beneath the surface' of situations where they previously would have found the situation too challenging and hesitated in interacting with the PwD. A third consequence of increased self-efficacy is that NAs become calmer and better at coping with unpredictability in dementia care. The findings however, also indicate, that the development of the positive spiral is sensitive to contextual factors such as lack of resources, time and support from management and therefore a risk that the spiral will slowly cease over time.

5.2.1 Work-focus and Self-esteem

NAs' narratives revealed that depending on their self-esteem and work-focus, different experiences generate the feeling of self-efficacy (See figure 5.1). During work, NAs can center their attention and focus either on residents, structures surrounding residents or somewhere in between. Most NAs wish to be resident-centered, however, many feel incapable due to either time restraints, culture at the workplace or circumstance in their private life. In this way, work-focus can vary over time due to life circumstances, organizational aspects, or new inputs from educational programs. NAs who mainly focus on residents are motivated by interactions with PwD and they describe a strong desire to provide tailored care. More structure-centered NAs tend to focus on time management, technical skills and being a good colleague. Low and high self-esteem on the other hand work as filters, through which NAs regard their own abilities and competences, and either decreases or increases overall self-efficacy.

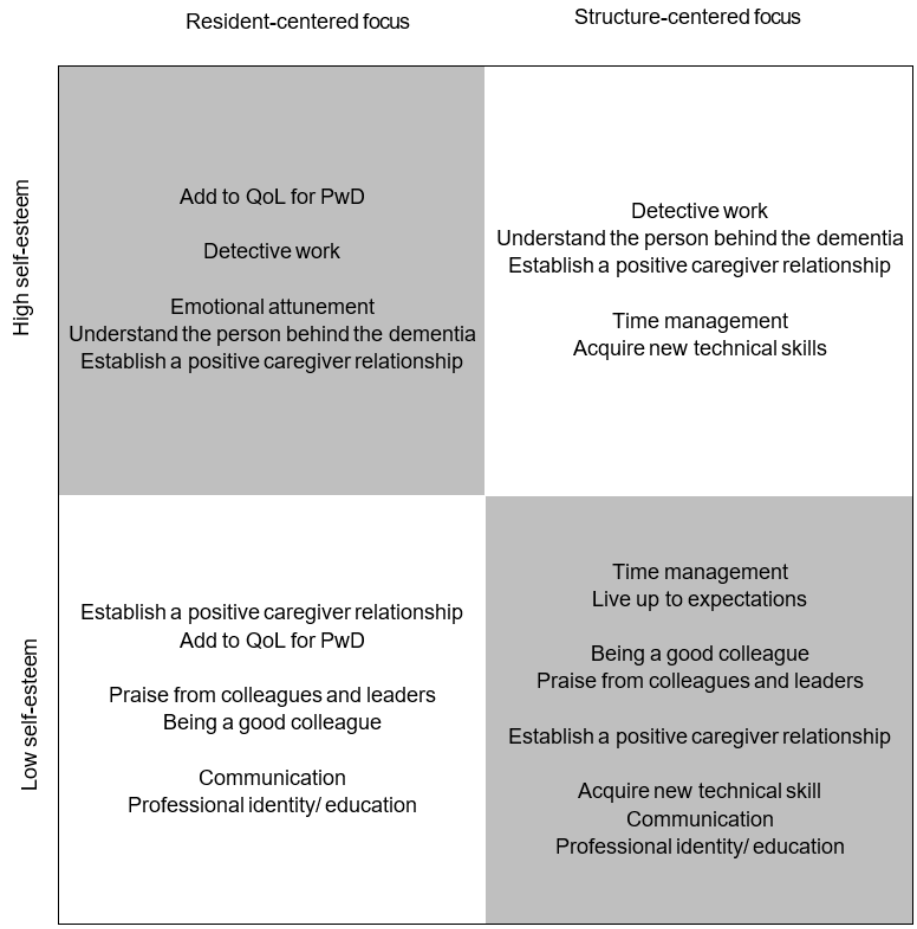

Figure 5.1: Factors that develop or maintain self-efficacy in dementia care among NAs in eldercare, depending on work-focus and self-esteem (Study 2, figure 1)

5.2.2 Experiences that Promote Self-efficacy in Dementia Care

Most NAs see caring is an innate part of themselves and are motivated daily by their desire to *make a difference to PwD* and improve their quality of life through good care practices. Consequently, being successful in providing care for PwD affects them emotionally and adds to their self-efficacy. Also, minor situations such as making PwD smile, can be sufficient to remotivate NAs and add to their sense of self-efficacy.

Detective work is an important part of the daily work routine for NAs and is either carried out during care of PwD or through dialogues with colleagues, where they investigate alternative care solution for PwD when standard or current care is unsuccessful or insufficient. The process of identifying new ways of tailoring care is an iterative process of trial and error until new solutions are found. NAs tend be rather resilient when it comes to unsuccessful

attempts and interpret them as consequences of external factors or as a part of the iterative process. Nonetheless, in unsuccessful cases where a lot of resources have been invested over a longer period, they become demotivated and feel insufficient. In these situations, a coping strategy for some NAs is to shift focus to time efficiency and thereby secure another way of gaining successful experiences.

NAs' relational experiences with PwD is important to their self-efficacy. They find that it is important for them to be able to *establish a positive relationship with PwD* during their daily work practice. *Tuning in emotionally* is also seen as an important practice for NAs and helps to creates a reciprocal connection between NAs and PwD enabling NAs to better understand PwD, sense their feelings, needs and how their discomfort can be alleviated. Some NAs describe this as an intrinsic ability which comes naturally with little effort. For other NAs it is difficult, and they need to intentionally tune in emotionally during interactions with PwD. The main purpose of tuning in emotionally is to provide better care for PwD.

Communicating with PwD is a difficult and yet a very essential task for NAs. In early stages of dementia, NAs emphasize verbal communication, such as speaking slowly and clearly and actively using the tone of voice. When non-verbal communication takes over, NAs find that creative interactions become more important e.g., singing, rhymes, eye contact and physical contact. The process of identifying good communication is both an innovative and a reiterative process, which often requires that NAs are investigative, reflective, creative, and able to tune in emotionally.

5.3 Study 3

This qualitative interview study explores the positive changes NAs in elderly care experience in self-efficacy in dementia care when they participate in dementia education and which factors facilitate or hinder these changes. The changes in self-efficacy in dementia care for NAs due to dementia education were generally positive, but experiences vary from participant to participant. Some NAs experience clear positive changes in self-efficacy, while other NAs did not experience any changes in self-efficacy. Among these, some NAs had high self-efficacy in advance. Most NAs consider dementia education as a short-cut to competency development, which they otherwise would need time and experience in practice to obtain.

5.3.1 Factors that influence changes in self-efficacy in dementia care

Three factors in dementia education facilitated an increase in NAs self-efficacy (see figure 5.2). Individual successful experiences are essential for developing and maintaining self-efficacy. The interplay between teaching and practice is particularly enabling in NAs gaining successful experiences. This is done through an investigative and iterative process, in which they explore and test different care solutions and approaches. They also feel successful when their professional competencies are recognized by fellow participants and especially by the instructor. Conversely, if participants feel that their contribution is disregarded by instructors, their self-efficacy level can decrease, or as a self-defense mechanism they can choose to be indifferent towards teaching and therefore unwilling to participate. Positive changes in self-efficacy are also experienced when NAs share experiences from dementia care and listen to insightful ideas from peers and instructors. Here they are both inspired and motivated to improve their own practice as well as to begin to believe that they themselves could do equally well.

Finally, NAs feel their self-efficacy increase as they practiced the analytical and iterative process in identifying alternative care solutions for PwD together with peers and instructors during lectures. NAs' competencies to adapt care when facing challenging situations begin to improve, when they analyze multiple cases and situations from practice and identifying approaches together with colleagues in the workplace.

5.3.2 Contextual factors

Analyses identified two main barriers that can either diminish or hinder changes in self-efficacy: lack of motivation and willingness to participate in dementia education among NAs. Analyses identified several factors that mediate either high motivation/willingness or lack of the same. Firstly, NAs who focus on structures are more reluctant to participate, learn or incorporate new knowledge on person-centered care into their daily work with PwD. Secondly, dissatisfaction with teaching staff and content seem to mediate (result in) a lack of motivation and/or willingness to participate in teaching. Finally, organizational factors as time pressure, staff shortages, and concurrent projects affected NAs' willingness and motivation

negatively. If NAs believe in advance that they will not be able to implement the new knowledge, it can create unwillingness and reduces motivation to participate.

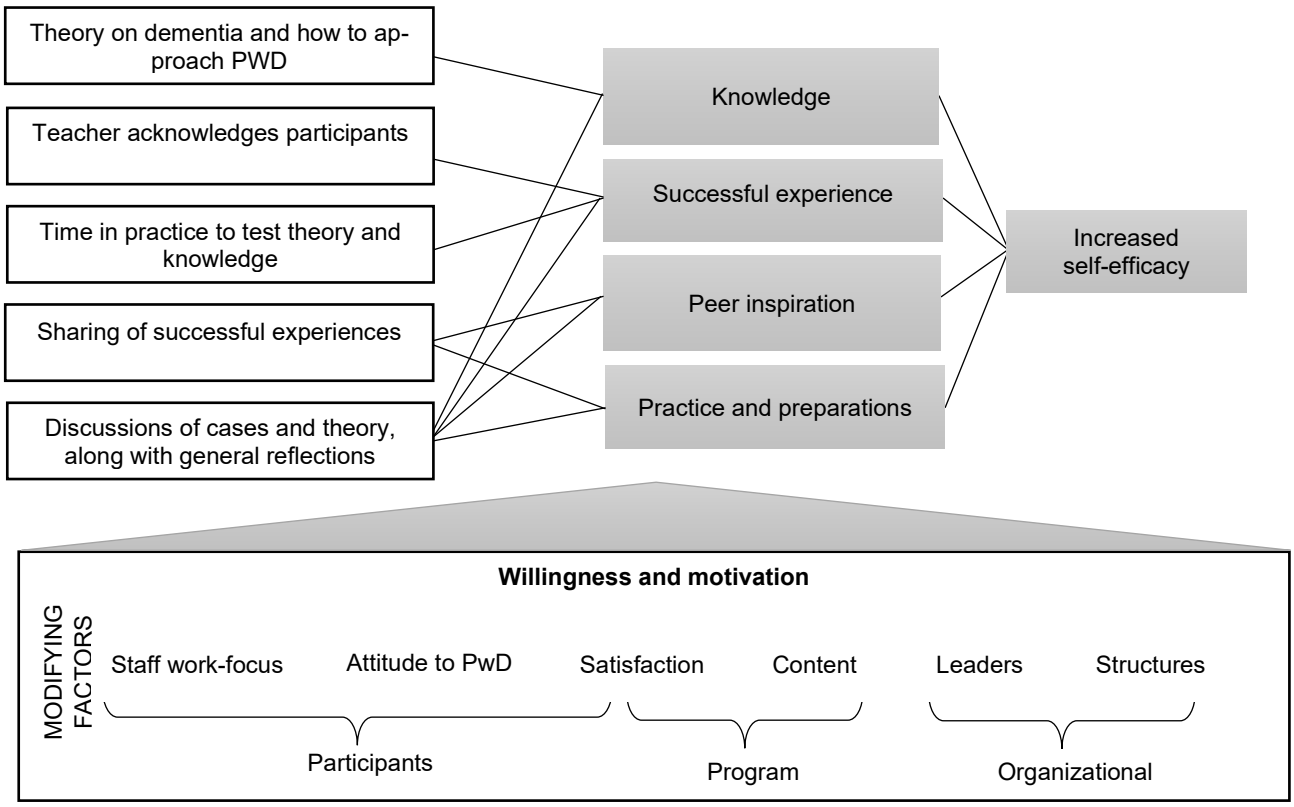

Figure 5.2 Mechanisms in dementia education that facilitates self-efficacy in dementia care as well as contextual factors that influence mechanisms (Study 3, figure 1).

Chapter 6: Discussion

Daily care for people with dementia (PwD) is demanding and requires a lot from nursing assistants and aids (NAs) and other care staff (4). It is characterized by the PwD's cognitive impairment (1) which can lead to difficulties in communication and other challenging situations for NAs (4, 9, 35). Dementia care requires multiple competencies and skills (23). Often NAs have low confidence in their own competencies and find it difficult to provide good care for PwD (4, 42, 62). Dementia education plays an essential role in providing NAs with appropriate prerequisites for developing competencies, knowledge, attitudes, and self-efficacy (4, 6, 36, 41, 66).

6.1 Dementia Education and Work-life

Findings in this dissertation indicate that dementia education can affect NAs' work life positively and show that self-efficacy can be changed through dementia education. Dementia-specific education thus initiates a positive spiral between self-efficacy, motivation, and increased competencies (Study 2). The two other studies have identified factors that according to NA´s experience, generate positive changes in self-efficacy in dementia care. These were experiencing individual success, being inspired by peers, and practicing more reflective processes in their daily work practices. Program characteristics like lectures based on active teaching methods, theory on dementia combined with time in practice and engaged instructors contributed to changes in self-efficacy. Importantly, findings revealed that contextual and personal factors influence dementia education by affecting NAs' willingness and motivation to learn.

6.1.1 Self-efficacy, Quality in Care and Job Satisfaction

The dissertation ´s qualitative studies explored the perceived self-efficacy in dementia care among NAs working in elderly care. Findings revealed a positive spiral in which identified individual successful experiences at work as increasing self-efficacy, which in turn changes motivational, cognitive, and selective processes. These concurrent changes further increase the likelihood of successful experiences (93). Very few qualitative studies have investigated self-efficacy among health professionals. A study among Iranian health professionals on

self-efficacy to deliver health education by Zamani-Alavijeh et al. (64) supports this notion. Nevertheless, these findings are similar to Bandura's theory on self-efficacy (93, 161), where he describes a spiral categorized by emotional feedback, both as a predictor for self-efficacy and as a process initiated by an increase in self-efficacy.

Due to this positive spiral, NAs experience themselves as more proficient and believe they provide improved care for PwD as their perceived self-efficacy increases. This is likely because they feel better equipped and have a feeling that they gain more control in their daily care practices (41). Reviews on self-efficacy also indicate a relationship between self-efficacy and quality in care. Lunenburg (116) and Resnick (117) find that self-efficacy influences goal setting and directing of resources, while Posadzki and Glass (120) add that it increases intentions to perform and persistence when learning new skills. Finally, a survey study from the Netherlands by Evers, Tomic and Brouwers (123) found that a higher level of self-efficacy increases NA´s ability to handle behavioral symptoms of dementia (122, 123). In contrast, a systematic review of dementia education, by Surr et al. (2017) found that there is no indication that quality in care is affected by increases in self-efficacy, attitude or knowledge (87). A likely explanation is that there are several intermediate steps between self-efficacy and providing better care, compare to the integrated model on behavior prediction (162). In addition, quality of care is a complex outcome (163, 164) and is context and person-dependent and as such also difficult to measure. Besides self-efficacy, improved quality of care requires concrete competencies to provide care within several areas in dementia care e.g., screening and assessment, diagnosis and treatment, psycho-social aspects, continuity of care, structures of care and end of life care (163).This dissertation explored the area qualitatively, and as such it is not possible to make conclusions on causality. However, as both this dissertation ´s reviews and interviews with NAs, imply a relationship between dementia education and quality in care with self-efficacy as a mediating variable, this topic should be further investigated.

The above-mentioned positive spiral did, however, also indicate that improved self-efficacy also leads to improved job satisfaction through motivation and emotional security. The dissertation focused on immediate changes following increases in self-efficacy. So, while motivation was mentioned, job satisfaction was not specified as a result of self-efficacy, though many NAs experienced improved job satisfaction. In spite of this, studies among care staff have shown that perceived self-efficacy decreases outcomes related to well-being, such as

stress, exhaustion, and burnout (45, 66, 121, 122), and in turn further increases motivation and job satisfaction (108, 165). In addition, job satisfaction among care staff in elderly care is mainly determined by intrinsic factors as job involvement, autonomy, and self-efficacy. Therefore, it seems reasonable to conclude that changes in self-efficacy also help to improve job satisfaction.

6.1.2 Work-focus in Dementia Care

According to study 2, NAs' work-focus can have a significant influence on their level of self-efficacy. NAs tend to center their attention either around residents, structures surrounding residents or somewhere in between at the workplace. In this way, work-focus describes the mental focus NAs have during their workday, what they base their decisions on and what motivates them to maintain a high level of work. It is arguable that to some extent, residents-centered work-focus resembles the characteristics of person-centered care (3, 166), while structed-centered work-focus resembles a more traditional medical approach to PwD. Though these two categories of work-focus have not been described previously in research, similar findings on the conflict between focusing on structures or residents have been described in qualitative studies in dementia care. As in this dissertation, these studies have found that caring is an integrated part of care staff's identity (45, 108), and their definition of good care naturally aligns with person-centered care (45, 167). Context, however, does not always allow them to have this focus (4, 6, 45).

Results also found that depending on work-focus, different experiences would typically generate self-efficacy. For example, NAs with a resident-centered work-focus emphasize quality of life for PwD, having an investigative approach, being reflective and emotionally attuned to PwD (3, 32), while NAs with a structure-centered work-focus find self-efficacy in well-managed, time-efficient care. Further results identified that resident-centered work-focus could lead to higher self-efficacy and staff may benefit more from dementia education with a person-centered approach to dementia care. Logically, this can be explained by the fact that it is 'easier' to *frequently* gain a smile from PwD than to manage time perfectly. Similarly, reviews on person-centered care have seen a positive relationship between person-centered care and staff's self-efficacy, job satisfaction and well-being (3, 41, 103, 168-171). In addition, reviews found that person-centered care has a positive impact for quality of care

and continuity of care (168), PwDs wellbeing: self-esteem, depression, (168, 170, 171), as well as behavioral symptoms (3, 170). Studies on person-centered care have found that NAs clearly recognize the benefits of person-centered care (36) and that this approach to care naturally aligns with NAs definition of good care (6). Consequently, it can be beneficial for NAs to have a resident-centered work focus.

Findings revealed that advantages of resident-centered work-focus for self-efficacy are sensitive towards life circumstances, work pressure or other organizational factors and seem to diminish or disappear if organizations are not able to support person-centered care. Findings indicate, in line with existing research, that organizational factors as time constraints and focus on management (34, 172), works against NAs' motivation for working in dementia care (6, 36, 42) and can in severe situations lead to cynicism (forråelse) (45, 59). This is supported by Turner at al. (36) who identified working in an efficiency driven organization as key barrier to providing person-centered care and another study by Cowdell (173) revealed that care staff believe that they need to suppress empathy due to organizational culture. Also, Study 1 found that dementia education with a person-centered care approach is more effective, but the results of the education are vulnerable to unfavorable organizational factors and structures (152, 159). Therefore, results suggest that it would be beneficial for organizations to prioritize PwD and their quality of life and ensure that NAs are sufficiently equipped to deal with the unpredictable nature of care situations. In this way, staff are equipped to provide care for PwD, which they themselves perceive as good care.

Another important aspect for NAs is to maintain a balance between attachment and detachment to PwD (174). As described earlier, working with people requires NAs to invest personal resources and can require a lot of staff, emotionally. In general, dementia care is an area plagued with dilemmas for NAs and can result in an inner conflict. Coates et al.(45) detail how care staff 'feel torn' between long-term benefit and short-term distress for PwD. Gwernan-Jones, et al. (6) describe care staff's experience of feeling inadequate and not having the competencies to make care decisions for PwD in general or in specific cases. According to Hoel, et al. (172), care staff sacrifice tailored care to secure practical tasks and the daily schedule. Houghton, et al (4) found a dilemma between safety in care and respecting personal dignity of PwD. Another important aspect for NAs in feeling conflicted during work is that performance indicators often prioritize physical health, while caring for PwD

primarily is an emotional work. Therefore, NAs' work with PwD is generally unappreciated and under-valued compared to somatic care work (4, 6). One study even argues that that the cost of engagement was so great, that without some degree of detachment, engagement in care is not possible (174). Consequently, if NAs are overly focused on residents, they risk burnout and frustration.

6.1.3 Changes in Self-efficacy in Dementia Care when participating in Dementia Education

This dissertation reveals that self-efficacy in dementia care among NAs in elderly care can be increased through personal successful experiences, peer inspiration and practice and preparation. The strongest mechanism of impact is personal successful experiences. Bandura also believed that successful experiences have the strongest influence on self-efficacy. He refers to them as mastery experiences (93), where both quantity and quality of experiences are important (64). Practice and preparation were also important mechanisms for changes in self-efficacy. Based on the interviews, peer inspiration is described to have had the least influence on self-efficacy. A potential explanation could be that NAs often work alone and that their job is particularly practical in nature, as such, it may be difficult for them to adopt peers' self-efficacy through lectures and discussions. Looking at which characteristics of dementia education is important minor differences were observed between study 1 and study 3. The overview of systematic reviews found that teaching on person-centered care does not increase self-efficacy (159). Despite this, NAs from the qualitative studies had participated in dementia education that used a person-centered approach to care and generally experienced positive changes in self-efficacy in dementia care. Whether this was due to the person-centered approach or other aspects of the program can, of cause, not be established.

Results also revealed that positive changes in self-efficacy can be hindered by NAs' lack of willingness and motivation to participate (158, 160). In some cases, NAs could think that it was futile for them to participate in dementia education. Major reasons are organizational factors. NAs might perceive leaders and/or organization to be unsupportive (36) or too focused on time management and financial aspects (108). A review on learning intention by Kyndt and Baert (175) highlights this, as they found that if employees expect positive outcomes, their intention to learn is improved.

6.1.4 Organizational focus on Dementia Education

Organizational factors were repeatedly stated as influencing and effecting both self-efficacy, dementia education and mechanisms of impact. Consequently, it is important that content and approaches to care in dementia education programs are compatible with actual organizational and working structures in care for PwD. This enables the organization to provide supportive structures for NAs who participate in the training course and maintaining positive expectations for NA´s participation (62). Research has shown that providing dementia education without ensuring implementation following training is not beneficial for participants (154) and is moreover, a waste of resources. This view is supported by MRC guidelines on complex interventions (22, 67, 68) and Realist Evaluation by Pawson (21), who stresses the importance of context in mechanisms of educational impact.

Results from all three studies suggest that the organization should be willing to support and prioritize NAs participation in educational programs. Management in particular, must be supportive of NAs while they participate in dementia education (87) e.g., paid participation and training in work hours, encouraging participation (36). Studies on staff experiences in providing care for PwD support this notion and reveal that implementation of person-centered approaches is hindered by pathways of care (4), lack of continuity in care and collaboration between staff groups, as well as lack of resources (62). Staff also mention that culture within care is important when implementing new practices. e.g., providing time and space for NAs to reflect and plan new care. Aspects that hinder implementation can also be performance indicators that prioritize physical health (4, 6). Consequently, dementia education can encourage new behaviors, but if the organizational culture does not facilitate NAs in changing their behaviors, or structures cannot support a certain approach or use of a certain tool; NAs subsequently prefer to not receive any dementia education or training in new approaches in care for PwD (6).

6.1.5 Tailoring of Dementia Education

As for all complex interventions, findings indicate that dementia education needs to be tailored to the organizational context, the overall aim of the intervention and the specific needs of participants. Unfortunately, it is not always possible for all requirements of tailoring to be

fulfilled in the same educational program, so it can be necessary to consider whether programs should be targeted to specific groups or all NAs (116). It is essential that the tailoring of programs is done according to the specific aim of dementia education. Fishbein and Yzer (89) emphasize in the integrative model of behavior prediction (IMBP) that when planning an intervention, one of the very first decisions that should be made is the overall goal of the program (89). As an example, if dementia education aims to improve communication with PwD it should be tailored differently than if it aims to improve care through a person-centered approach to PwD (22). The first program would emphasize knowledge on PwD's ability to communicate, the influence of cognitive decline on communication and aspects of verbal and non-verbal communication. The program would also need to entail exercises and concrete skill training in communication (176). The second program would be more focused on creating an understanding of PwD's difficulties and everyday challenges, as well as knowledge on different approaches to provide person-centered care. Teaching would need plenary discussions on how to acknowledge and support PwD's competencies, individuality and personhood (166). However, IMBP also advises to not merely target one specific outcome, but consider all relevant intermediate variables of new behaviors, such as beliefs on behavioral attitude, social norms, and self-efficacy (95).

Not all NAs will have the same prerequisites when participating in dementia education (62). They have different needs regarding levels of difficulty, teaching methods and instructors' teaching styles. Proficiency is an important aspect to this, and according to Benner´s (71, 72) novice and beginner theory, NAs do not profit from the same content or teaching methods as competent or proficient NAs. While a novice NA benefits from simplified theory and guidelines, competent NAs need to share successful experiences, find inspiration from others, and have time to gain further experience and in-depth knowledge on caring for PwD. Unfortunately, many teaching programs focus on novice NAs (73).As such, if organizations wish to have expert NAs, it is important to also consider their needs in dementia education (73).

As suggested by the qualitative findings, personal characteristics affect the needs of participants in dementia education. Study 2 especially stresses self-esteem and work-focus. NAs with low self-esteem require lower levels of difficulty in education and will most likely focus on increasing self-efficacy through external factors such as verbal persuasion and helping them gain skills through mastery experiences. Furthermore, NAs with a resident-centered

work-focus would be more receptive to teaching using person-centered approaches. This group is inspired by and pays extra attention to these approaches, as they are congruent with their intrinsic values and interests (175). Therefore, for NAs with a structure-centered work-focus, according to IMBP it is relevant to focus on supporting motivation and changing attitudes, so their intention to participate can be increased (89, 162). It is especially important that content is directly applicable following training, e.g., that they are provided with concrete and relevant tools to be used in care.

However, before tailoring dementia education for NAs, it is important to consider whether dementia education is the most appropriate intervention. Firstly, low quality in care might not be due to staff qualifications or lack of intention to provide good care but caused by some of the organizational aspects discussed above. Secondly, IMBP illustrates the need for different interventions depending on which determinants of behavior changes are not fulfilled (89). Here it cannot always be assumed that dementia education is the optimal solution. Therefore, mapping and needs assessments are important (89). Lastly, program planners need to consider whether the aims for dementia education are implementable and if they and the staff are willing and able to make the required changes in practice.

6.2 Strengths and Limitations

There is a lack of qualitative research on self-efficacy of NAs in dementia care in a Nordic as well as in an international perspective. Literature searches revealed only one study among care staff in dementia care (45) and another on health professionals self-efficacy in delivering health education (64). Although other qualitative studies on care staff's experience of caring for PwD (177-180), as well as a recent scoping review by Shrestha et al. (108) briefly touch upon this, there is still need for more detailed understanding of both self-efficacy and reasons for changes in self-efficacy when participating in dementia education. This dissertation therefore provides an important contribution to this area of research. It has been done through both review and qualitative methods, contributing to objective and subjective data. The qualitative approach was explorative and provided tacit knowledge of NAs. However, further qualitative, and quantitative studies should be made to further elaborate on two specific aspects: mechanisms of change and the influence of work focus on self-efficacy in general and when participating in dementia education.

Results in this dissertation are transferable to other closely related settings and educational programs. Compared to other health care professionals, some similarities exist: they often work in similar contexts, provide care for somatic illness, and have many administrative tasks, while feeling time-pressured and understaffed (41, 55, 111). In addition, NA´s work motivation is often similar to other health professionals: a desire for making a difference and a preference for working with people (40, 56). Differences between dementia care and other health care settings also exist and unlike other health care settings, dementia care focuses primarily on quality of life (23). In addition, NA´s often work in situations, where residents are unable to autonomously take decisions and articulate their care needs (4, 42, 45). Consequently, NAs need to be more flexible, patient, and creative than in many other health care settings (23). As such, not all health care settings are the same, and it is likely that some mechanisms are similar but not identical in other groups of health care professionals and in other educational programs. In spite of differences, results on which program characteristics facilitate effective results are similar in other areas of educational research (181, 182). Therefore, as contextual factors affect dementia education and the context in different health care settings has both differences and similarities, it is reasonable to assume that current findings are transferable to educational programs in other health care settings, yet only if they can be adapted to their specific context.

This dissertation has been shaped by program theory and selected models on behavior and job satisfaction. The conceptual framework might also have benefited from further exploration of concepts on behavior e.g., sense of coherence by Aaron Antonovsky (120, 183) to add another dimension to the analyses. Self-efficacy and Antonovsky's sense of coherence are both applicable to health and can detect, predict, and improve health behavior. Combining the two concepts may assist in understanding behavior changes further (120). It might also have been useful to include some interpersonal models or theories such as diffusion of innovation theory and disruptive innovation theory (96), if the focus of the dissertation was implementation.

Finally, this dissertation considered dementia education from a staff-perspective, thus omitting the perspective of PwD and family caregivers. The focus on staff-related outcomes may seem narrow, for practitioners, program planners and other stakeholders, as it cannot inform on outcomes related to PwD or quality of care. Consequently, it fails to provide a complete overview of dementia education for stakeholders.

6.2.1 Study 1; Overview of Systematic Reviews

The overview presented a coherent picture of effectiveness of dementia education and factors that influence results by combining evidence from existing systematic reviews. A disadvantage of using a rather unknown study design is that not many recognize that overviews can provide a broader picture of the research area but tend to omit finer details. Overviews are designed to compile existing knowledge, not to generate new knowledge (138, 139) and unlike scoping reviews, focus less on identifying gaps in current research and highlight areas that need further inquiry (184), providing a broader overview (139). A well-known disadvantage within overviews is that several of the included systematic reviews contain some of the same original studies (138, 139). This unfortunately means that results between studies could neither be directly compared nor accumulated.

A pragmatic approach was taken regarding the included quality assessment reviews. All reviews were included in tables, regardless of their quality, while reviews with the lowest quality ratings were ignored in the narrative summary. By including all review regardless of quality, results of poor quality could have been included in the overviews and in severe cases can distort results (185). This, however, does not seem to be the case in this overview as results from studies with different quality ratings resemble each other.

The overview has a broad approach study population, setting, type of dementia education as well as study designs. It was initially planned, that the study population in this overview should be NAs, however early literature searches revealed that very little to no research had been conducted on this population group. Instead, the majority of studies include several health professional groups. As such, the study population was subsequently broadened. According to Cochrane, this can lead to generalized and unspecific results with the prospect of *"mixing apples and oranges"* where results are at risk of not being applicable to the intended study population (186). NAs, however, were present as a part of the study population in all reviews, thereby securing applicability. The review included several settings: home visitations, nursing homes and hospital settings. The analysis considered the different settings and found some differences. Despite this, NAs were only observed within learning (knowledge, attitude, and self-efficacy) and not at any other outcome levels. At the same

time, it is important to mention that due to methodological inconsistencies it is difficult to draw any conclusions.

Furthermore, because of the characteristics of the research field the overview included systematic reviews regardless of study design (and measurement tools) included in their summary. The analysis disclosed that study designs of original studies were often quasi-experimental or before and after measurements. Especially the inclusion of before and after measurements without comparison groups lowers the validity of systematic reviews and challenges comparability of results between studies, specificity and strength of results (76). The strengths of results in the present overview were therefore low compared to if only (cluster) RCTs had been included in the study and only two systematic reviews were included (cluster) RCTs (154, 187). If this study only includes (cluster) RCTs, reviews would have had held higher level in the hierarchy of evidence and thus produce more rigid and valid results (188, 189). Conversely, within evaluation of complex and other real-life interventions, researchers argue that it is not always sensible to conduct (cluster) RCTs due to the importance of context and adaptation (67, 188). Alternatively, it would be better to design a well-conducted quasi-experimental evaluation (76). Being aware of these disadvantages, it was still decided to have a broad representation of existing research and outcome measurements.

Lastly, search strategy was not conducted in collaboration with an information specialist and the literature search was only performed in three databases: PubMed, CINAHL and PsycINFO; however, to identify all relevant studies additional reference and citation searches were conducted. 16 out of 17 studies included reviews that were identified through databases searches. Another important limitation in the overview was that most work was conducted by one researcher, which can introduce a higher risk of bias and/or misclassification than if all work had been done by two or more researchers (190). To compensate for this several initiatives were taken. A internal protocol was approved by supervisors before the start of the study and database searches and screenings were conducted by both me and a supervisor. The remaining process was closely supervised, and data extraction and quality assessment were conducted twice, resulting in a reasonable intra-rater score. All cases of doubt were discussed in detail with a supervisor, to secure internal validity.

6.2.2 Study 2 and Study 3; Qualitative Studies

Evaluating the quality of qualitative studies can be more challenging for quantitative studies, as the same overall criteria cannot be applied (191). Instead there are different quality requirements, depending on the type of study and analyses (191). Transparency is the key to demonstrating internal validity (126, 191). Transparency was secured through specifying preunderstanding as well as the basic theoretical perspectives before study start. Reflections of methodological choices were explained, and the development of understanding was documented through concept maps, theory maps and coding tables. Internal validity was created through testing the authors understanding and results through conversation with supervisors and practitioners from the municipality to secure resonance. Finally, a triangulation of theory was conducted. Minor differences in the theory on self-efficacy were identified (93, 117) and these resulted in further explanation of the findings. In other circumstances, the data enabled further elaboration of theory.

External validity, transferability and generalizability in qualitative research has long been debated (192). The generalization of qualitative studies can be divided into three categories: statistical generalization, naturalistic generalization and analytical generalization (193). As this dissertation has used a qualitative explorative approach, the results do not have statistical generalizability and cannot establish a causal relationship between dementia education and self-efficacy (76). Instead, the studies were analytically able to identify patterns among participants, which suggest an analytical generalizability, in which results can then be transferred to similar population groups in similar settings (126, 191). In comparison to previous research in the field, these findings suggest potential mechanisms and provide a broader and more comprehensive understanding of self-efficacy and how dementia education can improve self-efficacy in dementia care. Transferability of results from this dissertation are discussed in chapter 6.2.

Some methodological limitations of study 2 and study 3 should be mentioned here. I was the only researcher coding in both study 2 and study 3. To compensate for this, I had several analytical discussions with supervisors, where findings were examined and questioned as to whether they made sense. Transcriptions were not read through by participants following interviews, nor did I have any follow up interviews (191). During the interview I tried to actively test my preunderstanding and was aware that I needed to double check whether I had

understood correctly. This has strengthened the internal validity; however, there were still places in the data where I did not follow up with appropriate questions. Therefore, if I had the opportunity to redo my study, I would have conducted follow up interviews with informants to confirm my analysis.

The two qualitative studies are based on the same data material but used two different analytical methods. The method of analysis was based on the overall aim and specified by the contributing parties. Coding and analysis were conducted for study 2, preceded coding for study 3. Consequently, results from study 2 affected study 3 and could have possibly unintentionally changed the results of study 3, if the analysis was not tested and challenged appropriately (131, 151, 194). As an example, work focus was identified in study 2 as an important factor for generating self-efficacy in dementia care. When I encountered work focus as a mediating factor in study 3, it was important to ensure that it was based on the interviews themselves and not the analysis of study 2.

In this study nursing assistants and nursing aids were considered as one group as the main aim for both nursing assistants and aids is increasing quality of life, providing support and daily care as well as assisting in rehabilitation. Therefore, the actual work they perform during daily care is very similar. Nursing assistants and nursing aids have however, different educations and competences (48, 49, 53, 54). This could mean that their focus or attitude to work is different and therefore could also affect the experience of self-efficacy and the dementia education programs. The data material has a limited base for examining this difference in training, but there were no such indications during interviews or analysis.

Finally, interviews were conducted with participants from two separate dementia education programs. Though the two programs had the same overall goals, the teaching content and instructors were too different to make direct comparisons between them. To counter this, the analysis focused on similarities, i.e., results and mechanisms that were evident in both programs.

Chapter 7: Conclusions and Implications

7.1 Conclusions

Daily care for people with dementia (PwD) is challenging for nursing assistants and aids (NAs) inter alia because of the unpredictability and intensity of the disease. PwD are affected cognitively and are not always able to articulate their needs or reasons for acting in a certain manner. Dementia care requires multiple competencies and skills within conventional elderly care, as well as investigative, reflective, emotional, and relational skills. Unfortunately, NAs often experience low confidence in their own competencies and find it difficult to provide good care for PwD. Dementia education plays an essential role in providing NAs with prerequisites for developing competencies, knowledge, and self-efficacy as well as actual competencies and skills.

The initial assumption of this dissertation was based on the hypothesis that dementia education is essential in securing self-efficacy and well-being among NAs and high-quality care for PwD. Furthermore, I intended to provide recommendations and guidelines on how to conduct good and effective dementia education for CS through practice-based research. Considering the complex nature of both dementia care, dementia education, and self-efficacy, different methodological approaches have been used in the three studies: one overview of evidence and two qualitative studies. The first study investigated the effectiveness of dementia education and influencing factors. Study 2 examined the experience of self-efficacy in dementia care among NAs in eldercare. The third study explored positive changes in self-efficacy when participating in dementia education.

Results on self-efficacy identified a positive spiral between successful experiences, increased self-efficacy and motivation. Along with increased self-efficacy, NAs reflect more on individual work practices and how to solve challenging situations. They take on more demanding situations and feel more secure in situations that previously made them uncomfortable. In general, results pointed towards a positive influence on self-efficacy also had an influence on NAs job satisfaction. Consequently, an important step in securing job satisfaction is to secure self-efficacy and motivation e.g., through dementia education.

Work-focus was found to be especially important in self-efficacy. NAs with a residents-centered work-focus experienced a more situations in which their self-efficacy was stimulated. Most NAs wish to have a resident-centered work-focus, but do not always feel they are able to due to life events or work and organizational factors. This potentially affects self-efficacy, job satisfaction and the well-being of NAs. Findings from this study therefore highlight, that workplaces should focus on creating structures that allow NAs and other staff to maintain a resident-centered work-focus.

Self-efficacy can be improved through dementia education programs and via three main mechanisms: experiencing personal success, being inspired by peers, and through an increase in practicing analytical and reflective skills. This better prepares them for challenging situations in dementia care. On a personal level, NAs' engagement, willingness, and motivation to either participate or learn influence the outcomes of dementia education. Several personal, program and organizational factors can affect willingness and motivation of NAs. The factors that appear to have the greatest influence on motivation and willingness are work-focus, dissatisfaction with the program, organizational supports of implementation of new skills and whether organizational structures are compatible with approaches and teaching content. Focus and content of dementia education should therefore be tailored to the organization and e.g., be in line with existing work practices and procedures, and be able to be and not adopt person-centered care if the organization cannot implement this, following training. Consequently, findings disclosed that dementia education should be tailored to the organizational context, NAs experiences, levels of proficiency, self-esteem, and work-focus. Finally, based on these findings, it is possible to create some guidelines for practice on how to design and conduct dementia education programs that are both effective, well-received by participants and perceived to increase self-efficacy in NAs daily work life.

7.1.1 Guidelines for Dementia Education

There is no ´one size fits all' in dementia education. Instead, it is necessary to tailor the education to compliment the aim, context, and participants. Content of a program should depend on the overall goals of the educational program and program planners need to be specific about what they and/or the organization wish to achieve when offering dementia education for staff, planning content and methods accordingly

Program planners need to make sure that NAs are both willing and motivated to participate in dementia education. They need to ensure that leaders and management are supportive, and that NAs have the time and mandate to implement new knowledge. The following program characteristics are also essential for successful results.

- Classroom teaching should be delivered through active teaching methods and combined with practice. This proves more effective, and it seems to help integrating new knowledge through successful experiences and creating new behavior when working with PwD. Both study 1 and study 3 indicate that if scheduled time in practice during the course is not possible, time in practice between lectures is also beneficial. Active teaching methods, in which participants discuss cases and share experiences, mainly help NAs relate to theory on dementia, practice their analytical skills and prepare participants for challenging situations with PwD. By using several active learning methods, participants are more likely to maintain engagement in the teaching.
- Perceived relevance and applicability are essential for good results, so content, theories, cases, and examples should be closely related to dementia care and tools. Specific approaches should also be directly applicable and concur with structures in the organization. It is advisable that program planners pre-test the program and identify whether NAs perceive the proposed content as relevant and applicable.
- Instructors have an overall influence on outcomes of dementia education and operate as barriers or facilitators by affecting willingness and motivation. Their teaching experience and skills make teaching relevant and interesting are significant. Instructors play an important role in changing self-perception and increasing self-efficacy through teaching style, feedback, and verbal persuasion, creating successful experiences.
- Training providing structured tools, approaches or guidelines to communication, dementia care or managing challenging behaviors helps professional caregivers to change behaviors. Note, these tools are only effective if they are tailored to participants' daily work conditions i.e., that it is possible for NAs to implement and apply during work.
- Lectures should be prescheduled, giving participants time in a busy work schedule to book teaching or supervision.

- Booster sessions that refresh the knowledge acquired should be held to improve implementation, sustainability and maintain results over time. Evidence indicates that increases in knowledge, self-efficacy and changes in attitude and behaviors are not maintained over time, therefore booster sessions are essential part of a dementia education program for NAs and other care staff.

In this dissertation, there were no findings that indicated specific details on optimal length of the program; only that it should last long enough for professional caregivers to have time to become engaged, but not so long or intense that participants feel burdened.

7.2. Implications

7.2.1 Implications for Practice and Organizations

It is important to acknowledge the complexity of dementia care and that there are several factors that need to interact successfully to achieve high quality care. These range from time efficiency and resources to continuity in care as well as having a work culture that includes quality indicators and reward structures that favor the development of competences among NAs and the well-being of PwD. Results highlight that to secure high-quality care for PwD, it is also important for organizations to first secure self-efficacy among NAs.

Staff's self-efficacy is not just a central element for well-being and job satisfaction among NAs, but also suggest an improvement in care quality. This dissertation found that organizations can secure self-efficacy through dementia education and supporting residents-centered work-focus among NAs. It should be remembered that residents-centered work-focus is sensitive to organizational factors and needs to be deliberately and continuously supported by organizational structures and leaders. This could be done through dementia-friendly work-cultures, emphasizing positive attitudes to PwD among leaders and NAs or developing quality indicators that include aspects of person-centered care.

Finally, it is important to acknowledge the complexity of dementia education and the unpredictability when care practices change. Organizations must allow room for new knowledge to shape programs by continuously monitoring and evaluating dementia education with focus on desired goals. It is necessary to remember that the effect of change in self-efficacy,

behavior or even in quality of dementia care cannot always be predicted and therefore adjustments to programs should be made regularly.

7.2.2 Implication for Future Research

The influence of work-focus for self-efficacy and in dementia education is an important finding in this dissertation. However, as the overall goal was not to illuminate NAs' work focus, further research should center on the relationship between self-efficacy and work-focus in different contexts, including dementia education.

Thus far, there has not been any in-depth investigation of whether different approaches to care (person-centered, behavior-oriented etc.) produce more sustainable changes within self-efficacy. A study unfolding this, would be a natural next step in building on evidence in this area. To further contribute to knowledge on dementia education and self-efficacy, future studies could have a broader focus on behavior and potentially include Antonovsky´s Sense of Coherence theory (120, 183).

This dissertation was able to find several program characteristics that influence effectiveness. However, study 1 revealed only limited knowledge on organizational and personal factors. Findings did not reveal which kinds of organizational support facilitate positive results. Further research should be more specific on what organizational support entails and examine whether different methods of support are more effective than others. Similarly, research needs to elaborate on personal characteristics that facilitate or hinder positive changes in self-efficacy when participating in dementia education.

Finally, this dissertation has examined dementia education from the perspective of NAs. As such, it does not contribute to whether dementia education for staff affects PwD’s outcomes, quality of care or if the same results would be reproducible in other settings. However, the findings of this dissertation indicates that the main mechanisms and/or active ingredients in programs towards increasing self-efficacy would be similar in other settings.

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