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Occupational Therapists' Perspectives on Using the Physical Environment in Skilled Nursing Facilities

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This is to certify that the doctoral dissertation by

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Abstract

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by

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OTD, Creighton University, 2010

BS, Colorado State University, 2000

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

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Abstract

Occupational therapists (OTs) are among the health care professionals who assist individuals with neurocognitive disorders (NCDs) to engage in self-care and leisure skills in a skilled nursing facility (SNF) environment. Although the SNF environment has been researched, a gap exists regarding how OTs use the built environment to help clients with a NCD engage in self-care and leisure-related activities. The purpose of this qualitative case study was to understand how OTs use the physical environment in a SNF to help individuals with a NCD engage in self-care and leisure related activities. The conceptual framework that guided this study was the lived environment life quality model. A total of 12 OTs who had experience working with clients with a NCD in a SNF and four SNF administrators were interviewed using a semi-structured interview format. The data collected were member checked for accuracy and analyzed via first and second level coding. The three themes that emerged from the data are complexities of collaboration, pragmatic aspects of care, and familiarities of the environment. Recommendations include nonpharmacological-based intervention strategies that incorporate the use of the built environment in a SNF to improve the quality of life for clients with a NCD. Implications for positive social change include contributing to the understanding of how the built environment in an SNF can influence the ability of an individual with a NCD to engage in meaningful occupations and thus improve quality of life.

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Dedication

This is dedicated to the bluebirds of the occupational therapy profession. Those of you who make music for your clients. It is dedicated to those bluebirds before me and those after me. Keep making music and moving the occupational therapy profession forward. Together, we can make a change.

Acknowledgments

I would like to thank and acknowledge my friends a family who have stood by side through this journey. You know who you are! I thank God for providing me with the desire in my heart to take on this adventure and the support to complete it. I have been blessed to have so many cheerleaders and hecklers along the way. To my mother Lora Ure, and my sister Rebecca Earhart, thank you both for always supporting me and encouraging me to believe in myself and follow my dreams.

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Chapter 1: Introduction to the Study

Occupational therapists (OTs) are among the licensed healthcare professionals who provide rehabilitative services to individuals living in skilled nursing facilities (SNFs; American Occupational Therapy Association [AOTA], 2020b). Individuals who reside in a SNF have a wide array of chronic medical conditions necessitating expertise from the SNF's health care team (O'Rourke & Caramanica, 2020). Among the most common medical conditions treated in a SNF is dementia (Harris-Kojetin et al., 2019; Wong et al., 2018). In 2012, it was estimated that approximately 48.5% of individuals who reside in a SNF have a diagnosis of dementia (Harris-Kojetin et al., 2019; Wong et al., 2018). Residents with dementia need health care professionals who understand this medical condition and how this condition impacts a person's ability to engage in everyday activities in the SNF environment.

OTs may be called upon to provide treatment and expertise for residents with dementia. Additionally, OTs are trained to assess an individual's cognitive functioning. They use standardized and non-standardized assessments to determine how cognitive function can influence one's ability to engage in everyday activities (AOTA, 2019, 2020a). Based upon the cognitive functioning level, the OT will provide recommendations to help increase an individual's ability to perform needed and meaningful activities (AOTA, 2019, 2020a). In SNFs, OTs evaluate and treat residents with dementia and provide recommendations to the health care team regarding strategies to help residents with dementia engage in everyday activities while residing in the SNF environment (Rafeedie et al., 2018; Roberts et al., 2020).

Examples of occupational therapy recommendations to promote occupational performance in meaningful activities include both direct and indirect approaches (Dirette & Gutman, 2021). Key features of indirect occupational therapy interventions that address cognitive functioning include recommendations for task simplification and environmental modifications (AOTA, 2019; Giles, 2018; Radomski & Giles, 2021). These recommendations often include caregiver education and focus on minimizing the cognitive barriers of the task (Jensen & Padilla, 2017; Raj et al., 2021). An OT may determine that a person performs better with simple one- to two-step directions, in a low stimulation environment or familiar surroundings. In this scenario, the OT would collaborate with the caregivers regarding recommendations for decreasing environmental stimulation and (i.e., remove clutter, provide ample light, and regulate the noise level or provide ambient music; Anderiesen et al., 2014a; Jensen & Padilla, 2017; Raj et al., 2021).

The literature is replete with the types of treatment provided to SNF residents. Traditionally, treatments in SNFs have focused on decreasing disruptive behaviors (Anderiesen et al., 2014a). Disruptive behaviors can be categorized as physical aggression (i.e., attempts to hit another person), verbally abusive outbursts (i.e., attempts to use profanity or call others derogatory names), inappropriate sexual contact (i.e., reaching or touching other's private body parts) or increased episodes of marked general agitation (Stutte et al., 2017). Additionally, other negative behaviors that individuals with dementia frequently exhibit are apathy, wandering, the refusal to participate in self-care

tasks (i.e., eating, dressing, or bathing), noncompliance with activities, or facial expressions reflective of discontentment (Inventor et al., 2018).

Treatment interventions used by health care professionals to address minimizing disruptive behaviors are both pharmacological and nonpharmacological based (Inventor et al., 2018; Jensen & Padilla, 2017). Pharmacological interventions are frequently used as a form of behavior management (Inventor et al., 2018). Side effects of pharmacological interventions can further impair one's ability to communicate and participate in meaningful activities. Common side effects from pharmacological interventions can range from sedation to impaired gait and hand function (Inventor et al., 2018; Maust et al., 2015). These reactive medications are commonly prescribed after negative behaviors are displayed (Maust et al., 2015). However, research indicates that implementing non-pharmacological interventions (NPIs) for individuals with Alzheimer's disease is more cost-effective than using pharmacological interventions (Nickel et al., 2018a).

NPIs include a variety of approaches. In a systematic review of quantitative research regarding NPIs to address apathy, music therapy was found to be effective and demonstrated long-term effects (Goris et al., 2016). For example, playing ambient music or implementing noise-reducing measures in the environment are NPIs that are low cost and have been correlated with decreasing apathy and agitation (Goris et al., 2016; Jensen & Padilla, 2017). Likewise, offering an environment that has multi-sensory options, such as a Snoezelen, has been shown to decrease agitation, anxiety, and apathy (Goris et al.,

2016; Jensen & Padilla, 2017). These examples illustrate that adaption to the environment can have a positive impact on SNF residents with dementia.

OTs use various environmental modifications to help individuals with dementia engage in activities (Jensen & Padilla, 2017). Many of these interventions include modifying the physical environment. Strong evidence has been found to support occupational therapy recommendations and interventions in adapting the physical environment to support person centered care (Gitlin et al., 2010; Jensen & Padilla, 2017; Zimmerman et al., 2013). For example, OTs may provide recommendations to personalize residents' bedrooms or personal spaces with objects to help the individual identify that space (Jensen & Padilla, 2017). The gap explored in this study was how OTs perceive how they use the physical environment in SNFs to foster participation in self-care and leisure activities for people diagnosed with a neurocognitive disorder (NCD). Potential social implications of this study include health care providers having a better understanding of how to use the environment to help individuals who are living in a SNF have more engagement in meaningful activities.

The remaining sections of Chapter 1 are the Background, Problem Statement, Purpose of the Study, Research Questions, Nature of the Study, Definitions, Assumptions, Scope and Delimitation, Assumptions, and Significance, followed by a summary of the study.

Background

NPIs to address behavioral and psychological symptoms of dementia (BPSD) are recommended as first line therapy for individuals with dementia (Kenigsberg et al.,

2016a). Wood et al. (2009) used an instrumental case study design to understand the daily lives of older adults with Alzheimer's living in a SNF. Systematic reviews related to how the physical environment influences functioning for individuals with Alzheimer's disease or dementia have been completed (Jensen & Padilla, 2017; Woodbridge et al., 2018). From these reviews, a gap in the research to better understand how the environment is used to promote self-care and leisure activities was identified (Jensen & Padilla, 2017; Woodbridge et al., 2018).

Although the SNF environment has been researched extensively (Goris et al., 2016; Handley et al., 2015; Inventor et al., 2018; Jao et al., 2019a; Jensen & Padilla, 2017; Nordin et al., 2017; Padilla, 2011; Wood et al., 2009; Woodbridge et al., 2018), no research was found to explore how OTs use the environment in SNFs to meet the needs of individuals with NCDs. This study explored the perspectives of how OTs perceive they use the physical environment to enable individuals with cognitive concerns to function in a SNF. Additionally, findings from this study minimally contribute to SNF healthcare workers gaining a better understanding of how dementia friendly environments can promote quality of life for residents living with a NCD (Alzheimer's Association National Plan Care and Support Milestone Workgroup et al., 2016; Handley et al., 2015).

Problem Statement

The topic of using the physical environment to promote activity participation for individuals diagnosed with dementia has been widely studied. The structural environment has been shown to influence the quality of life for people with Alzheimer's disease

(Bosco et al., 2019; Fleming et al., 2016; Jensen & Padilla, 2017; Kenigsberg et al., 2016a). Many studies have explored the use of the physical environment to increase participation in everyday activities for people diagnosed with dementia (Farlow et al., 2016; Fleming et al., 2016; Fleming & Bennett, 2015; Jensen & Padilla, 2017; Woodbridge et al., 2018.) The research this study aimed to address was the gap in the literature related to how OTs perceive they use the physical environment in a SNF to help clients diagnosed with dementia engage in self-care and leisure activities. The themes generated from this study minimally contribute to providing a deeper understanding of how the OTs perceive they use the physical environment in a SNF to help individuals with dementia engage in self-care and leisure related activities.

Purpose of the Study

The purpose of this qualitative case study was to understand how OTs use the environment in an SNF to help individuals diagnosed with a NCD engage in meaningful activities. Case studies are a type of qualitative research in which researchers seek to understand an issue through a bounded system (Creswell, 2007; Creswell & Creswell, 2018; Patton, 2015; Yin, 2018). The bounded system in this research was a SNF setting. The intent of the study was to explore how OTs perceive that they use the physical environment to provide quality person-centered care (PCC) to their clients with NCDs and encourage their clients to participate in self-care and leisure activities in a SNF. The phenomenon of interest is how the physical or structural environment is used to meet the needs of individuals with dementia in SNFs.

Research Questions

The following research question and two subquestions guided this study:

- RQ: What are the perspectives of OTs about how they have used the physical environment in a SNF to foster engagement in self-care and leisure activities and to address quality of life concerns for individuals with NCDs?
- Subquestion 1: What do OTs perceive are barriers towards using the physical environment in a SNF when addressing the self-care and leisure needs of clients with NCDs?
- Subquestion 2: What do OTs perceive are facilitators towards using the physical environment in a SNF when addressing the self-care and leisure needs of clients with NCDs?

Conceptual Framework

Many models and theories were reviewed as a conceptual framework to be used in this study. Models reviewed included the ecological theory model the social cognitive theory, self-management theory, the model of human occupation, the psychodynamic model and the person environment model (Bosco et al., 2019; Cara & MacRae, 2005; Glanz et al., 2015; Kielhofner, 2008; Lee et al., 2008; Yates et al., 2019). The conceptual framework for this study is based on the lived environment life quality (LELQ) model (Wood, Lampe, et al., 2017). The LELQ model was designed as a guide for OTs to use when developing dementia specific evidence-based treatment plans (Wood, Lampe, et al., 2017). Under this model, SNFs are “institutional in nature” (Wood, Lampe, et al. 2017, p. 23), and individuals living in a SNF would be considered institutionalized.

Key elements of the LELQ model include two primary domains. These two domains are the lived environment and quality of life domains (Wood, Lampe, et al., 2017). The lived environment domain focuses on attending to the organizational culture of SNF like environments, understanding how individuals with dementia are viewed as occupational beings, and understanding how the environment influences engagement in meaningful activities for individuals with NCDs (Wood, Lampe, et al., 2017). The quality of life domain focuses on how an individual with dementia uses their time in a SNF and their functional capacities to engage in activities: the domain incorporates personhood into the view of the environment (Wood, Fields, et al., 2017; Wood, Lampe, et al., 2017).

Through these domains, environmental systems are viewed as either being occupationally enlivening or occupationally deadening (Wood, Fields, et al., 2017; Wood, Lampe, et al., 2017). Occupationally enlivening environments offer opportunities for individuals to engage in activities that are meaningful to them (Wood, Lampe, et al., 2017). Occupationally deadening environments do not provide opportunities for occupational engagement and make it difficult for a person with a NCD to function in that environment (Wood, Lampe, et al., 2017). These domains apply to this study by aligning with the concept of how the physical environment influences engagement in activities and ultimately can affect an individual's quality of life. This framework relates to the research questions by specifically being designed as a model for OTs who work on self-care or leisure activities with individuals in a SNF and are diagnosed with a dementia related disorder. A more detailed description of this framework is provided in Chapter 2.

Nature of Study

The nature of this study was qualitative with a case study approach. A case study approach is used to understand a contemporary phenomenon occurring within a bounded system (Yin, 2018). The key concept investigated was how OTs help individuals with dementia engage in self-care and leisure activities in a SNF environment. Data collected for this study were primarily obtained from interviewing OTs who have experience working with clients in a SNF who have been diagnosed with dementia or other NCDs. Participants were recruited via convenience sampling, and a snowball methodology was used to increase the sample size (see Patton, 2015; Yin, 2018). This study collected data from 12 OTs and gained a better understanding of their experiences related to working with this population in a SNF.

Definitions of Terms

Terms operationalized by this study include the following:

Activity is defined as a task that one performs (Thomas, 2015). This term is objective to the individual performing in the activity, and it is not related to a specified context (AOTA, 2020a).

Activities of daily living (ADLs) are often referred to as self-care or basic self-care skills. Under the ADLs category, the following occupations are included: bathing/showering, toileting and toilet hygiene, dressing, swallow/ eating, feeding, functional mobility, personal device care, hygiene and grooming, and sexual activity (AOTA, 2020a).

Instrumental activities of daily living (IADLs) are typically identified as more complex activities that require greater skill set to complete, such as meal preparation, child rearing, driving, and community mobility (AOTA, 2020a). Leisure activities are subjective in nature and can be considered either an ADL or IADL. Leisure activities are fostered by intrinsic motivation and do not have time restraints connected to them (AOTA, 2020; Thomas, 2015).

A *bounded system* can be defined as a shared setting or context amongst one or more cases and will be used to define the SNF environment (Creswell, 2007; Yin, 2018).

Context is a term that is often referred to and can be confused with the environment (Dirette & Gutman, 2021; Thomas, 2015). This term relates the environmental and personal factors that influence engagement in occupations that are meaningful to the individual (AOTA, 2020a; Thomas, 2015).

Dementia is a broad term used to describe many NCDs (Jensen & Padilla, 2017; McCleery et al., 2019). Alzheimer's disease is a type of NCD that renders an individual unable to use cognitive functioning skills to interact with the environment and participate in meaningful life activities (Jensen & Padilla, 2017; Woodbridge et al., 2018; Zucchella et al., 2018).

Environment is a term that is often associated with the context in which an activity occurs (Dirette & Gutman, 2021; Thomas, 2015). In this study, it is defined as the built environment in which people live and the physical objects with which individuals interact with in that space (AOTA, 2020; Wood, Lampe, et al., 2017).

Institutionalized living refers to those individuals living in a SNF or another type of long-term care type facility (Wood, Lampe, et al., 2017).

Occupations are defined as meaningful and purposeful activities in which individuals, families, or communities engage (AOTA, 2020a). Occupations are unique to the person, group, or population engaging in them and are categorized as ADLs, IADLs, health management, rest and sleep preparation, education, work, play, leisure, and social participation (AOTA, 2020a).

Person-centered care (PCC) is considered the best practice for health care professionals providing quality dementia care (Bosco et al., 2019). Foundations of PCC incorporate the context of the environment in which the health care services are provided and the cognitive capabilities of the individual receiving the services (Bosco et al., 2019; Kitwood, 1997).

Assumptions

This study was based on three primary assumptions. The first was that the participants in the study would share honest and truthful information in relation to the interview questions asked. The second assumption was that there would be variability in the experiences of the participants. The third was that OTs adapt or modify the physical environment as a type of NPI in SNFs to help individuals with dementia related disorders engage in self-care and leisure related activities. The assumptions of this study are grounded in my experience working as an OT in a SNF. These assumptions are meaningful to the study and are necessary to the context of this research study because they inform the methodological design of the study.

Scope and Delimitations

Specific aspects of the research problem that I addressed in the study focus on how OTs use the physical environment in an SNF to help individuals with NCDs engage in self-care and leisure activities. These aspects were chosen due to my history of working as an OT in a SNF. The LELQ model was selected as a conceptual framework because the key elements of this framework aligns with the specific aspects of the research problem this study will focus on (Wood, Lampe, et al., 2017)

The target population for this study was OTs, specifically those with experience in a SNF working with individuals diagnosed with Alzheimer's disease, dementia or with another type of NCD. OTs were excluded from the study if they did not have a history of clinical work experience in SNFs with people with NCDs. Participants in the study were recruited via convenience sampling (Patton, 2015). A snowball methodology was used to increase the sample size until data saturation was achieved.

Data were obtained via semi-structured interviews (Ravitch & Carl, 2016). Interviews, rather than observation, were the primary means of data collection because my presence in the room would alter the environment and could distract the individual with whom the OT would be working. The physical presence of a researcher observing the OT could change how the OT used the physical environment to promote self-care and leisure skills with their client. The semi-structured interviews have been designed to capture narratives of experiences from the participants that were thick and rich with data. The interpretations of the findings were shaped by my background and history of being an OT working in a SNF. Delimitations of the transferability of the data collected in this

study were related to the parameters of the study. These delimitations included OTs working in a SNF setting and with clients who have been diagnosed with Alzheimer's disease or another type of NCD.

Limitations

The limitations of this study are related to the design and are inherit to the methodological weaknesses of using a case study approach to address generalizability and transferability. For example, the method of purposeful sampling for participant selection aims to seek cases that are thick and rich with information (Patton, 2015). However, a limitation is that data collected came from OTs who have a vested interest in the topic being studied. This type of sampling decreases the transferability of the data to all OTs and limits generalizability to other health care settings.

My relationship to the research is another limitation of the study. I am not neutral and have a history of working as an OT in the SNF setting. This connection to the research topic presented a potential that I may influence how the research questions are asked or interpreted. A challenge in using the case study approach is the researcher's ability to be reflective of how their own bias could influence how the study outcomes of how stories are interpreted and retold (Creswell & Creswell, 2018). I addressed this bias by being reflexive throughout the study process regarding personal beliefs, values, past experiences, emotional responses, cultural experiences, and subjective understandings of concepts (see Ravitch & Carl, 2016).

Significance

Potential contributions of this study that advance the practice of occupational therapy are identified as the following. The study addresses the gap in the literature aiming to understand the experiences of OTs working with individuals with NCDs and how they have used the physical environment to promote engagement in self-care and leisure activities in an SNF setting. Understanding how the environment is used in an SNF setting could minimally contribute to a greater understanding of how quality care is provided in SNF.

This information could also be significant to SNF administrators and health policymakers because it aligns PCC and with the National Plan to Address Alzheimer's Disease by studying how quality care is provided in SNF to individuals living with Alzheimer's disease in that setting. The research is unique because the stories of OTs were explored. The questions in the interview guide assisted OTs with describing how the physical environment in the SNF can be used to help individuals with NCDs participate in self-care and leisure activities for this client population.

Additionally, the findings from this study could be used by OTs to evaluate and self-reflect on their own experiences of using the physical environment in a SNF when working with the dementia population. Insights into the OT's role in using the physical environment to promote engagement for this population could also lead to opportunities for OTs collaborating with SNF administrators to help create physical environments that promote occupational engagement. This research may contribute to an opportunity to

change the culture in SNFs and creates a catalyst of positive social change for this population.

Summary

Healthcare leaders who work in a SNF face multiple demands to provide quality care to patients, families, and the communities they serve. OTs are among the healthcare workforce in the SNF setting who have the unique responsibility of addressing self-care and leisure needs for patients with NCDs. In this study, I explored the stories of OTs who have the experience of working with clients with NCDs in a SNF to promote engagement in self-care and leisure activities. Specifically, the aim of this study was to address the gap in the literature of how OTs use the physical environment in a SNF to promote self-care and leisure activities for individuals with a NCD in the SNF environment.

In Chapter 2, I will present the literature reviewed related to this topic and highlight search strategies implemented to find research related to this topic. Literature pertaining to the theoretical foundation and conceptual framework will be presented in addition to the literature that supports the key pieces of Chapter 1. In Chapter 3, I will provide the methodology for this study. The major components of Chapter 3 include the research design, the role of the researcher, a description of the methodology chosen for this study, a description of the instrumentation that was used in the study and a description of any ethical considerations that were accounted for during the study.

In Chapter 4, I will present the results of the study. In this chapter the data collection techniques will be described and I will provide information related to the research participants in this study. Additionally, in Chapter 4 an analysis of the data

collected is explained and the coding process used in this study is illustrated. The themes and subthemes derived from the data are discussed. In Chapter 5, I will provide the interpretation of the findings and provide recommendations based upon those findings. The limitations of the study are addressed and potential implications for social change are indicated.

Chapter 2: Literature Review

The purpose of this case study is to explore how OTs use the physical environment in SNFs to help individuals diagnosed with a NCD engage in meaningful ADLs and IADLs. This study addresses the gap regarding how OTs use the environment in SNFs when working with individuals diagnosed with a type of NCD. A better understanding of this issue may lead to opportunities for positive social change in these environments. In Chapter 2, a review of current literature, I present an exhaustive investigation into the available peer-reviewed articles surrounding SNFs, individuals diagnosed with NCDs residing in SNFs and, the use of the physical environment by OT in these settings. The first section of this chapter focuses on the search strategy used to secure the needed articles. The second section addresses the historical context that is foundational to this study. The third section indicates the underpinnings of the methodology used in previous research.

The problem addressed in this study was that the environment in the SNF is causing occupational deadening. Occupational deadening refers to disengagement in meaningful activities (Bosco et al., 2019; Kielhofner, 2008; Kitwood, 1997; Wood, Lampe, et al., 2017). These types of environments offer limited opportunities for occupational engagement in self-care and leisure skills for clients living in these facilities. OTs work with clients in SNFs, and it was unknown how the OT uses the physical environment to help promote engagement in these activities. The purpose of this research study was to gain a better understanding of how OTs use the physical environment to enable individuals with NCDs to engage in self-care and leisure activities.

Search Strategies, Articles, and Review of Materials

The search strategies for this research focused on finding evidence related to the built environment in a SNF and its impact on self-care or leisure performance for individuals with NCDs. Specifically, searches were conducted to investigate how OTs working in SNFs with this client population use the environment to help individuals engage in IADLs and ADLs. The primary databases used for this research were Medline/Pubmed, PsychINFO, American Journal of Occupational Therapy, Canadian Journal of Occupational Therapy, British Journal of Occupational Therapy, CINAHL, Google Scholar, and Walden University Library database. Although a variety of terms were used, the key words used for the search were *occupational therapy, non-pharmacological intervention, skilled nursing facility or nursing home or long-term care facility, environment or physical environment, cognition, dementia or neurocognitive disorder or Alzheimer's disease, self-care, leisure skills, activities of daily living,* and *instrumental activities of daily living*, In addition to databases being searched, reference lists of research articles were reviewed for relevant research.

Historical Context

The profession of occupational therapy is rooted in a holistic approach to improving health and wellness. The first reports of occupational therapy practice began with reconstruction aides during World War I (Low, 1992; Pettigrew et al., 2017). Reconstruction aides worked with wounded soldiers on the orthopedic units (Pettigrew et al., 2017). The reconstruction aids aimed to help the soldiers engage in activities that physically strengthened their bodies and provided an opportunity for them to occupy their

time and minds through the use of arts and crafts (Gutman, 1995; Low, 1992; Mahoney et al., 2017; Pettigrew et al., 2017).

Many of the activities used by the reconstruction aids were related to woodworking, leatherwork, knitting, bookbinding, painting, and various other crafts as part of their rehabilitation process (Gutman, 1995, 1997; Pettigrew et al., 2017). Oftentimes, the crafts and objects that the soldiers made became gifts for loved ones, decorations for the facility, or toys that were given to children (Pettigrew et al., 2017). Through engaging in these activities, improvements in both physical and mental health occurred for the soldiers (Mahoney et al., 2017; Pettigrew et al., 2017). Hence, the roots of occupational therapy are derived from helping individuals engage in meaningful activities with both their mind and body.

Physical Objects and Environment in Occupational Therapy

The early underpinnings of the profession had a deep connection to the use of physical objects and environmental surroundings. In 1918, the first Department of Occupational Therapy, reported as being a woodworking shop, was developed at Walter Reed Hospital in Washington, D.C. (Pettigrew et al., 2017). In this shop, soldiers had the opportunity to engage with tools such as hammers, saws, thread, and scissors that helped them create multiple crafts (Pettigrew et al., 2017). Additional reports of OTs using an occupational therapy cart and bringing tools to the client's bedside have been reported (Marshall et al., 2017). As the demand for these services increased, the department grew, and soon many of the hospital's buildings had an occupational therapy room (Pettigrew et al., 2017).

As the profession grew, so did the way in which the environment, objects, and tools were used therapeutically in the profession. OTs purposefully used the tools as a means of adapting the environment and grading the difficulty of the activity. For example, there are reports of OTs in the 1920s adapting the hospital dining room environment with China cabinets to improve the usability of the space (Marshall et al., 2017; Tompkins, 1926). Throughout time, additional reports of adapting items in institutionalized environments occurred (Goble, 1969; Marshall et al., 2017). These adaptions included ways to transform both indoor and outdoor spaces (useable gardens) of the hospital that patients could benefit from (Marshall et al., 2017).

While therapists began to adapt to environments, they also started to grade activities. Grading activities refers to the ability to modify the difficulty of the task. Activities would be graded based on physical demands as well as cognitive demands. For example, there are reports of OTs grading the task of making a Persian rug. The grading adaptions for making the rug ranged from rolling out the burlap to completing the fine tune intricate aspects of designing and threading the rug (Marshall et al., 2017).

In a historical review of how the physical environment has been used in occupational therapy, four categories of using physical objects in the environment in a therapeutic way emerged (Marshall et al., 2017). These four categories are client construction, client nonconstruction, therapist construction, and therapist nonconstruction (Marshall et al., 2017). The client construction category refers to activities that result in a physical end product. Materials such as wood, metal, yarn, or ceramics were incorporated into the creation of the object. End result objects often included hand tools or kitchen

supplies (Marshall et al., 2017; Scott, 1923). Client nonconstruction refers to activities that do not have a physical end product (Marshall et al., 2017). These types of activities are usually associated with self-care or leisure types of activities. Equipment and the physical environment are often incorporated into the activity, and engagement in the activity is often a goal (Marshall et al., 2017; Scott, 1923). For example, objects used during these activities could include the client's clothing, items needed for grooming and hygiene, or tools required to play games.

The other two categories, therapist construction and therapist nonconstruction, are focused on the OT constructing the object versus the client making the object (Marshall et al., 2017). The therapist's construction has two subcategories. First, it relates to the therapist creating or adapting environmental objects for the client to use. This type of adaption can be seen when a therapist "builds up" or adapts a toothbrush to make it easier for a person to grasp and hold onto while brushing their teeth. Second, it refers to therapists creating objects that help support the body. For example, splints are often fabricated by therapists for individuals with upper extremity injuries. Therapist nonconstruction activities refer to end products that are used by the therapist and are associated with therapy. Examples of therapist nonconstruction activities include creating an assessment, documentation material, the clinical environment, or client educational materials (Hsieh et al., 1996; Marshall et al., 2017).

OT and Cognition

The role of occupational therapy in addressing cognition is rooted in the professional belief that cognition is a necessary component of occupational performance

(Abreu & Toglia, 1987; AOTA, 2019; Toglia & Kirk, 2000). Cognition is defined as a set of brain functions that work together to process complex information (AOTA, 2019). Examples of specific brain functions that encompass cognitive functioning are executive functioning, sustained attention, divided attention, long-term memory, short-term memory, working memory, motor planning, metacognition, and aspects of speech formation (AOTA, 2019; Thomas, 2015). The term functional cognition has been coined to determine how each of the cognitive processes work together while engaged in a task (AOTA, 2019; Giles, 2018; Giles et al., 2020; Marks et al., 2019; Wolf, et al., 2019). Due to the impact that cognitive functioning can have on occupational performance, OTs are well positioned to address individuals' cognitive needs and concerns.

OTs use a variety of delivery service models and approaches related to addressing cognition (AOTA, 2019). Types of service delivery models include, but are not limited to, the dynamic interactional model (AOTA, 2019; Toglia,1992,2003, 2005 2018; Zlotnik et al., 2009), cognitive rehabilitation model (AOTA 2019; Averbach & Katz, 2011; Schwartz & Sagiv, 2018), cognitive disabilities model (Allen, 1985; AOTA, 2019; McCaraith & Earhart, 2018; Zlotnik et al., 2009), the cognitive orientation to daily occupational performance approach (CO-OP; AOTA, 2019; Dawson et al., 2017; Giles, 2018; Scammell et al., 2016), and the neurofunctional approach (AOTA, 2019; Giles, 2018; Giles & Clark-Wilson, 1993). The individual client factors and pathology of the condition will help guide the OT in their choice of delivery service model.

When working with clients who have been diagnosed with Alzheimer's disease or some other type of dementia related condition, OTs will pull from these models and use a

variety of intervention approaches to help increase performance in meaningful activities (Smallfield & Heckenlaible, 2017; Zur et al., 2013). For example, in a systematic review analyzing the effectiveness of occupational therapy interventions for adults with NCDs, approaches such as cognitive rehabilitation (specific interventions to address cognitive impairments), cognitive stimulation (leisure activities such as puzzles or games) and cognitive training (practicing specific cognitive tasks) had evidence related to improving quality of life and increasing performance in ADLs (Smallfield & Heckenlaible, 2017). Using these approaches, the OT creates opportunities for the client with a cognitive deficit to engage in ADLs and leisure activities without increased difficulty from the cognitive impairment (AOTA, 2019; Smallfield & Molitor, 2018; Trevena-Peters et al., 2018).

NCDs

Neurocognitive disorder (*NCD*) is an umbrella term used to refer to neurological conditions that impact brain function (Smallfield, 2017). Often these conditions are referred to as either dementia, mild cognitive impairment, or age-related dementias (Fazio, Pace & Maslow et al., 2018; Kenigsberg et al., 2016b; McCleery et al., 2019; McLaren et al., 2020). Specific types of NCDs are Alzheimer's disease, vascular dementia, Lewy body dementia, cerebrovascular disease, or frontotemporal lobar degeneration dementia (Alzheimer's Association National Plan Care and Support Milestone Workgroup et al., 2016; Boublay et al., 2018; Smallfield, 2017). Although there are different types of NCDs, Alzheimer's disease is the most prevalent form of dementia and accounts for 60%–80% of cases (Alzheimer's Association, 2021).

Incidence and Prevalence

The incidence and prevalence of NCDs in the United States are expected to increase due to aging. It is projected that, by the year 2030, approximately 74 million Americans over the age of 65 will account for the U.S. population (Alzheimer's Association National Plan Care and Support Milestone Workgroup et al., 2016) , and by 2050, the number is projected to increase to 80 million (Alzheimer's Association, 2021; Alzheimer's Association National Plan Care and Support Milestone Workgroup et al., 2016). By the year 2060, the number of individuals over the age of 65 and diagnosed with Alzheimer's disease is expected to be 13.8 million (Rajan et al., 2019).

Signs and Symptoms

The most notable sign or symptom of an NCD is memory loss (Boublay et al., 2018; McCleery et al., 2019; Rajan et al., 2019). Cognitive functions, such as problem solving and safety awareness, are also frequently impaired with an NCD (Smallfield & Heckenlaible, 2017). Due to the type of brain damage caused by the disease process, NCDs often impact multiple other body systems. These systems include the visual system, motor system, and sensory system. Impairments in the motor and sensory system often result in a decline of motor movements and diminished sensory processing capabilities (Blair & Sweeney, 2018; Cerquera-Jaramillo et al., 2018; Jensen & Padilla, 2017). Specific visual changes associated with NCDs are related to visual motor skills (e.g., impaired visual fixation, decreased saccadic eye movement, and smooth pursuits), and visual perceptual skills (e.g., depth perception, facial and object recognition) are common with NCDs (Blair & Sweeney, 2018; Cerquera-Jaramillo et al., 2018). These

body system changes result in an individual having increased difficulty completing ADLs and IADLs. As the disease progresses, the need for assistance in ADLs and IADLs increases as well (Fieo et al., 2018). Thus, increasing the need for the person diagnosed with the NCD to require the assistance of a caregiver.

Costs associated with dementia care are oftentimes significantly high. In 2010, the costs associated with dementia in care in the United States were between $159 billion and $215 billion (Alzheimer's Association National Plan Care and Support Milestone Workgroup et al., 2016; Harris et al., 2019). These costs are primarily associated with long term care services (Alzheimer's Association, 2021). Additional costs related to dementia care go "unpaid" by a family member. In 2020, "unpaid" care by family and friends was estimated to be $257 billion in the United States (Alzheimer's Association, 2021). In 2021, it is anticipated that unpaid care costs associated with dementia care or Alzheimer's disease will be $355 billion (Alzheimer's Association, 2021).

NCDs and OT

Research related to the effectiveness of occupational therapy interventions to increase occupational performance for individuals with NCDs is considerable (Jensen & Padilla, 2017; Laver et al., 2017; Pimouguet et al., 2017; Smallfield & Heckenlaible, 2017). In a systematic review of the effectiveness of occupational therapy interventions, strong evidence was found that occupation-based interventions increase occupational performance in ADLs for individuals with NCDs (Smallfield & Heckenlaible, 2017). In this review, 52 studies met inclusion criteria and were reviewed. Occupational therapy strategies that were found to have a more significant impact on performance were related

to cognitive interventions and errorless learning strategies (Smallfield & Heckenlaible, 2017). Although this review demonstrated effectiveness of occupational therapy interventions to increase occupational performance in ADLs, articles reviewed were not specific to SNFs or the use of the environment during occupational therapy treatment.

Other research efforts have focused on determining the benefits of occupational therapy based interventions for the dementia population. In a quantitative study utilizing a linear mixed model approach, individuals diagnosed with early-stage Alzheimer's disease or another type of dementia related condition were referred to an OT due to limitations in ADL functioning (Pimouguet et al., 2017). The researchers of the study focused on determining the short-term benefits of occupational therapy interventions and if longer term benefits are sustainable. A total of 421 individuals were initially included in the study and follow-up occurred at a 3- and 6-month timeframe. At the 3-month follow-up, statistical significance was found associated with increased functional performance and decreased neuropsychiatric symptoms (Pimouguet et al., 2017). A statistically significant trend towards quality of life was also reported at the 3-month follow-up and maintained at the 6-month follow-up. Although statistical significance was found related to occupational therapy interventions, specific interventions were not discussed in this article, and indications of how environmental modifications were not included.

NPIs

NPIs encompass a wide range of treatment approaches that are non-pharmacologically based and are used to help those with NCDs function in daily life

skills. Many NPIs are focused on decreasing BPSD (Zucchella et al., 2018). BPSD includes various behaviors such as wandering, agitation, aggression, hallucinations, delusions, apathy, depression, and inappropriate sexual behaviors (Inventor et al., 2018; Scales et al., 2018; Zucchella et al., 2018). BPSD are treated with antipsychotic medications. However, pharmacological intervention is not the preferred first line of treatment and can have adverse side effects, such as increasing the risk of myocardial infarction or mortality (Inventor et al., 2018; Scales et al., 2018). Therefore, NPIs are the preferred treatment approach when addressing BPSD (Inventor et al., 2018; Scales et al., 2018; Zucchella et al., 2018).

NPIs include but are not limited to physical exercise, cognitive interventions, complementary alternative medicines, psychological therapy, and occupational therapy (Koo et al., 2018; Zucchella et al., 2018). Specific forms of NPIs have been demonstrated to improve BPSD and pose little or no risk to the individual. For example, encouraging engagement in meaningful activities is considered to be person centered and is a NPI to address BPSD (Scales et al., 2018). The OT uses meaningful activities to optimize engagement and promote occupational performance in ADLs and leisure activities. Evidence has suggested that engagement in individualized leisure activities is beneficial in reducing BPSD for individuals with NCDs (Scales et al., 2018). Additionally, using a meaningful approach to engage in ADLs such as grooming, oral care, bathing, and toileting reduces BPSD symptoms and aligns with PCC (Inventor et al., 2018).

The severity of BPSD fluctuates within an individual experiencing the behavior concerns and from person to person. There is evidence to suggest that BPSD increase

once an individual has been placed in an institutionalized facility (Inventor et al., 2018; Zucchella et al., 2018). There is no known exact cause and no identified association of BPSD with the stage of disease progression (Zucchella et al., 2018). However, the presence of BPSD has been described using different theoretical models that include the influence of the environment and the inability of the individual to interact with the environment due to cognitive impairment. The competence-environment press model, the progressively lowered stress threshold model, and the need-driven-dementia behavior model are all theoretical models that have been associated with BPSD (Calkins, 2018; Inventor et al., 2018; Scales et al., 2018; Zucchella et al., 2018).

Systematic reviews of NPIs for individuals with Alzheimer's disease or dementia have indicated that occupational therapy is an effective NPI for individuals with a NCD (Koo et al., 2018; Nickel et al., 2018a; Zucchella et al., 2018). Occupational therapy interventions have been demonstrated as an effective NPI for decreasing BPSD and increasing the individuals' overall ability to engagement and performance in ADLs (Gitlin et al., 2018; Inventor et al., 2018; Zucchella et al., 2018). Occupational therapy treatment in which customized activities are included has been determined to be a cost-effective intervention for treating individuals with dementia in a home setting (Nickel et al., 2018b).

PCC

PCC is a crucial aspect of providing quality care to individuals with dementia. PCC emphasizes the importance of placing the individual who is receiving care at the center of the services being provided, helps to promote decision making for the individual

with dementia, and encourages the caregiver or healthcare provider to actively collaborate with the individual with dementia regarding their healthcare needs (Bosco et al., 2019; Fazio, Pace, Maslow, et al., 2018). Components of providing PCC also include incorporating activities that integrate the cultural aspects of one's life and foster connections to past roles while encouraging engagement in the present (Du Toit & Buchanan, 2018). Engagement in personal ADLs and IADLs is a way to help focus active participation in the present while helping to make connections to past roles and cultural experiences. Since OTs are primarily addressing the ADLs and IADLs needs of this population, they have a unique opportunity to incorporate these essential attributes of PCC into their treatment (Du Toit & Buchanan, 2018; Du Toit et al., 2019; Du Toit & McGrath, 2017; Smith et al., 2018).

PCC was coined by Tom Kitwood in 1997 and was the beginning of a paradigm shift in the approach to dementia care (Kitwood, 1997). PCC focuses on fostering personhood and maintaining autonomy and self-efficacy for the individual with dementia (Bosco et al., 2019). Since its conception, PCC has grown to become the gold standard of care for long term care facilities that care for individuals with dementia and is a crucial component of the 2018 Alzheimer's Association Dementia Care Practice Recommendations (Alzheimer's Association National Plan Care and Support Milestone Workgroup et al., 2016; Fazio, Pace, Flinner, & Kallmyer, 2018). Additional themes that are connected to PCC are as follows, providing activities that focus on creating opportunities to foster a sense of belonging, providing opportunities of doing, and

allowing the individual with the cognitive impairment to be involved in the decision making process (Du Toit & Buchanan, 2018).

Many of the themes of PCC align with occupational therapy. For example, PCC incorporates occupation as an essential component when addressing an individual with dementia's needs (Kitwood, 1997). In this context, occupation is viewed as a meaningful way to utilize one's time and can be considered but is not limited to play, work or leisure. This aligns with occupational therapy's definition of occupations (AOTA, 2020a). Incorporating meaningful occupations into dementia care is an approach that emphasizes personhood and addresses the need to account for meaningful activities.

Built Environment and PCC

The built environment has also been found to influence PCC (Calkins, 2018). Health care providers in SNF can help create spaces that provide a sense of familiarity to the individual. For example, creating a "home-like" environment in a dementia institutionalized facility has been suggested as a way to help residents at the facility have a greater sense of identity (Bosco et al., 2019; Chaudhury et al., 2018; van Gennip et al., 2016). This "home-like" environment can be established by arranging the resident's room to simulate their home environment as much as possible. For example, furniture can be arranged as a personal bedroom, and familiar pictures or personal items (e.g., blankets, room décor) can be displayed (van Gennip et al., 2016).

This space can serve a dual purpose and also be used as a physical safe space for residents. Designated physical safe spaces where individuals feel they can go when stressed have been shown to decrease signs of anxiety and agitation (Fleming et al., 2016;

van Gennip et al., 2016). By creating a physically safe space, health care providers in SNF can promote PCC by fostering identity, autonomy, and personal dignity.

Built Environment and ADLs

Physical environmental adaptions that allow individuals to complete personal routines associated with ADLs have proven effective (Fleming et al., 2016; Woodbridge et al., 2018). In a qualitative review, van Gennip et al. indicated that maintaining independence in personal ADL skills such as toileting or bathing was rated as a way of maintaining dignity and preserving autonomy (van Gennip et al., 2016). Additionally, providing opportunities to preserve dignity and autonomy during self-care is also essential (van Gennip et al., 2016).

The level of engagement in specific ADLs skills such as dressing, toileting, and eating is a means of measuring the severity of the cognitive impairment. These three ADLs skills have been identified as activities which when requiring help, can indicate a decline in cognitive functioning. Assistance needed with dressing can reveal the first stage of cognitive decline (Prizer & Zimmerman, 2018). Next, assistance with toileting indicates the middle stage of cognitive decline. The last stage of this continuum is characterized by requiring assistance with feeding (Prizer & Zimmerman, 2018).

The Functional Assessment of Staging Test (FAST) is a standardized outcome measure used to determine the functional performance capabilities and ADLs capabilities for individuals diagnosed with Alzheimer's disease with the ADLs of dressing, toileting, and eating (Prizer & Zimmerman, 2018; Trenkle et al., 2007). This assessment is used to help determine the severity of the cognitive impairment on ADL function, such as

dressing, toileting, and eating (Prizer & Zimmerman, 2018). Best practices related to providing quality care and helping individuals with a NCD engage in these activities align with PCC. The themes related to these practices are dignity, respect, and choice (Fazio, Pace, Flinner, & Kallmyer, 2018; Prizer & Zimmerman, 2018). More specifically, in a review of the literature regarding best practices approaches for individuals with cognitive impairments, five best practice recommendations were identified (Prizer & Zimmerman, 2018). These five best practice recommendations are as follows: (1) identifying the task demands and cognitive demands of the ADL task (2) Follow person-centered care practices when engaging in ADL functioning (3) Provide choices, respect, and dignity concerning dressing skills (4) Provide support and dignity in relation to toileting and the toileting environment (5) Provide support and dignity and respect during mealtime and consider the dinning environment (Fazio, Pace, Flinner, & Kallmyer, 2018; Prizer & Zimmerman, 2018). These five best practices are supported by OT's role in working with clients with dementia in this environment.

SNFs

SNFs are among the types of institutionalized facilities that care for the older adult or geriatric population. A variety of terms are found in the research and are used to describe these types of settings. For example, the terms long term care facilities, memory care units, nursing homes, sub-acute care, or skilled facilities have been found in association with institutionalized types of settings (Farlow et al., 2016; Gilster et al., 2018; Porter et al., 2018; Rafeedie et al., 2018). These facilities specialize in providing long term care to their patients. It is estimated that 47.8% of patients in these facilities

often have a diagnosis of Alzheimer's disease or other related dementia or have some type of cognitive impairment (Harris et al., 2019). The cost of care associated with dementia care in these facilities is estimated to be $255 billion dollars in 2021 (Alzheimer's Association, 2021).

Costs associated with care often attribute to the need for a caregiver to help provide assistance with ADLs. Approximately 45.8% of services offered by long term care facilities are providing assistance in one or more ADL (Harris et al., 2019). Bathing has been found to be the most prevalent ADL based occupation requiring assistance (Harris et al., 2019). Assistance with ADLs, such as bathing increases staffing demands and, therefore, can increase care-associated costs. For example, for every increase in ADL care assistance, approximately 4 – 5 hours of care are needed (Jutkowitz, Gaugler, et al., 2020; Jutkowitz, Gozalo, et al., 2020).

Additionally, individuals diagnosed with a NCD will receive approximately $321,780 worth of care throughout the condition versus $184,500 care if they did not have a NCD diagnosis (Jutkowitz et al., 2017). The financial concerns associated with NCD are addressed in the national call to develop a workforce that is trained in dementia care needs (Alzheimer's Association National Plan Care and Support Milestone Workgroup et al., 2016). OTs are among the skilled health care workforce that provides ADL care to individuals with a NCD in SNFs.

Built Environment and SNFs

Many research studies have been conducted to focus on the SNF environment. Both the social and physical environment have been attributed as playing an important

role in facilitating quality care for individuals with NCDs (Bosco et al., 2019; Calkins, 2018; Chaudhury et al., 2018; Fleming et al., 2016; Jao et al., 2019b). The literature reviewed for this study primarily focused on research related to the physical environment for individuals with a NCD living in a SNF.

The quality of the built environment has been shown to positively correlate with higher quality of life ratings for institutionalized individuals diagnosed with a NCD (Fleming et al., 2016). In this quantitative study, a linear regression model was used to determine that there was an association between the built environment and the quality of life of individuals living in that environment. Quality of life was determined by the ability to engage in ADLs. Engagement in ADLs was measured via the Barthel Index outcome measurement tool.

The Barthel Index outcome measurement tool is used to rate the level of independence in self-care tasks such as toileting, bathing, grooming, and functional transfers. This tool is often used to assess self-care abilities for individuals with a NCD (Bowen & Rowe, 2019). Additionally, OTs in SNFs use this measurement tool when determining the level of care required for ADLs. Using the Barthel Index outcome measurement tool, it was determined that the quality of the environment had a more significant association with quality of life than other factors, such as age, cognitive functioning level, or pharmacology intervention (Fleming et al., 2016).

NCDs have a multitude of physiological impairments that make functioning in the physical environment difficult. Systematic reviews have been completed to better understand the research related to how the built environment influences engagement in

meaningful activities for individuals with NCDs (Anderiesen et al., 2014b; Jensen & Padilla, 2017; Woodbridge et al., 2018). For example, a systematic review of the literature related to how the physical environment correlates with helping individuals with NCDs engage in ADLs and IADLs was completed (Woodbridge et al., 2018). A total of 72 articles fit the inclusion criteria and were included in the systematic review. From those articles, few were found to review the connection of the physical environment in supporting engagement in the self-care skills of dressing, toileting, or oral hygiene, and no studies were found to research how the physical environment can influence an individual's participation in desired leisure activities.

More specific to the role of the OT working with the NCD population, a systematic review of environment-based interventions for individuals with NCDs was conducted and aimed to find research associated with "environmental vulnerability" (Jensen & Padilla, 2017, p2). Environmental vulnerability is experienced when an individual has a decreased cognitive capacity to manage external environmental stressors (Jensen & Padilla, 2017). A total of 154 studies were included in this review, and a qualitative approach was used during the data analysis component of the study. Strong evidence was found associated with occupation-based interventions that included PCC and environmental modifications. However, studies included in the review were reflective of many different environments (i.e., home, long term care, specialty care unit, etc.) and were not specific to skilled nursing facilities. Additionally, reviewed studies did not reflect on the experience of the therapists using the environment to increase engagement in self-care or leisure skills for the individual with a NCD in a SNF.

Theoretical Foundation

Multiple theories that include the environmental and social aspects of health could potentially be applied to this problem. Theories that focused on the physical environment, cognitive factors, issues related to NCDs, and occupation were primarily reviewed. These theories include the ecological theory model, the social cognitive theory, and the self-management theory. Additionally, models that are commonly used in the occupational therapy profession were reviewed. These models are the model of human occupation, the psychodynamic model, and the person environment occupation model. The strengths and limitations of each theory and model critically analyzed by the researcher to determine the applicability of its use in this research study. Through careful analysis a conceptual framework was chosen.

Ecological Theory Model

The ecological theory model was reviewed as a potential model to use for this research. This theory has five core principles (Glanz et al., 2015). These principles are as follows: there are multiple levels of influence on health behaviors, environmental contexts are important in determining behavior, influence on behaviors interact across levels, ecological models should be behavior specific, and multilevel interventions to be effective in changing behaviors. More specifically, this model views environmental contexts as significant determinants of health behaviors and could be applied to the target population.

The strengths of applying the ecological theory model to Alzheimer's disease and caregiver burden are as follows. This model applies to both the social and physical

construct and how it influences health behavior for individuals with Alzheimer's and their caregiver. This model has been used in health care and has been applied to the development of the PCC model (Bortnick, 2017; Bosco et al., 2019). Limitations of using this model applied to this study include the lack of focusing on occupations as a model component. Developing a greater understanding of how this model can be applied to OTs using the environment to promote engagement in occupations for individuals with NCD in a SNF is needed.

Social Cognitive Theory

The social cognitive theory is a theory that many community health practitioners use to address public health concerns. This theory has three primary factors personal cognitive factors (self-efficacy), socio-environmental factors (perceived attributes of the environment), and behavioral factors (behaviors that directly impact health) (Glanz et al., 2015). Additionally, attributes of the social cognitive theory are the belief that individuals will come together to address a problem (collective efficacy) and individuals have certain expectations regarding consequences (Glanz et al., 2015).

This theory was reviewed for this research study due to its connection to the environment and behavior. This theory has been used to help develop interventions and assessments for the Alzheimer's population and their caregivers (Romero-Mas et al., 2020; Thunborg et al., 2015; Yates et al., 2019). In these studies, the self-efficacy component aligned with training caregivers or promoting awareness of condition management for the individual with dementia. These attributes of self-efficacy do not

align with this research study, and thus, the social cognitive theory was not applied to this study.

Yates et al. (2019) used similar social theories that had self-efficacy and environmental components in the development of a dementia intervention program, Promoting Independence in Dementia. Promoting Independence in Dementia seeks to help individuals diagnosed with mild dementia engage in cognitive, social, and physical activities (Yates et al., 2019). The theories applied in this program are selective optimization with compensation model, social network theory, social learning theory, and self-efficacy theory (Yates et al., 2019). These theories were reviewed; however, due to the emphasis on the social environment and self-efficacy aspects, they did not align with the focused problem of this research study.

Self-Management Theory

An additional theory that was reviewed and has been applied to Alzheimer's disease is the self-management theory. The self-management theory this theory self-management of one's self. This theory is frequently used in health care to educate individuals with chronic conditions strategies to manage their condition (Tom et al., 2015; Yates et al., 2019). However, since this theory relies on the individual with the condition to manage their own condition, it was not chosen for this study.

Models in Occupational Therapy

Model of Human Occupation

The model of human occupation (MOHO) is widely used in the practice of occupational therapy. This model incorporates the impact the environment has on an

individual's performance in daily occupations (Kielhofner, 1995, 2008). Key attributes of this model include the how objects in the environment are interacted with and how the physical space promotes or constrains exploration of the environment (Kielhofner, 2008). This model has been applied specifically to individuals who have cognitive impairments and is an underpinning for the conceptual framework model used in this study (Wood et al., 2009; Wood, Lampe, et al., 2017). However, although this model has been applied to individuals with cognitive impairments, no research was found to apply this specifically to the NCD population. Therefore, this model was not selected for this research.

Psychodynamic Model

The psychodynamic model has a history of being incorporated into occupational therapy treatments (Cara & MacRae, 2005). This model is rooted in the belief that early childhood experiences shape the emotional and psychosocial development of the individual. The model was first incorporated into occupational therapy by Gail Fidler, who believed that an individual's interaction with objects and the environment was an essential component of their development (Fidler & Fidler, 1954 as cited by Cara & MacRae, 2005; Hopkins, 1988). Although this model influenced the importance of the therapeutic use of the environment and objects in occupational therapy, it was not chosen as a primary conceptual framework for this study due to its focus on the development of a sense of self. Additionally, the assumption of the model is that individuals have a cognitive capacity that allows for higher level cognitive functioning. Therefore, it was not chosen as a primary model to be used for individuals with NCDs.

Person Environment Occupation Model

The person environment occupation model was reviewed as a potential conceptual framework for this study. This model uses a transactional approach that implies dynamic relationships exist between people, their environments, and occupations they engage in (Law et al., 1996). The person environment occupation model was heavily influenced by the works of many environmental, behavioral theorists. Specifically, the work of Lawton (1986) focused on how environmental stressors impact the performance of geriatric population.

Major concepts of the person environment occupation model include the importance of the person, the environment, activities, task demands, and the intrinsic needs of occupations. Furthermore, this model makes the assumption that the person, environment, and occupation have an interwoven relationship and are always interacting. This model has been applied to research related to the environmental needs of aging population with developmental and intellectual needs. Although this theory has historically been used within the occupational therapy profession to address the built environment, no research was found to use this model aligning specifically with the focused intentions of this researcher's study (Law, 1991, 1993, 2002). Therefore, it was not chosen as a conceptual framework.

Conceptual Framework

The LELQ model is the conceptual framework applied to this study. This conceptual practice model is a dementia specific model designed for occupational therapists who work with clients in facilities that are institutional in nature (Wood,

Lampe, et al., 2017). This model was developed from theoretical underpinnings that SNFs are institutionalized in nature, and the environment (built and social) can influence the quality of life for the individual living with dementia in the SNF (Bronfenbrenner, 1979; Lawton, 1983, 1986). More specifically, the ecological model of competence press was used in the development of the LELQ (Lawton & Nahemow, 1973). This model focuses on the environment as a "press," and environmental factors can produce stress (Calkins, 2018; Lawton & Nahemow, 1973; Scales et al., 2018). These environmental stressors and the environmental press can elicit adaptive and maladaptive behaviors (hitting, withdrawal from activities, etc.) (Lawton, 1986). Thus, the built environment itself becomes a press for the individual living with dementia. Depending on the progression of dementia, the individual's ability to interact in the environment may be unsupported and creates a barrier for the individual to engage in meaningful activities, thus resulting in decreased quality of life (Kitwood, 1997).

This LELQ consists of two domains: lived environment domain (LE) and the quality of life domain (QoL) (Wood, Lampe, et al., 2017). Each domain has a series of three subdomains. The subdomains of the LE are (a) caregiving microsystem, (b) person with dementia, and (c) environmental press. The subdomains of QoL are (a) time use, (b) ability to function, and (c) relative being. Components of the LE subdomain includes, understanding the occupational history of the individual and creating both a physical and social environment that has multiple opportunities for activity engagement.
Elements of the QoL subdomains relate to time used while engaged in meaningful occupations, the ability to function in the task, and having positive emotional experiences

that incorporate elements of personhood. If needs are met in the LE subdomains, an occupationally enlivening environment will be fostered, and improved QoL will occur. However, if needs are not met in the LE, poor QoL outcomes will occur, and an occupationally deadening environment will exist.

The LELQ model has been mapped and used in other studies. In a systematic mapping review of the literature related to the effectiveness of animal assisted therapy with institutionalized individuals living with dementia, the LELQ was used (Wood et al., 2017). The aim of this study was to map the domains and subdomains of the LELQ to the literature regarding animal assisted therapy for institutionalized older adults with dementia. In this study a total of 650 articles were reviewed and 10 articles were selected and mapped to the LELQ. A positive statistical significance was found to apply the LELQ model to research and clinical practice (Wood et al., 2017).

Case Study Design and Methods

The researcher aims to conduct this study to gain a better understanding of how OTs use the SNF environment to help individuals with NCDs engage in self-care and leisure activities. The research design is a single case-study design and will include OTs who have worked in a type of long-term care or a SNF. The planned data collection method to be used is a semi-structured interview, and data will be analyzed by identifying coded themes. Additionally, using a case study methodology was reviewed as a comparison to this study.

Case Study Design

A case study design using a qualitative approach was used to gain a better insight into how the physical environment of a dementia care unit is used by the residents at the facility and to understand the critical design aspects in the facility (Van Hecke et al., 2019). This study compared two dementia care specialty units to determine the use and the experience of individuals diagnosed with dementia using the space (Yin, 2018). Data was collected via interviews and observations of specialty care unit stakeholders (four residents with dementia, four staff members and one architect. The interviews were conducted to gain a better insight into how the environment was experienced and observations were made to at various times during the day to better understand interactions in the environment. This type of design is viable and has been used in similar research.

Likewise, an ethnographic and a narrative ethnographic single case design have been used as study designs for research related to the SNF environment (Lea et al., 2019; Mondaca et al., 2017). The ethnographic methodology was used determine the nutritional status of individuals with dementia living in an aged care home in Tasmania (Lea et al., 2019). Data collected in this research also used semi-structured interviews and an observational record to help determine aspects of the physical and social environment that influence nutritional intake (Lea et al., 2019).

A narrative ethnographic method was used to determine how older adults in an institutionalized nursing home environment engage in and choose everyday activities in that environment (Mondaca et al., 2017). Data was collected in this study via

ethnographic methods such as informal and formal conversations, archived materials, and observations. The case study was situated within the context of one nursing home in Sweden and specific to a unit in this nursing home that housed up to 54 residents. From the data, three "exemplars" emerged. These exemplars reinforced the importance of being able to actively choose activities versus being a passive participant in the activity and the importance of spontaneity in and between activities for residents.

Other Case-Study Designs and Methods

Other case studies methodologies have been found throughout the literature (Ahessy, 2017; Davison et al., 2019; Mitchell & Van Puymbroeck, 2019; Van Hecke et al., 2019). For example, a multiple-single case study design was found to be used in several studies (Guzman et al., 2016; Hall et al., 2017; Hall et al., 2019). Specifically, a multiple-baseline single-case study was used across three different types of long-term care facilities to determine the effect of a dancing protocol on the behavior and mood of individuals living with moderate to mild dementia in these facilitates (Guzman et al., 2016). A longitudinal case study based on qualitative narrative methodology was conducted over a three-year period to gain a better understanding of the experienced quality of life for individuals diagnosed with a young-onset of dementia (Thorsen et al., 2020). Maataoui et al. (2017) used a qualitative case study methodology to determine how space in a residential care facility is used and experienced by residents, staff, and family members.

Summary

In summary, OTs have a history of using the physical environment to address individuals' self-care and leisure needs. The physical environment in a SNF has been connected to increased quality of life for individuals with NCDs. OTs are among the healthcare professionals that work in a SNF and provide direct care to individuals with NCDs. It is under the scope of practice for an OT to address the self-care and leisure needs of individuals with a NCD in the SNF setting. Best practices for working with this population and in this setting include providing PCC. PCC aligns with occupational therapy guidelines and encourages the practitioner to address the occupational needs of their client. Both the physical environment and the ability to engage in self-care or leisure activities align with PCC. In chapter 2, a review of the literature regarding how OTs use non-pharmacological approaches to help individuals with NCDs engage in self-care and leisure skills in a SNF environment was presented. In Chapter 3, the study design, the role of the researcher, the data collection plan, and the data analysis plan used in this study are described.

Chapter 3: Research Method

The purpose of this study was to understand the experience of occupational therapists using the physical environment in skilled nursing facilities when addressing self-care and leisure skills for individuals with NCD. The major sections of Chapter 3 include the research design and rationale for the study, explaining the role of the researcher, describing the methodology of the study, a description of instrumentation that will be used, and ethical considerations addressed in this study.

Research Design and Rationale

Research Questions

The research questions that guided the study were as follows:

- RQ: What are the perspectives of OTs about how they have used the physical environment in a SNF to foster engagement in self-care and leisure activities and to address quality of life concerns for individuals with NCDs?
- Subquestion 1: What do OTs perceive are barriers towards using the physical environment in a SNF when addressing the self-care and leisure needs of clients with NCDs?
- Subquestion 2: What do OTs perceive are facilitators towards using the physical environment in a SNF when addressing the self-care and leisure needs of clients with NCDs?

Central Concept

The central concept of the study was that the SNF environment is not rich with occupational engagement opportunities (Wood, Lampe et al., 2017). It is difficult to

promote autonomy for individuals that live there, especially as it relates to self-care and leisure activities. Individuals who live in the SNF environment are provided activities with little or no say in what they engage in. OTs play a significant role in the SNF helping clients engage in self-care and leisure activities.

Research Tradition and Rationale

The research design was qualitative. To determine which approach would be the best to use for this study, I assessed several approaches, including the grounded approach, ethnographic approach, narrative approach, phenomenological approach, and case study approach. These approaches have similarities and differences. For example, many of them use similar data collection methods, such as interviews, observation, and review of documents or artifacts (Creswell, 2007; Patton, 2015; Creswell & Creswell, 2018; Ravitch & Carl, 2016). However, although the data collection methods are similar, the way the data are used and analyzed is unique to the approach being used.

Grounded Approach

The grounded approach aims to develop a theory from the ground up and is a viable option when theory is not available to understand a process (Creswell, 2007; Creswell & Creswell, 2017). This option was determined to be not appropriate as there are theories related to the occupational therapy process working in multiple environments, including skilled nursing facilities (Macdonald & Cole, 2015; Schaber & Lieberman, 2010).

Ethnographic Approach

The ethnographic approach focuses on understanding cultural components of a group of individuals who share cultural beliefs, patterns of behavior, or languages (Creswell, 2007). This approach is often used when collecting data from approximately 20 individuals or greater (Creswell, 2007). This approach was determined not to be appropriate because the study was not focusing on the cultural attributes of an OT working in an SNF. Therefore, this approach was ruled out for use in this study.

Narrative and Phenomenological Approaches

The narrative approach and phenomenological approach primarily use interviews and observations as a means of data collection (Creswell, 2007; Patton, 2015; Ravitch & Carl, 2016). The narrative approach seeks to gain a better understating of a phenomenon or experience through the narrative story (Creswell, 2007; Creswell & Creswell, 2018; Ravitch & Carl, 2016). Using a narrative approach, the researcher seeks to capture rich stories of life experiences, versus a phenomenological approach that does not focus on the narrative story but seeks to understand better the phenomenon of a lived experience (Creswell, 2007; Creswell & Creswell, 2018; Ravitch & Carl, 2016).

Both of these approaches were heavily reviewed for potential use. However, they were determined to not be the best methodological approach to use in this study for the following reasons. The narrative approach typically focuses on the story of one individual and does not align with interviewing multiple individuals. In this study, I interviewed multiple OTs who have worked in a variety of SNFs. Likewise, a phenomenological research approach focuses on what research participants have in common concerning a

shared lived experience (Creswell, 2007; Creswell & Creswell, 2018). The shared lived experience is often a significant experience such as trauma, abuse, or living with a severe medical condition (Creswell, 2007). The participants in this study do not have a shared life experience, and therefore this study design was ruled out.

Rationale for Choosing a Case Study Approach

A case study approach focuses on developing an understanding of a case or cases. This approach allows the researcher to collect data from multiple sources within the bounded system (Creswell, 2007; Yin, 2018). The rationale for this choice is as follows. First, my aim in this study was to gain a better understanding of the experiences of OTs who work in the SNF environment with individuals diagnosed with a NCD. In this study, multiple OTs were interviewed to gain a better understanding of their experience using the environment to meet the self-care and recreational needs of individuals diagnosed with a NCD. Hence, the case study was an appropriate qualitative design approach because the focus of this study is to learn about the OT's use of the physical environment versus understanding the experience of OT's using the physical environment to meet the needs self-care and leisure needs of individuals in a SNF.

Role of the Researcher

My role as the researcher was that of an interviewer. During the study, 12 occupational therapy participants were interviewed via online video conferencing interviews. All 12 participants participating in this research were OTs who have experience working in a SNF and with clients who have a NCD. No supervisory or

instructor-related relationships existed between the participants and me at the time of the study.

Researcher biases identified prior to the study included that I am an OT and have experience working in an SNF setting. I have experienced using the physical environment to address self-care and leisure skills for clients residing in a SNF and having a NCD. These biases were managed by being reflexive regarding past experiences. From my past experiences, it is believed that OTs can modify and use the physical environment to help individuals with NCDs living in a SNF engage in self-care and leisure activities. I managed these biases by being mindful of preconceived beliefs and past experiences to elude potential interpretations that could have materialized from the data.

Methodology

Population and Sample

The primary population studied was OTs who have experience working in a SNF with clients who have been diagnosed with a NCD. Criteria for participants being selected to participate in this study included whether they had past experiences assisting clients with NCDs engaging in self-care or leisure activities in the SNF environment.

Participants were recruited via convenience sampling and a snowball sampling methodology. Three data sources were planned to be used to recruit participants. The first data source that was planned to be used was to recruit participants by inviting OTs who were known to me and utilize a snowball methodology to connect with potential participants who meet the participant criteria with the researcher. A total of 12 individuals who met the inclusion criteria were recruited via this sampling methodology.

A secondary data source that I planned to use was the Occupational Therapy Association of California (OTAC). This resource is not specific to OTs working in a SNF. This organization provides access to members who may have experience working in a SNF and with individuals with NCDs. An email was planned to be sent to the OTAC member services to request permission to provide information about the study to the members via email, social media used by OTAC (i.e., Facebook or Instagram). However, this resource was not used for participant recruitment in this study.

Finally, a third data source that I planned to use was the Allen Cognitive Network. This network is comprised of OTs who work with individuals with cognitive impairments. Many of the therapists in this network also work or have experience working in a SNF environment and specifically working with individuals with Alzheimer's disease. This participant pool is considered to be a pool of experts in this field of occupational therapy working with client's with NCDs. Since the primary data source of convivence sampling and snowball methodology was utilized, this data source was not used for participant recruitment in this study.

Triangulation

To increase validity of the study, methodological triangulation was implemented in the study (Ravitch & Carl, 2016). Methodological triangulation seeks to compare and understand additional perspectives of the research question (Ravitch & Carl, 2016). Methodological triangulation occurred via interviewing four SNF administrators to determine their perspectives of OTs addressing self-care and the leisure skills needs of clients in a SNF.

Participants were recruited via convenience sampling and snowball methodology. The targeted participants recruited were individuals who were known to me and were associated with the San Diego chapter of the California Association of Health Facilities (CAHF). This CAHF chapter is referred to as the San Diego Health Care Association (SDHCA) and includes 92 SNFs located in San Diego County that are associated with the SDHCA. SNF administrators in San Diego County whose facility was associated with SDHCA were contacted to participate in the study.

Inclusion and exclusion criteria were evaluated prior to confirmation of participation. Inclusion criteria for this participation pool included SNF administrators who have been in the role of an administrator for a minimum of 1 year and who have experience working with OTs in their facility during their time as an administrator. Data were collected from approximately four participants. Two participants had an association with the SDHCA and two participants did not. Research questions for this participant pool are reflected in Appendix B.

Instrumentation

As the researcher for the study, I was the primary instrument. I am an OT with over 20 years of experience, primarily working with the adult and older adult population. I hold an active membership for the AOTA, the OTAC, and the Neurodevelopmental Treatment Association (NDTA), and at the time of this study I served as a board member for the SDHCA. I am a European American female of the middle social class, am married, and have three children. The research interest in this topic stems from my experience working with individuals with a cognitive impairment in a SNF setting. I have

a strong interest in how the environment impacts occupational performance and how OTs can use aspects of the environment to facilitate occupational engagement and performance for their clients. Assumptions that have shaped the research questions for the study are that the environment can influence occupations, occupations are subjective to the individual, occupations are meaningful and purposeful to the individual, and OTs use the environment to help clients engage in self-care and leisure related activities.

As a means of structured reflexivity, memos were taken throughout key aspects of the study. It is recommended that memos are taken at key points during the research process to facilitate the researcher thinking about the research (Ravitch & Carl, 2016). Purposeful memos were taken at the time of the institutional review board (IRB) process, participant recruitment, after participant interviews, once data saturation was met, at the beginning of the data analysis process, and the end of the data analysis process. A list of reflexive questions used for memos is listed in Appendix C.

I addressed reflexivity by keeping a reflective research journal that was attended to during the data collection phase. This journal differs from the memos in that it was completed on a more regular basis and is more fluid. It supported my ongoing self-reflection during the research study. If adaptions in the study needed to occur, they were documented in a research log. Additionally, a research log was kept to track any changes or modifications to the study that needed to be made. No modifications were made to the study from the original plan.

Data Collection

The primary recruitment strategy was snowball convenience sampling. A secondary plan was to gain approval from a professional organization to recruit participants via their web pages or social media platforms. Potential participants who met the inclusion criteria were selected and offered to participate in the study. All participation in the study was voluntary, and participants were notified that they may withdraw from the study if desired.

Data collection was completed via recorded web-based semi-structured interviews. Interviews followed a shorter case study interview format and were approximately 45 minutes to 1 hour in length (Yin, 2018). Interview questions for the OTs and the SNF administrators are reflected in Appendix A and Appendix B. Interviewing sessions were conducted via a virtual format (Zoom or Ring Central). A secure meeting code was sent before the interview to ensure the security and privacy of the interview. The interview audio was recorded and transcribed. A copy of the audio recording and transcription was kept in a secure file. An informed consent for the interview was sent, reviewed, and collected from the participant prior to the interview. The confidentiality and general format of the interview was reviewed with each participant prior to conducting the interview.

Data Analysis

Data were analyzed via coding, and meaningful patterns were determined to emerge (Yin, 2018). Data were pre-coded by identifying any phrases or comments that stood out to the researcher (Saldana, 2016). Pre-coding is considered an essential

component of the data analysis plan (Ravitch & Carl, 2016). Pre-coded quotations were identified and separated from field notes and represented in bold text. In addition to precoding, preliminary coding occurred by creating code jottings from the data. These code jottings were bracketed and italicized.

Following the pre-coding process and preliminary coding, first and second cycle coding occurred. During the first and second cycle coding process, codes were generated utilizing In Vivo Coding process and lumping method (Saldana, 2016). In Vivo Coding method is appropriate for qualitative studies and seeks to capture the meaning of the data (Saldana, 2016). The lumping method assisted with categorizing the data. The first cycle coding took place after participant were interviewed. Emergent codes were kept in a code list and were reviewed frequently to check for code categories. Peer debriefing occur throughout the coding process to ensure codes are reflective of the data provided (Saldana, 2016).

Second cycle coding occurred after the first cycle coding had been completed. Second cycle coding aims to generate and develop themes for the codes (Saldana, 2016). Codes generated during the first cycle coding process were reviewed and placed into categories. A focused coding method was used to analyze the categories and generate themes. Following the second cycle of coding, the final analytical process occurred.

Issues of Trustworthiness

Credibility

Credibility in qualitative research is considered equivalent to internal validity and can be established through a variety of options (Ravitch & Carl, 2016; Yin, 2018). In this

study, credibility was established through methodological triangulation, member checking, and using a peer debriefing process. Methodological triangulation is planned to occur via interviewing both OTs and SNF administrators to gain multiple perspectives regarding the research questions. Member checking is a vital process in which the researcher checks with the participants to validate the accuracy of the data being collected (Curtin & Fossey, 2007; Ravitch & Carl, 2016). During the study, member checking was completed by asking participants to review their interview transcripts for accuracy of their perspective. Additionally, peer member debriefing will occur throughout the process by having peer experts review the interview questions and to assist in challenging the researcher's assumptions and biases.

Transferability

Transferability in qualitative research is similar to external validity (Ravitch & Carl, 2016). Transferability in this study was addressed by providing a thick description of the data. Thick descriptions account for the context in which the data is collected and can provide a more detailed account of factors associated with the data collected (Patton, 2015; Ravitch & Carl, 2016). Additionally, using triangulation, member checking and being reflexive throughout the research process increases the rigor and transferability of the study (Hadi & Closs, 2016).

Dependability

Dependability in qualitative research refers to data being reliable and answering the research questions (Hadi & Closs, 2016; Ravitch & Carl, 2016). Strategic sequencing of methods and triangulation are techniques used to increase the dependability of

qualitative research (Ravitch & Carl, 2016). Strategic sequencing will occur via within-methods sequencing techniques (Ravitch & Carl, 2016). Within-methods sequencing considers how questions are asked, sequenced, and accounts for the flow of the conversation (Ravitch & Carl, 2016). Within-methods research was incorporated throughout the data collection process.

Confirmability

Confirmability in qualitative research refers to the researcher acknowledging that the data is subjective in nature, and the researcher should try to minimize their own biases when conducting research (Ravitch & Carl, 2016). Confirmability can be addressed by triangulation and the researcher being reflexive (Anney, 2014). Reflexive questions that were developed to help reduce researcher biases and address confirmability are reflected in Appendix C.

Ethical Procedures

All information provided was maintained with confidentiality and respect was upheld for the interviewees. IRB approval for the study was obtained prior to any data collection. An informed consent was provided to any potential study participants prior to agreeing to take part in the study. The informed consent included the Walden University IRB approval number 03-04-22-0588085 and the expiration date of March 3, 2023, as well as a description of the study, expectations of the study participants, a list of potential risks and benefits to participating in the study, and contact information of the principal investigator.

The scheduling of interviews was done respectfully and took into account the participants' availability time demands. A review of the risks and benefits was verbally reviewed with each participant prior to asking any interview questions. The time was monitored by the investigator and reported to the participants to ensure their time was being respected. Interviews were conducted in a safe and secure location to ensure the confidentiality of the participants was maintained and participants were reminded that they may conclude the interview at any time.

During the coding process, data was kept in a secure locked and password protected location. All data collected will remain in a locked safe and will be destroyed after 5 years. Participants were given code names for the protection of their identity. All OTs participating had a code name of OTP (occupational therapy practitioner) and an assigned number following their name. For example, the first OT interviewed is OTP1 and the second one is OTP2. The SNF administrators also had code names. The code names were SNFADM (SNF administrator) followed by a numerical number (e.g., SNFADM 1, SNFADM 2). Reflexivity was maintained throughout the study process, and the relationship between the researcher and study participants was deeply reflected (Ravitch & Carl, 2016).

Summary

In Chapter 3, I describe how this study is qualitative in nature and further explains the design of this single case study. Key aspects regarding the role of the researcher, participant selection, recruitment strategies, and data collection methods were discussed. Issues regarding trustworthiness, such as ethical procedures and confidentiality, were

highlighted. In Chapter 4, the data collection methods, data analysis methods, and the results of the study will be provided.

Chapter 4: Results

The purpose of this single-case study was to understand how OTs use the environment in a SNF to help individuals diagnosed with NCDs engage in meaningful activities. Participants were recruited through purposive sampling and a snowball methodology. A total of 12 OTs and four SNF administrators were recruited to participate in this study.

The primary research question that guided this study was: What are the perspectives of OTs about how they have used the physical environment in a SNF to foster engagement in self-care and leisure activities and to address quality of life concerns for individuals with NCD? The research question was qualitative in nature and a single-case study design was used. The data collection tool used was an interview guide used in semi-structured interviews with 12 OTs and four SNF administrators. In this chapter, information is provided regarding the study setting, data collection process, research participants, data analysis process, evidence of trustworthiness, results and summary of the study.

Setting of Study

This study conducted all interviews via the virtual format of the online videoconferencing platform Zoom. Following consent to participate in the study, the research participants would determine a suitable time in which to conduct the interview via the virtual format. Once a date and time was agreed upon with the participant, I sent a secure and password-protected Zoom link for the participant to access.

Data Collection

At the beginning of the interview, I informed participants of the estimated time of the interview and the general procedure of the interview process. The purpose of the study was reviewed to ensure participants were willing to continue with the interview. Following this review, all recruited participants agreed to proceed with the interview. The interviews lasted approximately 30–45 minutes, and I kept track of the time to ensure the interview stayed within the parameters of the anticipated interview time. I conducted all interviews in a quiet and private location and encouraged participants to also be located in a quiet and private location.

The interviews were recorded and a transcription was generated. After the interview was completed, I stopped the recording and thanked the volunteers for their time. During each interview, the participants were informed that handwritten notes were being taken. Following each interview, member checking occurred. This process was completed by sending the completed transcript to each participant for review. Participants reviewed the transcript and indicated approval of the transcript. Most transcripts were approved with only minor edits.

Research Participants

A total of 12 OTPs and four SNFADMs participated in the study. The OTPs were asked to describe the types of facilities that they had experience working in. The SNFADMs were also asked to describe the types of facilities they had experience working in as an administrator. Tables 1 and 2 provide a visual demonstration of the participant demographics.

Table 1

Occupational Therapy Practitioner Participant Demographics

Participant ID	Years of experience	Skilled nursing facility	Long-term care	Memory care unit
OTP1	5–10	Yes	Yes	No
OTP2	20 +	Yes	Yes	Yes
OTP3	Not identified	Yes	No	No
OTP4	5–10	Yes	No	No
OTP5	1–5	Yes	No	No
OTP6	20 +	Yes	Yes	Yes
OTP7	20 +	Yes	No	No
OTP8	1–5	Yes	No	No
OTP9	Not identified	Yes	No	No
OTP10	10–20	Yes	No	No
OTP11	5–10	Yes	No	No
OTP12	10–20	Yes	Yes	No

Table 2

Skilled Nursing Facility Administrator Participant Demographics

Participant ID	Skilled nursing facility	Long-term care	Memory care unit
SNFADM1	Yes	Yes	Yes
SNFADM2	Yes	Yes	Yes
SNFADM3	Yes	Yes	Yes
SNFADM4	Yes	No	No

All participants received an IRB-approved email from me introducing the study and describing its purpose. The email had the approved IRB informed consent attached, and participants were asked to respond with the words “I consent” if they consented to participating in the research study. Following the participant’s consent to participate in the study, I coordinated a date and time that best met the participants’ needs to conduct the interview.

Data Analysis

Data were initially reviewed via approved transcripts and notes taken during the interviews. During this initial review process, I took notes with phrases and statements that stood out to me to begin the precoding phase. Following the precoding phase, I completed the first level coding process by reviewing all data and identifying initial codes. Next, the data were reviewed and categorized into corresponding codes in an Excel spreadsheet. I completed thematic analysis of the codes by reviewing all first-level codes and reorganizing the codes to identify new code categories or subcode categories. The first- and second-level codes identified are reflected in Figure 1.

Figure 1

Coding Process

First-level codes	Second-level codes
Staff	Autonomy
Objects and tools	Staff
Resources	Falls
Time of day	Room adaptions
Policy	Barriers
Family	Gardening
Outdoor space	Time of day
Room adaptions	Schedules
Quality of life	ADLS
Small room space	Sensory/neurobehavior
Leisure	Occupational profile
Spontaneous	Homelike environment
Time use	

Note. Peer debriefing occurred to review the codes and develop themes.

Following the first and second level coding, I identified themes from the data and placed them into two primary categories that aligned with the research questions. These

categories were barriers to engagement in a SNF environment and facilitators to promote quality of life in a SNF environment. The themes identified were then further reviewed to determine subthemes and descriptors for each theme. The themes, subthemes and descriptors are reflected in Table 3. Peer debriefing occurred during this process with an identified community member. Frequent meetings with the peer debriefer were made to ensure the process was being followed, ethical concerns were being accounted for and overall general questions regarding the research process were addressed.

Table 3

Current Themes, Subthemes, and Descriptors

Theme	Subtheme/Descriptors
Complexities of collaboration	Family/caregiver collaboration Knowledge of cognitive impairment Social work collaboration Nursing collaboration Dietary collaboration Activities department collaboration Housekeeper collaboration
Pragmatic aspects of care	Knowledge of staff to work with client with a NCD Staff being afraid for client safety Staff shortages Policy of facilities Different goals/ perspective of departments Temporality of facility (schedules) Payor and reimbursement system Resources available
Familiarity of the environment	Subtheme 1: Unfamiliar space Subtheme2: Familiar space Descriptors Indoor/outdoor space Novel space Physical layout/ built environment Objects Time use Spontaneity Environmental modifications Homelike environment Nature/natural environment Gardening Autonomy

Trustworthiness

Issues of trustworthiness were addressed via credibility, transferability, dependability, confirmability, and ensuring confidentiality was maintained. Credibility

and confirmability were established through using two data sources, member checking and using the peer debriefing process. Confirmation occurred via interviewing both the OTPs and the SNFADMs to obtain multiple perspectives. During the peer debriefing process, the interview questions were reviewed and minimally modified to ensure the participants' well-being during the interview process. Throughout the data collection and data analysis process, reflexive questions were reviewed and meetings with the peer debriefer were conducted to challenge assumptions and biases.

To address dependability a strategic method of sequencing was established. Prior to the interview, I completed a review of common terms used in the interview questions with each participant. These terms were as follows: *the SNF* (LTC, memory care, SNF or other institutionalized type of facility), *environment* (refers to the built environment), *neuro-cognitive related disorders* (an umbrella term referring to disorders such as dementia or Alzheimer's disease). I then asked the questions in a similar order for all participants. At the end, all participants were asked if they would like to add any information or share any additional stories.

Ethical procedures were conducted throughout the research process. Recruitment for participants and data collection began after the IRB approval. The IRB-approved informed consent was sent to all participants via secured email. Data were kept in a password-protected secure location and code names have been used for all research participants. Ethical procedures were deeply reflected on throughout the process and ethical considerations were discussed with the peer debriefer and the research chair.

Results

The primary research questions for this study were answered through an analysis of 12 OTPs who have clinical work experience in the SNF setting and working with clients who have a neurocognitive impairment and four SNFADMs. This analysis led to themes that identified barriers and facilitators to helping individuals with a neurocognitive impairment engage in ADLs and leisure activities in a SNF environment and facilitators of quality of life in a SNF environment. These themes align with the conceptual framework of the study, LELQ. The main themes identified are (a) complexities of collaboration, (b) pragmatic aspects of care, and (c) familiarities of the environment. The familiarity of the environment theme has two subthemes: familiar space and unfamiliar space. The themes and subthemes are further described below.

Theme 1: Complexities of Collaboration

Analysis of the data identified complexities of collaboration as a theme that included multiple considerations by the OTPs when working with a client with a NCD in a SNF environment. This theme included the OT collaborating with the client and family members or caregivers of the client to determine how the physical environment could serve as either promoting or inhibiting meaningful occupational engagement. Additionally, this theme involves the OT collaborating with various staff members (i.e., nursing, dietary, social workers, the activity department and housekeeping) at the facility regarding how to provide quality care to the client with a NCD in a SNF. This collaboration demonstrated increased in complexity when a client with a progressed NCD was no longer able to verbally communicate their needs.

Family Collaboration

Collaboration with family members or caregivers was frequently identified in the data. Due to the nature of the neurocognitive impairment, many clients are unable to communicate about who they are or describe the home environment they lived in prior to coming to the SNF. The OTPs described seeking to better understand client factors and previous routines. For example, OTP12 described the important role family collaboration plays when developing client centered goals. “People are already not cognitively intact and then you bring them into a new environment completely and it throws them off … it’s nice getting like family members, information, especially when it comes to developing client goals.” OTP12 also identified how the presence of family members, especially grandchildren, can be motivating and help promote quality of life in the facility. Additionally, OTP5 described visits from family members helped motivate their clients to get out of bed and engage in self-care related activities.

> Definitely family involvement was huge. The patients that had family who frequently stopped by to converse with them, check in on them. Even when they were confused, they would seem to be more engaged and happy. For example, one woman would put makeup on if someone was coming to see her.

The importance of family collaboration was also found to be connected to learning about the occupational history or profile of the client and identifying important roles and routines. The data analyzed indicated that understanding the habits, routines, and roles of the client helped the therapist structure a treatment session. For example,

OTP6 provided the following example of how understanding a morning routine helped shape the use of the environment and address self-care needs:

> If this is a person who always went to the bathroom first thing in the morning for, for instance, we knew this was an individual that needed to be toileted right away, don't wait. If we knew meals meant a lot to them, we would initiate activities with food in that space right away, so that the person could, as they were new to the environment adapt to the environment.

Another respondent, OTP7, described how he collaborated with the family to gather information about the client's occupational history or profile during the evaluation and treatment planning phase:

> During the evaluation, you know you're very happy when a caregiver or loved one is there, you know, a family member. So, you can involve them in the evaluation process and gather more information as it relates to things that the person likes to do at home and past occupations. What I would do is pretty much incorporate those things in my treatment.

OTP1 described that using the profile and collaborating with family is the most important aspect of treatment planning.

OTP2 described that learning the role of the family member to the client's care prior to being admitted to the facility was important in treatment planning. For example, OTP2 described that if the family member does not live with the client, they may not be aware of how the cognitive decline has impacted their self-care performance.

> I find that unless the caregivers live with the patient, if they're visiting or if the patient has been largely functional and maybe has some of the early stages of a cognitive decline. They really aren't aware of their self-care and their particular ADL routines because the bathroom the bedroom or private places.

This description demonstrated that OTP2 took into account the family members role as a caregiver, the level in which they were providing care and their knowledge of the neurocognitive impairment.

Respondents also indicated that they would often collaborate with family members to bring in familiar objects and help make the client's room "more home like" for the client. Common objects identified that helped promote this were family photographs, favorite blankets, favorite pictures, pillow cases from home, or other small items that could easily be transported from home and placed in the facility (e.g., notecards, hair curlers, personal tooth brushes or hair brushes). Respondents also identified using familiar objects as a means to help orient the client with a neurocognitive impairment to the new and novel environment of the SNF. For example, the practice of decorating a client's room door and the room helped the client locate their room in the facility.

Social Work Collaboration

The social work department was identified as an important department to collaborate with to meet the needs of the clients with a NCD in a SNF. OTP2 reported that the social worker plays a vital role in the collaboration between the family and the rest of the staff and OTP10 reported that collaborating with the social worker plays an

important role in promoting engagement in self-care and leisure activities important for a client with a NCD impairment in a SNF. OTP2 described how important collaboration with the social worker is the following statement "… the social worker is a key person that needs to really go around and know the residents and the ins and outs and the social worker is the conduit between the family outside and the patient inside." This statement illustrates how much the collaboration between the social worker, the client, the family informs the OT when working with a client with a NCD impairment in a SNF.

Dietary Collaboration

The dietary department was frequently mentioned as a department that the OT respondents indicated they collaborate with in a SNF when working with a client with a NCD. Collaboration was reported as occurring regarding various feeding needs for the client. For example, OTP2 reported this collaboration when running "feeding groups" or "walk to dine groups". OTP1, OTP2 & OTP3 discussed the need to decrease the stimulation in the dining room in order to help the client with a NCD increase their ability to feed themselves. Sometimes to decrease the noise level, the therapist would recommend for the client to eat in a quieter location, such as their room versus the dining room. This change requires collaborating with the dietary department to have the client's meal delivered to a different location in the SNF and may require the therapist to collaborate with nursing to ensure the client is safe while eating in their room.

Nursing Collaboration

Data analyzed illustrated various ways in which the OT would collaborate with nursing staff regarding clients' care and ability to function in the SNF environment. The

perception and goals of the nursing staff determined how the nurses used the environment and promoted engagement versus how the OT uses the environment. For example, many therapists reported that the nursing staff often do many things for the client and therapy staff encourage the client to do things for themselves. This perception in the role of the healthcare worker changed how they approached the use of the physical environment. OTP5 provided the following example:

> When staff help too much, clients are discouraged from doing those independent parts and get help. I think to one of two things happens, staff comes around and offers help. And they might accept the help, even though they can do it independently, just because of the idea of feeling like you know, there are patient and they're in this odd place. I think the whole environment of a skilled nursing facilities very rushed and a lot of the staff is offering help.

This was identified as a barrier because staff often limited functional mobility of the individual to engage in ADLs.

The lack of knowledge and understanding of neurocognitive impairments by the staff and those working in the facilities was frequently described as a barrier. When the nursing staff did not understand the neurocognitive condition, then helping the client engage in the environment was difficult. For example, OTP1 indicated a primary barrier to quality of life in an SNF was "staff members who don't understand or don't have patience to work with that type of client" and OTP3 indicated that staff knowledge of how to interact with a client with a neurocognitive impairment is the "number one" factor to help clients engage in purposeful activities. OTP6 provided an example of how her

understanding of the client's neurocognitive impairment helped her to collaborate with the nursing staff to better understand the client's needs and use the environment to help meet those needs. Below is an excerpt of her story of collaboration.

> When you have that patient with dementia, who has a little increased activity level, and they cannot tolerate sitting for long periods of time you end up with people who are trying to get up. The environment in a skilled nursing facility is, most times, they would position that person in their wheelchair facing the nurse's station, so the nurses could watch them. And we changed our environment in specific ways and also people's behaviors in response to the patient standing up and trying to walk. They're only in a wheelchair, because they can't safely walk by themselves right, so the assumption is these people shouldn't be getting up. So, here we go the patient stands up and the nurse, says Mr. so and so sit down and I started talking to the nurses and saying why are you telling that patient to sit down. And they were would say well he's gonna fall. Okay, but have you thought about why did they get up and they would look at me and what are you talking about. Like, well how long have they been sitting there and have they been to the toilet in the last four hours? And if they've been there for more than two hours, do you think your bottom might be sore? And I would just run a series of questions and the nurses got used to me. It started to change the behaviors in response to people standing up instead of saying, Mr. so, and so you gotta sit down. We would start asking them questions do you need to go to the bathroom? Does your backside hurt? Do you need to lie down? Are you tired? And for some people, it

> was just the need to stand, so we would turn their wheelchair around standing up at the wall bar. Which is available in the environment, so the environment there facilitated this because you don't have enough certified nursing assistants or enough registered nurses to do standing programs for everybody there. So, we would just turn the chair around and stand them at the wall and have a small conversation for a minute or two or however long they needed to. Or it might be that we would take him for a walk do you need to go for a walk, yeah, we'd walk them. Until they fatigued a little bit, and they would sit down for another two hours for us instead, of the every five minutes scolding them sit down sit down. So, the environment didn't necessarily promote that, but we put people in the environment that understood what the real need is and educated, the people in the environment to help let that environment help us solve the problem.

This example demonstrates collaboration aspects that need to be considered between nursing and the OT for a client that has a NCD and is noncommunicative.

Another example included the OT and nursing staff collaborating to problem solve how to have a client complete oral care. OTP6 described how she had been referred by nursing to help problem solve how to help a client with a more advanced stage of dementia to engage in brushing her teeth. When describing the story, OTP6 used the terms "they" and "we" when discussing the collaboration between herself and the nurses she worked with. Below is an excerpt of this story:

> One example was we had a lady who could not tolerate having her teeth brushed so they asked me to come in and help figure it out and in the end, it turned out, it

> was the flavor. It made me think about children, sometimes children will see mint gum or mint candy as hot, and I think that she might have been having with the toothpaste so very quickly I started to try alternatives and in the end, we found a bubblegum flavor toothpaste. And we started with just sponges because, I thought okay, maybe this sensory experience is just too much and if your gums are sensitive than maybe a toothbrush is hurting. We modified the self-care task in many ways, but we found a solution at bubblegum flavor in the toothpaste and, over time, they were able to progress her back to a toothbrush from a toothette sponge... Apparently, one of the State surveyors read some of my notes and said I don't know who, that is, but this is the care of these people need.

This collaboration resulted in quality care being provided, as recognized by the state surveyor.

Activities Department Collaboration

Having an activities department helped facilitate participation in leisure activities. Factors that influenced the activity department's ability to help promote engagement were the therapy staff and departmental resources. Data collected indicated that occupational therapists valued the ability to collaborate with the activities staff during therapy sessions. OTP2 reported that the partnership between occupational therapy and the activities department was "a perfect marriage". Some of the activity resources that were identified as a being meaningful and were used to help clients spend time engaged in an activity are puzzles, painting supplies, crafts, gardening supplies, access to musical instruments, going on community outings or having access to a golf putting area.

Leisure and Collaboration

Many of the responses included examples of collaborating with the activities department and incorporating leisure related activities into their treatment sessions. Knowledge of leisure interests was identified as an important aspect in facilitating quality of life. For example, OTP10 described using the interest of playing a piano to meet their therapy goals. OTP10 indicated that the activities department had a piano and she would take client into the activity room to play the piano or incorporate music from the piano in to her therapy sessions. Other leisure related examples that included the OT collaborating with the activity department were painting, taking a walk outside, knitting, reading books or engaging in self-care activities such as doing makeup.

Respondent OTP9 indicated that leisure was a key factor in facilitating quality of life. Below is a description of how incorporating leisure activities impacts quality of life.

> I can also add to that is the leisure activity is a huge component. And you know people when they're in the hospital they kind of lose their ability to do self-care, but, as occupational therapist we try to look at the entire person and everything they enjoy doing so I really do try to incorporate the leisure aspect of that as well. … I really try to pull in the thing that they love doing, which would be their leisure, so if they like to knit or crochet or read books or whatever it is, I really do try to pull that component into some of the treatment sessions. You know that satisfaction of feeling more normal and you kind of see a smile pop up on their face when they're participating in their leisure activity … but when they can see

that they can return to their fun activities there's a huge change and just their demeanor.

Additionally, OTP6 described collaborating with the activity department to use activity resources for clients who were demonstrating "behaviors issues" such as wandering or yelling. "I would use activities to find ways to kind of re-engage them in something purposeful." Respondent OTP6 discussed the importance of the working relationship between the OT and the activities professionals. "I worked really closely with activities. And we had a number of programs that we set up to help clients with their time use."

SNFADM4 confirmed witnessing this collaboration between OTs and the activities department when working with clients who were experiencing sun downing. SNFADM4 indicated that the OT would collaborate with the activity professionals to structure clients schedule to best meet their needs and promote optimal engagement in the activities being scheduled. For example, schedules were created to provide more activity options in the morning and then more relaxing opportunities in the afternoon. This collaboration illustrates a dynamic working relationship between the OT and the activity professional.

Housekeeper Collaboration

Additional data analyzed related to staffing perspective included collaborating with other staffing departments and being well staffed throughout the facility increased quality of life. Respondent OTP2 described how the housekeeper can help relay good information related to ADL performance and quality of life. The respondent indicated

they had created a housekeeping ambassador program at their facility. She indicated that the housekeeper might see or hear things that are happening with the client, that nursing or therapy might miss. To help promote the housekeeper's unique role in collaborating important information to nursing and therapy, OTP6 established a housekeep ambassador program. OTP6 indicated that she would pick a housekeeper to be the ambassador for a specific hall and then the housekeeper would collaborate with nursing and therapy regarding any observations they made in the environment. In the following statement, OTP2 described how important it is to her to collaborate with the: "I always would hook up with the housekeeper because they always had good information and they're very helpful with the environment and maintaining quality of life for the resident."

Theme 2: Pragmatic Aspects of Care

The pragmatic aspects of care theme was defined by a combination of data that was analyzed. This theme included policies that impacted the facility (both internal and external), logistics such as scheduling and pragmatics of working with multiple departments of the SNF.

Policies

Policies of the facility were identified as limiting an individual's ability to engage in daily needs. Policy limitations were identified as being both local (at the facility level) and driven by the payor source. OTP2 indicated they "felt handcuffed" by payor sources when trying work in a SNF to address leisure related activities. "Our third party payer system has reduced our ability to interact with patients in a billing situation. But there are so many things that we can do to improve your quality of life that don't involve billing

that we can't do anymore." OTP5 indicated facility policies that limited their ability to engage clients in the environment such as not being allowed to walk clients in the hallway, not being allowed to take clients outside, or being restricted to only work with their clients in the client's room.

Facility policies regarding personal objects a client can bring in was described as limiting the therapist's ability to help make the room more familiar to the client. For example, it was against the policy of the facility to for the client to bring in personal bed linens. However, the OTP2 would ask the family to bring in a throw blanket or pillow case to place on the bed. These items were reported to benefit the client in multiple ways. For example, a throw on the end of a bed helped the client identify their bed or a personal pillow case helped bring a sense of familiarity to the environment. These items were also described as obtaining a from home that the client was familiar with and it helped them orient to a new environment.

SNFADM1 described that many policies and regulations have shaped the way the SNF is built. He described earlier built facilities as "first generation skilled nursing facilities." These facilities followed more of a medical model and were built following a model of having the nurse's station in the center and long hallways going away from the nurse's station that led to bedrooms, showers and other rooms. He reported that this design is commonly referred to as a "starburst" design in "the skilled nursing world."

SNFADM1 further described that state regulations limit the building of new facilities. With limited ability to build new facilities, any newer facility is "retrofitted" into the previous "first generation skilled nursing facility" spaces. SNFADM1 further

concluded that “most of the skilled nursing facilities that are specific to individuals with dementia, which are not that many look like a first generation skilled nursing facility.” This was included in the theme of pragmatic aspects of care because the building regulations for the overall design and physical layout of the SNF.

Scheduling

The temporality of the facilities’ schedule was identified as both facilitating quality of life and as a barrier to autonomy and spontaneity. Aspects of scheduling that were identified as promoting quality of life are indicated as follows. The facility schedule helped keep clients oriented to time of day and increased the occurrence of participation in activities. It was reported that this schedule helped provide opportunities for engagement in leisure activities. Additionally, SNFADM1 reported the activity professionals were responsible designing “…programming, that is meaningful in the existing environment.” OTP2 reported that meaningful activity scheduling often included coordinating outside visitors such individuals bringing in animals (e.g., pet therapists or the Humane Society), religious figures (e.g., priests, rabbis or chaplains) or political figures (e.g., senators or congressmen) to come visit the facility.

In addition to the temporality the facility being identified as promoting quality of life, the facility schedule was also identified as a limitation for autonomy and spontaneity in ADLs and leisure related activities. For example, having a set schedule every day for meals, grooming tasks, leisure activities and administration of medication was identified as a limitation because it took away from the autonomy and spontaneity of engaging in these occupations. OTP12 reported that a planned schedule in the SNF “takes away much

of their individualism and their choice, and I believe what we tried to do was correct that."

Staffing

Staffing aspects that were often indicated as o contributing to this theme is staffing shortages, fear of falling and staff's knowledge of the condition. impacted the client's ability to function in the environment. Staff shortages that were identified by OTP1, OTP2, OTP3, OTP5, OTP8, OTP10 and SNFADM3 as directly impacting a client's performance in the environment were nursing (i.e., certified nursing assistant) and the activities department. OTP5 and SNFADM 3 reported that if the activities staff is low, then client might miss the activities they want to attend. Likewise, OTP5 and SNFADM3 also indicated that if the nursing staff is low, then many of the clients do not have the physical help they need to get up and function safely in the environment.

SNFADM2 discussed that the typical staff to client ratio equates to about "seven or eight certified nursing assistants in the morning shift for like 50 patients". Besides helping clients get up out of bed, the certified nursing assistants are often responsible for serving meals, assisting with showering clients and providing incontinence care. With these demands it makes it difficult to provide one on one care for all clients. OTP12 indicated that "not having enough staff is a huge barrier."

Fall Risk

A client's fall risk was identified as a barrier to engagement in the environment. OTP12 reported, "I think that the one of the biggest barriers is everybody's fear that that person is going to fall. Especially if their safety awareness is impaired." When a client is

identified as a fall risk, then various forms precautions are put into place to prevent the client from falling. It was reported that some of the precautions to help prevent falls include bed or wheelchair alarms, keeping clients closer to the nurse's station or limiting their ability to stand and move on their own. If staff is not available or unable to help the client, then this creates a barrier to engaging in the environment.

Understanding NCD

Data analyzed identified facilitating quality of life and promoting engagement in ADLs and leisure activities is connected the staffs understanding of the neurocognitive impairment. A primary description that occurred in the data was the knowledge of neurocognitive impairment by the staff working with the clients. Depending on the staff's knowledge of neurocognitive impairment and the neurobehaviors that are associated with this impairment (e.g., wandering, agitation, refusal to participate) it could impact the quality of life for the client. OTP3 indicated the following, "I would say the emphasis to enrich clients lives and the ability to engage clients in purposeful tasks relies on how knowledgeable the staff is about working with clients with cognitive disorders."

The knowledge of the NCD would guide the OTP to make adjustments to the environment during ADLs and leisure related activities based upon observed behaviors. OTP6 reported that when clients would become agitated, they would start to do a "checklist of what has triggered this and that matter because you have to figure that out, but the second piece was what are we going to do about it." SNFADM4 reported observing OTs working with agitated clients and using "various solutions to address those sensory sensitivities in a way that allowed the clients to participate in the various

groups or independent leisure activities that they weren't able to tolerate otherwise." For example, SNFADM4 reported observing OTs use noise cancelling headphones for clients who were sensitive to auditory stimulation. OTP3 described how she adapted the physical environment based upon the client's progression of the neurocognitive impairment. Below is a description of those adaptions.

> I would have artwork or fidget things or something on the walls in the hallways and in the dining rooms. I would, at times, if I was trying to get the person to become more mobile, to increase our activity tolerance and I was maybe walking with them in the hallway or trying to get them just engaged in going from the room to the activity room or the dining room or something, I would bring their attention to those things on the wall, because, as you know, below a certain cognitive level they're not really looking around in their environment they're just kind of looking straight ahead. So many times, I would turn them so that they could see what was on the wall and then help them to engage in that. When working with them and they are not at a lower cognitive level, but kind of more at the mid-range, if they were trying to learn their way around the facility, because they were new there, then I would use objects in their environment, to help them with pathfinding, to be able to find the way to the dining room or find their way to the activity room or their bedroom or something, you know you turn left at the palm tree or something like that.

The data indicated that the OTP respondents often used their knowledge of the neurocognitive impairment to adapt the client's self-care tasks to meet the client at their

stage of progression of the condition. Overall engagement in self-care tasks was often discussed and described in the data as a primary means for supporting quality of life. Common self-care skills that were identified as being addressed were feeding, grooming/ hygiene (oral care), toileting, toilet transfer and bathing. Two examples of how respondents described using their knowledge of the neurocognitive impairment to modify and adapt the self-care tasks of feeding and bathing to increase engagement is provided below.

Feeding. For feeding, the therapist would assess whether the client was able to use utensils, tolerate the stimulation in the dining room and visually see the food on their plate. Modifications in the environment made from the therapist that increased participation in feeding included, having the client eat in a low stimulating environment, modify the types of utensils or primarily eat finger foods or provide visual contrast to the plate. Respondent OTP3 described that working on feeding was a primary area when working as an OT with this population. OTP3 also described moving chairs around so clients could be facing one another during meals. Rearranging the chairs helped increased social participation and often resulted in the clients improved performance of feeding in the dining room. OTP3 described how she promoted social participation and engagement in eating in the following excerpt:

> Sometimes I would just introduce the client to somebody else at the table and that would kind of you know, help them focus on Oh, this is mealtime I need to eat…I think it made a big difference…People who just tend to you know sit in a chair and scream or people tending to pace or exit seeking. If there are things readily

> available for them to and within plain view at their eye level for them to engage with. Then you know I really think it's helpful for them.

Bathing. Bathing was reported as a self-care activity that can be difficult to have clients with a neurocognitive impairment engage in. Many of the facilities have a communal shower space that is located away from their rooms. OTP2 reported that clients are often "rolled down the hall" wrapped in a blanket and in a rolled shower chair to the shower area for a shower. This process of getting to the shower space and being in an unfamiliar room to shower was reported as increasing agitation for clients. OTP2 reported she would adapt the shower environment prior to helping a client shower by preheating the shower room or placing a warm towel on a shower chair for the client to sit on. Other adaptions reported to help engagement in showering were using familiar objects to shower, such as personal shampoo and OTP9 reported rearranging objects in the shower space to be similar to their home environment.

OTP6 reported that as the clients progress, they tend to decrease the ability to tolerate showers. OTP6 provided a story of how she used her understanding of how the neurocognitive impairment impacted a client's ability to participate in bathing to adapt the way in which the client was bathed at the SNF with a modified "spa day" bath. Below is an excerpt of her story:

> There's always a number of people in a skilled nursing or a locked dementia unit, who have issues with showering. So, we set up a modified shower and it was essentially a bath blanket and we put it in a Ziploc bag, with no rinse shampoo and certain amounts of water and we would microwave them and made them

> warm. Then, we did what we called spa days. In the room well, we would turn the lights down, have aromatic smells and music for them. And they essentially what they would do is undressed the patient in bed and lay this warm wet towel on the patient and then body part by body part they would bath the client. Starting at the top and working your way down and they just stayed underneath the towel, so there was no water beating on them, and there was no going down a hallway nude. None of that stuff occurred and patients who were agitated by the showers did beautifully with the modified spa day type bathing. So, the environment was set up to help these people in that it had an accessible shower, but you know there's always a certain percentage of people that doesn't work for them either how else they have rooms are good and accessible with bars. In our skilled nursing, as well as locked dementia units those to me are things that improve safety and because they're safer, therefore, the quality of life, improves.

This story illustrates how OTP6 used their knowledge of the client's NCD to make modifications to the occupation and the environment to meet the needs of the client.

Resources

The data identified that the therapists reported the lack of resources and funding as a barrier in the physical environment. This was included under the theme of pragmatic aspects of care because it influenced how the OT used the environment during treatment sessions with clients. It was reported by OTP2 that "you must use what you have" and "there are enough leisure things and there's not enough scope of leisure things to give to our residents what they need. Some of it has to do with money and some of it has to do

with safety, some of it has to do with staffing." OTP2 also indicated that "I've seen over the years, where the budget for activities has shrunk and shrunk and shrunk." SNFADM1 also indicated that the ability for the OT to have access to resources that will help promote selfcare and leisure for clients relies of the budget.

Types of physical environment barriers related to lack of resources identified were not having equipment like shower chairs or tub benches to practice, no kitchen to practice meal preparation and decreased funding in the activities department which lead to fewer leisure related items or opportunities (e.g., games, puzzles or go on community outings). For example, OTP2 indicated they "used to" partner with the activities department and take client on community outings. This respondent described how adequate resources allowed her to help her clients engage in community outings:

> I would go and that would be part of my treatment session, for example, one job I had. The activity department was going to take clients to the pumpkin patch. So, I had patients that wanted to go, and I went on the bus with the activity department and I worked on getting on and off the bus, selecting the pumpkins, lifting the pumpkins and paying for the pumpkins. And then they were going to have a festival so when my patients came back, the next thing we did was we did a cooking group. And we sliced and diced and baked and cooked pumpkins and we made pumpkin bars. Then the next thing we did was, they participated in the festival where they sold the pumpkin bars. Those kinds of things with activities I've really seen go away.

The lack of resources related to the physical environment was additionally identified as a barrier for functioning in the environment. For example, OTP8 reported having the "bare minimum of working lights, operating beds, room temperature" was what the therapist hoped for their client's. OTP4 reported that the lack of resources in the facility limits the types of leisure activities a therapist can work on. Per OTP4's report,

> in these facilities . . . they have limited resources; you have to be able to be creative and spontaneous with your treatment plans. … You don't have games or equipment for the patient's leisure, you have to be creative and make up things to use.

SNFADM2 reported the that having resources was a contributing factor to treatment of this client population. However, SNFADM2 also reported that occupational therapists do not ask for resources and that they need to speak up regarding what their needs are "I get requests for puzzles or simple little things versus, this is the physical space, I need to do my job."

Shared Space

Shared space was identified as part of the pragmatic aspects of care theme due to it being associated with increasing revenue. SNFADM1 indicated that "revenue opportunities" are created with "more rooms and more beds." Descriptions of shared space included individuals having roommates or sharing a bathroom between rooms. This was reported as making functioning in ADLs such as toileting or grooming / hygiene routines difficult. Specifically, if the client did not have a history of sharing a room or space with another individual. Many respondents reported 2 – 3 clients in one room and

sharing a bathroom with another room. OTP8 described this scenario as being "confusing" and having physical items (e.g., beds or bed side tables) very close to one another limits the individual's ability to function in that space. OTP3 indicated that a small shared space, such as a bedroom, discourages spontaneity with ADLs because everything is so close by the client is discouraged from moving around in the space you. OTP2 reported that if the she knew a client with a neurocognitive impairment was going to be admitted to the facility, she would request a private room.

Theme 3: Familiarity of the Environment

The familiarity of the environment theme includes descriptors that contributed to how familiar aspects of the built environment are used to promote quality of life and meaningful engagement. Familiar aspects of the built environment included items or objects in the environment that the individual had previously interacted with or had knowledge of prior to having cognitive concerns related to the NCD. Likewise, this theme also describes how unfamiliar aspects of the built environment create barriers to engagement. Unfamiliar aspects of the built environment were often described as being new or novel to the client. Descriptions of unfamiliar aspects of the environment ranged from the use of medical related objects (e.g., bed side commodes or hospital beds) in the SNF to the structural design and layout of the facility.

The two subthemes identified under this theme are familiar spaces and unfamiliar spaces. The indoor space of the SNF was often described as a barrier due to it being novel and unfamiliar living environment. However, the outdoor space was often described as promoting quality of life because it provided increased interactions with familiar objects

in nature (e.g., plants, flowers, trees) and general outdoor space. Additionally, the outdoor space afforded opportunities to support autonomy and interact with nature. Further descriptions of the subthemes are identified below.

Subtheme 1: Unfamiliar Spaces

The advancement or stage of the client's neurocognitive impairment presented as a barrier to function in a novel or unfamiliar physical space. SNFADM1 reported that the physical environment inside the SNF "…absolutely affects you know how someone in with neurocognitive disorder engages with their environment, so I think you know my I feel like my tagline is environment matter." The indoor space of the SNF was identified as being novel, "new" or "unfamiliar." The unfamiliarity of the environment made it difficult to function in that physical space. For example, being in an unfamiliar environment and the demand to participate in an ADL routine (e.g., morning grooming and hygiene routine or bathing routine) in that unfamiliar environment was described as a barrier to engagement. The layout of the client's room or amount of space in a client's room was defined as a barrier to engagement in ADL routines in that space.

Many of the rooms were described as being a small and "cluttered" with medical types of equipment like bed side commodes, walkers, hospital beds, grab bars or wheelchairs. This equipment was identified as being novel if a client had not interacted with it prior to admission in to the facility or if they had an advance stage of the neurocognitive condition. Additionally, unfamiliar grooming objects such as combs provided by the facility were identified as a barrier to engagement.

Unfamiliar spaces like a shower room versus a shower in a home environment were also identified as making engagement difficult. OTP4 described the shower area as being designed to promote safety and accessibility (i.e., roll in shower area for wheelchairs, grab bars and adapted shower chairs). However, the design did not support individuals with neurocognitive impairments because it was "not homelike" and often and was associated with increased sensory stimulation. OTP2 described that many clients get "undressed in their bedroom and then rolled down the hallway with a sheet on top of them" when going to take a shower. The shower room temperature is cold, the water is cold and the process is unfamiliar. This was reported as increasing agitation for many clients and decreasing their "dignity and quality of life."

The physical layout and building features in the indoor environment made it difficult for individuals to perform and engage in ADLs. OTP2 and SNFADM3 indicated the following specific aspects of the physical environment made functioning for a client with a neurocognitive impairment difficult were high shine floors, raised thresholds, patterns on the floor, high shine paint on walls or dark/muted colors painted on walls, the tile carpeting in therapy gyms was described as being a common physical barrier in the SNF environment that impacts the ability to function. OTP2 indicated these aspects of the built environment inside the facility were "very disruptive and agitating to someone that has a neurocognitive disorder" because it is uncommon to find these features in their "own personal environment."

Confirmation from SNFADM1 indicated that the physical layout of the SNF building is created for nursing to be able to observe the clients from the nurse's station

versus being designed to increase maximal functioning for the residents of the facility. SNFADM1 described this design as a "starburst." SNFADM1 portrayed the design in the following, excerpt;

> One of the challenges that we find in nursing facilities is that it's not really designed for programming or self-care or those kinds of things, it's really designed like I mentioned in the in the previous question, which is really to be conducive towards. staffing ratios, and what I mean by that is so, if there's one you know essentially one nurse's station. It really doesn't matter how many nurses, you have working at the station, but let's just say for argument's sake there's two nurses at the nurse's station they're there typically looking for activity down the hallways and assigning nursing assistance to basically sections.

Meaningful Time Use. An individual's use of time in a SNF environment was described by being influenced by the physical layout of the built environment. SNFADM1 reported "I absolutely think the environment impacts, how they use their time." OTP6 reported that the SNF environment affect the way individuals with a NCD use their time "100%." SNFADM3 indicated that the built environment can be "confusing" and that the "physical layout" can result in individuals getting "lost easily… frustrated and upset because they don't know where they're going or they're wandering". SNFADM3 also indicated that it is "critical for neurocognitive residents to have a simple layout" in relation to providing opportunities to spend time in a meaningful way. SNFADM 1 further reported that some "newer residential facilities" have designed circular paths in the facility to help clients with way finding.

Factors of the built environment that were identified as providing meaningful opportunities to spend time were associated with the ability to watch animals. Specifically, reports indicated facilities that had aquariums or aviaries built in the facility promoted clients spending time watching the birds or fish. The ability to engage in bird watching was described as being so meaningful that respondents OTP2, OTP3 and OTP6 reported placing bird feeders outside a client's bedroom window to help attract birds for the client to watch when they were in their rooms.

Familiar Objects in Unfamiliar Spaces: Spontaneity. The use of familiar objects in an unfamiliar space was indicated to be used in multiple formats. Data analyzed indicated that objects in the facility were also placed there to help provide spontaneous engagement in activities and promote autonomy. SNFADM1 indicated that objects in the environmental influence "how someone engages with the environment". He reported…" that if you put opportunities in front of individuals to engage with their space that's meaningful, not just a room a bed a bathroom you know." Examples from the OT respondents of placing familiar items in the environment to facilitate meaningful engagement are provided below.

***Shoeshine Station*.** OTP6 reported creating a shoeshine station that included familiar tools to shine shoes in a locked dementia unit. She described that clients would walk by, look at the wood table and spontaneously engage in shining shoes at the station. A description of the shoeshine station and the objects placed at the shoeshine station is described here:

> Another thing we did at the locked dementia unit was we put up what looked like a workbench and we rounded all the edges off. And really the only things that were on the workbench were sandpaper, shoe leather, a shoe and a soft brush so the men could, polish their shoes and the sandpaper was for them to sand on the wood. We found a lot of wanders who would stop and participate in activities, just because they were there walking by, hey there's a shoe that needs shining. That's totally spontaneous for a lot of levels of people they're not planning to shine their shoes….

Basketball. Another example of a familiar object placed in the environment that helped spontaneous behavior was placing a basketball and basketball net in the facility. OTP6 reported that many individuals who were "pacers" and would "walk back and forth back and forth" in the facility. However, when they were by the basketball and basketball net, they would stop and shoot baskets. OTP6 indicated that "the next thing you know they're shooting baskets very spontaneously, unplanned." These examples provide an illustration of how familiar objects in the physical environment can promote spontaneous engagement in self-care and leisure activities.

Familiar Objects in Unfamiliar Spaces: Redirecting Behavior. Upon review of the data, it was indicated that familiar objects were also used to address and redirect behaviors associated with neurocognitive impairment. Specifically, respondents OTP6 and OTP2 provided examples of using objects to address the behaviors of wandering and agitation. OTP6 shared a story of a male client who would wander into the other resident's rooms and often become agitated when trying to be redirected. This scenario

became more challenging when the individual would take different items from the rooms or wander into the rooms of female residents. OTP6 reported that the female residents felt "as though a stranger had just come in their home and they were frightened." To help address this issue in the facility OTP6 indicated that she velcroid stop signs on doors to the doorways and that "that effectively mitigated the behavior." The use of this familiar object helped the OTP6 redirect the client's behavior and allowed him to "function better" in an unfamiliar environment.

OTP2 shared an additional story of using familiar objects in the environment to address agitation and the sensory needs of clients in the SNF. OTP2 reported placing a rocking chair in the activities department. The rocking chair helped agitated clients calm down and provided the client an opportunity to spend time in a supervised setting. OTP2 described using "a lot was sensory tools" in the environment to address the sensory needs of the client neurocognitive impairments. Additional examples of familiar objects that helped address the sensory needs of the client included using clothing with familiar smells, exercise bras to help provide compression or heated blankets.

Data analyzed also indicated that familiar objects and tools were used by the OTPs in conjunction with knowledge of the individual's habits, routines and meaningful life roles. For example, OTP6 described working with a client who wandered around the facility carrying a post card with him. The post card was given to him by one of his children while they were on vacation. This object was extremely meaningful to him and he carried it around until it was "… in tatters and he couldn't read the content." OTP6

indicated that the staff would read the post card to the man. By reading him the post card, it helped him connect to his role as a father and "brought him great joy."

Subtheme 2: Familiar Spaces

Familiar spaces in the SNF environment included descriptors of room modifications to address self-care needs and use of the outdoor space to engage in familiar leisure activities such as, smoking, interacting with nature and gardening.

Room Modifications. Room modifications were described by respondents in multiple formats. Data analyzed indicated that many respondents would rearrange a client's room to "simulate" or make it more like the client's room. OTP9 shared the following story of how she would modify the space for the client:

> I try to create an environment that is similar to what they have at home, especially when they have memory impairments. … I feel like every single treatment every single patient, we are modifying space. To kind of create as close to the normal environment or their typical environment that that we can to make it, you know, to make them more successful and get that carry over for when they return.

Additional descriptions associated with modifying the room space included completely rearranging rooms, moving beds, moving furniture, simulating a home floor plane to recreate the space or making the space be an overall "more natural" home environment. SNFADM1 reported observing OTs being "innovative and creative with their space" by "mimicking environments" when assisting clients with dementia in a SNF.

Other room modifications were more related to safety and increasing functional mobility to engage in ADLs or leisure activities. Examples of these modifications

include, adjusting the height of beds to get in and out of bed safer, adjusting the height of a bedside table to promote self-feeding, adjusting the location or height of a bed side commode to increase access for toileting. OTP8 shared the following examples of room modifications completed that resulted in increased engagement in ADLs and leisure activities:

> I moved the rooms around a lot as much as they'll, allow me to typically the wall, the beds. … I'll turn the bed and push it against the wall, if it creates more walking space through the room, so that, lone side of the bed is against the wall and then they can get in and out that way. I've actually added bed railings the ones that slip under the mattress into nurse to help patients get in and out I've attached countless commode toilet risers on commodes so that patients could, I mean on, over standard toilet so patients could use it.

An example shared by OTP9 described working with a client who was "isolated in bed" and unable to get in and out of bed on their own. The therapist worked with this client on bed mobility and provided various modifications to increase the client's ability to get in and out of bed. OTP9 reported "… the next week, when I had come back to work with a patient again, he was up and eating lunch with the whole group. Oh, which I just thought was so sweet because he was in bed isolated…." Thus, illustrating that the modifications made by OTP9 allowed the client to get out of bed and participate in ADLs. SNFADM3 reported observing similar room modifications by OTs. For example, SNFADM3 reported observing OTs using a transfer pole next to a bed to help the client transfer in and out of bed. Additional examples provided indicating moving chairs to

increase the client's ability to see outside the window or opening curtains to increase natural lighting into the room. Data indicated that these modifications resulted in increased ability to spend time looking out of the window to "watch birds" or "people in the parking lots."

Other room modifications were focused on the adjusting to the neurocognitive impairment. The data analyzed indicated many of these recommendations were connected to helping clients with eating or being able to access the dining room. Room modifications in the dining room area included turning tables so clients could see one another and visit while eating, adding tablecloths, adding centerpieces to the tables and labeling items in the dining room environment to help people find their way to the dining room. OTP6 described painting a "China cabinet" on wall of the dining room and a "fire place" on another wall of the dining room to help "promote recognition" and foster the "inherent sense of place." OTP6 indicated the following:

> The dining room in the locked dementia unit was a very clinical looking environment. We changed that environment and put tablecloths on the tables and centerpieces in the middle of the tables. We painted a China cabinet.: On another wall, there was a fireplace so that people understood, where they were inherently. In the locked dementia unit and we had amazing things that happened after we changed the way the dining room was set up.

Outdoor Space. Data analyzed in indicated having access to an outdoor space promoted autonomy and quality of life. Although the outdoor space of the SNF might be unfamiliar to the client, the affordances of the outdoor space were familiar. Reports of

utilizing an outdoor space for leisure included golfing, or being able to spend time on a patio visiting and bird watching. Respondent OTP12 indicated that having a smoke section outside was meaningful for clients who smoked and helped promote autonomy. "They have a place that is meaningful to them and they can go to on their own." Additional examples of utilizing outdoor space promoted interaction with nature and included looking outside at flowers, walking in a garden, pruning plants and utilizing raised garden beds for planting vegetables and herbs in which the clients used to cook with in other therapy groups.

Gardening. Stories shared related to gardening were plentiful in the data. Many OTP respondents reported using gardening in some form when working with clients who have a NCD in a SNF environment. For example, OTP7 indicated that gardening improved quality of life of clients OTP7 shared the following, "… clients actually could work in the garden, do simulations as it relates to all occupations that you can tell you know when you think about quality of life, you know it's all about having purpose, and I think that really motivates a lot." OTP12 reported that going outsides was "more peaceful" and that being in "nature helps them more versus bringing them keeping them in the room." OTP5 reported that having access to a garden was "awesome" for the client because they "could actually add to it and care for it." OTP5 additionally reported that when clients were unable to leave their room or go outside, she would bring the plants inside their room to engage in gardening related leisure activities.

OTP6 indicated developing a garden program at the facility was her "favorite programs" that addressed quality of life. She described that the program provided her a

chance to engage client with neurocognitive impairments in a meaningful activity and it provided an opportunity for the clients to connect with other community members of the SNF. After harvested the food, OTP6 reported she had the clients make a salsa and then provided the salsa to staff, administers and other clients at the facility. An excerpt describing the full process of this program is provided below:

> Almost every patient we interacted with benefited from participating in the gardening program and we did everything from planting seeds to weeding. To harvesting whatever grew we had tomatoes and cilantro they made salsa and when the salsa was done, we literally put it on a bedside table with a big bag of chips and wearing gloves we went around the building and offered everyone, administrators, CNAs, all of the people in the building benefited because, and that was the patient who was sharing it.

This description and the stories shared demonstrated how gardening is an important aspect of the SNF environment and connected to quality of life for clients with NCDs.

Summary

Chapter 4 detailed the data collected process, the data analysis process, demographic information collected from the research participants, the coding process and themes identified from the data. Three primary themes were identified. These themes are complexities of collaboration, pragmatic aspects of care and environmental familiarity. Two subthemes, familiar space and unfamiliar space, were identified under the familiarities of the environment.

Chapter 5 will present an in-depth analysis of the study finding, limitations of the study recommendations for future practice and research, implications of the findings and a conclusion of the study. This study has the potential to lead to social change by providing insight into how an individual with a neuro cognitive condition interacts in a novel environment such as a SNF and the impact the environment has on performance in self-care and leisure related activities. This study provides an opportunity for developing caregiver training and staff training in regards to better understand the impact a NCD has on occupational engagement and the need for interdisciplinary collaboration for this client population. This can result in a better quality of life for individuals with NCDs living in SNF.

Chapter 5: Discussion, Conclusions and Recommendations

The purpose of this qualitative study was to understand how OTs use the environment in a SNF to help individuals diagnosed with a NCD related condition engage in meaningful activities such as self-care and or leisure activities in a SNF environment. In this study, I used purposeful sampling to conduct semi-structured interviews with 12 OTs who had experience working in a SNF and with the NCD population in that setting. Confirmation of the findings was completed by conducting semi-structured interviews with four SNF administrators who have experience working with or observing OTs in a SNF setting.

Three main themes emerged from the study: complexities of collaboration, pragmatics of care, and familiarity of the environment. The familiarity of the environment had two subthemes, unfamiliar spaces and familiar spaces. Chapter 5 provides more details of these themes and subthemes and other findings of the study. I will also describe the limitations, recommendations, implications and conclusion of the study.

Interpretation of the Findings

Interpretations of the themes of this study were conceptualized within the LELQ model and related to the literature in Chapter 2.

Theme 1: Complexities of Collaboration

The first theme, complexities of collaboration, identified how the OTPs and SNFADMs interviewed for this study collaborated with multiple stakeholders associated with the client's care. These stakeholders included family or caregivers, nursing staff,

dietary departments, the activities department, social workers and housekeeping. Besides collaborating with multiple stakeholders, there were additional complexities related to collaboration that impacted the individual with a NCD ability to engage in selfcare and leisure skills in the SNF environment. These additional complexities are supported by the literature and align with the LELQ framework (Wood et al., 2017).

Caregiving Microsystem

The caregiving microsystem is a subdomain of the lived environment (LE) under the conceptual framework of the LELQ (Wood et al., 2017). This microsystem refers to those individuals that will be caring for the individual with a NCD in an institutionalized setting such as a SNF. Collaborating with multiple caregivers in the SNF facility (i.e. nursing staff, dietary departments, the activities department, social workers and housekeeping) helped the OTP respondents provide PCC and promoted quality of life for clients diagnosed with a NCD in a SNF (Prizer & Zimmerman, 2018; Wood et al., 2017).

One example of the OTP collaborating with multiple caregivers in the SNF was described in relation to feeding. The OTPs identified the need to collaborate with the dietary and nursing departments regarding the client's ability to feed themselves. Collaboration with these departments related to the OTP determining and discussing the client's cognitive capacity, occupational history related to food and meals, the facility's scheduled meal times and identified problem solving the best approach to promote the client's ability to engage in eating with dignity. This approach adds to the research as a means of providing support and respect during mealtimes (Fazio & Pace, 2018; Prizer & Zimmerman, 2018).By identifying the client's cognitive capacity and collaborating with

dietary and nursing, the OTP could help create an occupational enlivening environment in which the client could engage in their meal time routine with the adequate support from the caregiving microsystem.

Other examples that were provided regarding the OTP collaborating with the caregiving microsystem to help support clients exhibiting forms of BPSD. Specifically, agitation or the refusal to participate were forms of BPSD that were reported in relation to self-care tasks. The OTPs shared stories of collaborating with nursing regarding many self-care tasks (toileting, bathing and oral care). The OTPs often described using an approach that focused on understanding the client's cognitive capabilities, the task demands of the activity and the progression of the NCD for the individual. By using this approach, the OTPs would collaborate with nursing to help problem solve methods to help the client increase engagement in self-care tasks. This collaboration resulted in improved quality of care being provided as shared in the story from OTP6. This collaborative method in addressing BPSD symptoms agree with the literature of utilizing an NPI to treat BPSD symptoms and provide quality care (Inventor et al., 2018; Koo et al., 2018; Scales et al., 2018; Zucchella et al., 2018).

Another component of the LE caregiving microsystem is the viewpoint of the caregivers as being either pessimistic or optimistic (Wood et al., 2017). A pessimistic approach to dementia caregiving is described in the LELQ as focusing on what the individual with dementia is unable to do versus an optimistic viewpoint of what they can do (Wood et al., 2017). Many therapists reported differing viewpoints of what the client could do between nursing and the OTP. This could align with the concept of a pessimistic

versus optimistic approach to dementia caregiving. OTP1, OTP3, OTP5 & OTP6 all discussed ways in which collaboration with nursing staff came from different stand points as to what the client could do versus what the client was unable to do. An example of this was the story shared by OTP6 of the client who kept standing at the nurse's station. By using the optimistic viewpoint of what the client can do and trying to understand what the client's behavior was communicating, the OTP was able to collaborate with nursing to implement NPI to help address agitated behavior and assist in using a PCC approach to self-care needs. This approach adds to the research of using NPI to provide PCC in relation to self-care activities (Inventor et al., 2018; Koo et al., 2018; Scales et al., 2018).

Occupational History and Collaboration

The occupational history of an individual contributes to the subdomains of the LELQ (Wood et al., 2017). The data indicated that the OTP respondents collaborated with family members or caregivers regarding various concerns. For example, it was important that the OTPs talk with family to gain a better understanding of the individual's daily habits, roles and routines in their home environment. The OTPs indicated that family collaboration was especially important when the client was no longer able to verbally communicate.

OTPs described taking information about ADL and self-care routines followed at home from family (e.g., using the bathroom first thing in the morning) and trying to implement that same routine in the SNF. This example is agreed with in the literature as means of providing PCC by maintaining dignity and preserving autonomy with toileting (van Gennip et al., 2016).

The OTPs also asked family members to bring in familiar objects to the facility to help orient the client to the new space of the SNF and to engage in self-care and leisure activities. The practice of creating a home-like environment is supported in the literature as a means of providing PCC in a SNF environment (Bosco et al., 2019; Calkins, 2018; Chaudhury et al., 2018; van Gennip et al., 2016). Examples in the literature that are provided as a means of creating a home-like environment are using person items such as photos or blankets to help personalize a room (Jensen & Padilla, 2017; van Gennip et al., 2016). OTP3 described using similar methods and included ways in which the familiarity of these objects being used to help orient a client to their room or promote engagement in self-care related activities. OTP2 described using pillow cases with familiar smells to simulate the olfactory system and blankets at the end to help orient the client to their bed. These examples agree with the literature of the OTPs using family collaboration and familiar objects as a means to provide PCC and help promote engagement in the SNF environment for clients with decreased cognitive capacities (Jensen & Padilla, 2017).

Collaboration with the activities department and knowledge of the client's occupational history related to leisure participation was key in addressing leisure skill and helping the client use their time in a meaningful way. OTP2 described this collaboration as "the perfect marriage" and OTP9 indicated that "leisure activity is a huge component" to addressing quality of life in a facility. OTP2, OTP3, OTP6, OTP9 and OTP10 indicated that much of the collaboration between the OT and the activities department was dynamic, centered around the clients' personal interests, past roles and the client's current cognitive capacities. SNFADM2 reported frequently witnessing occupational

therapists and the activities professionals collaborating regarding client care. Engagement in leisure activities is supported in the literature as a means of providing PCC through NPI (Scales et al., 2018).

These examples align with the literature of using a client nonconstruction approach of the physical environment, in which engagement in activity is a primary goal (Marshall et al., 2017). This client nonconstruction approach of the physical environment often helps to promote self-care and leisure-related activities in the environment (Marshall et al., 2017). Additionally, this supports the need to obtain an occupational history from the client and contributes into both the LELQ domain of the conceptual framework.

Theme 2: Pragmatic Aspects of Care

This theme incorporated aspects of the facility that impacted client care, such as policies, scheduling patterns, staffing, resources, and how space was used in the facility. These aspects of care align with the LELQ framework by contributing to physical and social environmental supports, utilizing the retained cognitive capacities and influencing how an individual uses their time. Additionally, literature reviewed in Chapter 2 supports this theme (see Bosco et al., 2019; Pimouguet et al., 2017; Scales et al., 2018; Smallfield, 2017; Zucchella et al., 2018).

Policies and Design

OTP respondents indicated that policies, both internal to the facility and external (payor source policies or governmental policies) to the facility contributed to difficulties in providing quality care in a SNF facility. The OTP2 described that payor sources

limited how the therapists were able to address leisure. OTP5 and OTP2 described facility's policies impacting their ability to address leisure and self-care-related skills. These restrictions limited the OTP's ability to provide activities that align with PCC best practice recommendations (Fazio, Pace & Maslow et al., 2018; Prizer & Zimmerman, 2018).

A general lack of resources was reported by many OTP respondents. SNFADM1 and SNFADM2 both confirmed that resources supporting leisure and self-care activities have decreased. Literature reviewed in Chapter 2 has also shown that costs associated with dementia related care are on the rise (Alzheimer's Association National Plan Care and Support Milestone Workgroup et al., 2016; National Center for Health Statistics, 2019).

SNFADM1 described how the SNF building design itself tends to follow a medical model and is focused on meeting the needs of the nursing staff versus meeting the needs of the clients with an NCD. For example, the typical SNF building design, was referred to as a "starburst", is made so that the nurse can see down the hall. This helps nursing staff have a greater view of the facility and could help in times of staffing shortages. However, this design refutes the recommended "home-like" design supported in the literature (Calkin, 2018; Chaudhury et al., 2018).

Additionally, state building regulations were noted to limit the ability for newer facilities with an updated design to be built. SNFADM1 indicated that newer SNFs are often retrofitted into older buildings resulting in limitations to the design. Many respondents indicated that the design of the SNF is created for clients to share a share a

room with two to three other people. This was reported as causing increased difficulty for the client with a NCD to complete self-care skills. Thus, continuing to have the design that is focused on the staffing needs, limited resources and shaped by policies may be a contributing factor to environmental press and a decreased quality of life.

Time Use

The use of time is a subdomain of the LELQ model. This subdomain is under the quality of life domain and focuses on occupational engagement (Wood et al., 2017). To create an occupational enlivening environment, time use needs to be meaningful, allow the individual to function and incorporate an aspect of personhood (Wood et al., 2017). The temporality of the SNF facility was reported as both promoting meaningful time use and discouraging meaningful time use when scheduling did not meet the interest of the client or took away from the autonomy in decision making. The OTPs reported using the activity professionals' schedule to help orient clients and increase participation in leisure activities. However, OTP6 also reported that clients have to follow the facility schedule in relation to self-care routines (bathing, meal time, dressing) and this limits the choice of when the client wants to engage in the occupation.

Additionally, a client's fall risk influenced the ability of the client to engage in activities at the facility. If the client was a fall risk, they might be placed closer to the nurse's station so that they are in direct line of sight with the nursing staff. This is reported as a barrier and often limits the client from moving freely in the facility. This aligns with the LELQ model as limiting meaningful time use by restricting movement and general mobility (Wood et al., 2017).

Although it was not mentioned by the OTPs or SNFADMs interviewed, the facility schedule may not account for cultural differences of when and how time is spent of the clients living in the facility. This may negatively impact quality of life and contribute to an environmental press that fosters an occupational deadening environment. The research reviewed in Chapter 2 also indicated that time spent in a SNF facility should PCC should incorporate cultural considerations and foster personal choice (Bosco et al., 2019; Du Toit & Buchanan, 2018; Smith et al., 2018).

Staffing Considerations

Staffing shortages for both activity professionals and nursing were also connected to the client's ability to spend time participating in self-care or leisure activities. Both the OTPs and SNFADMs indicated that staffing shortages were a barrier to participation. For example, if there are not activity professionals available, then the activities scheduled for the day will not occur. Likewise, if there are shortages within nursing (e.g., certified nursing assistants), then there are not staff to help clients get up out of bed, get dressed, attend meals, complete toileting or engage in bathing. Staffing and caregiver demands related to ADL assistance is agreed with in the literature of Chapter 2 (Harris-Kojetin et al., 2019; Jutkowitz et al., 2017).

NCD and Self-Care

Staffing considerations also included in this theme related to the staff members ability to understand how the NCD impacted the client's ability to engage in leisure and ADL related activities. This was identified as a primary barrier. OTP respondents described using their knowledge of the NCD to understand and guide their treatment

approach with the client. OTP6 reported using a “check list” of items that would trigger BPSD related behaviors with clients and SNFADM4 reported observing OTPs use a variety of intervention techniques to help clients with NCD address BPSD and engage in ADLS.

OTP respondents described using their knowledge of the NCD to address self-care and leisure related activities. Specifically, OTP3 indicated that a staff members ability to understand how the NCD impacts the individual’s ability to perform self-care and leisure related activities “relies on how knowledgeable the staff working with clients about cognitive disabilities.” Specific occupations that were discussed in the literature reviewed in Chapter 2 were connected to providing PCC and that were discussed by the OTP respondents were bathing and feeding (Du Toit et al., 2019; Prizer & Zimmerman, 2018).

Examples provided by OTP2, OTP3, OTP6, and OTP9 all shared a theme of adapting the self-care skill of bathing to meet the cognitive capacity of the client. Specifically, the “spa day” example provided by OTP6 illustrated how the OT adapted bathing for clients with advanced stages of dementia. This story illustrated how the OTP respondents used their knowledge of the NCD and changed the activity demands to help the client still engage in bathing in a respectful way and with dignity and agrees with the literature that occupation-based interventions that incorporate PCC and environmental modification are effective interventions for clients with NCD (Jensen & Padilla, 2017). The other examples shared include aspects of preserving dignity and autonomy related to bathing. These examples align with PCC and the LELQ framework of providing an

enlivening environmental press that fosters quality of life (Bosco et al., 2019; Smallfield, 2017; Wood et al., 2017).

Theme 3: Familiarity of the Environment

The familiarity of the environment theme focused primarily on physical aspects of the environment and the use of objects in the SNF environment. This theme had two subthemes: unfamiliar space and familiar space. A description of how the subthemes are supported by the literature and align with the LELQ is provided below.

Home-like

Under this theme, respondents discussed how many aspects of the SNF built environment are unfamiliar or new to an individual with a NCD. For example, many of the medical pieces of equipment (e.g., bedside commode, walkers, or hospital beds) are unfamiliar to the individual. Thus, many of these items, would not commonly be found in the clients home prior to being admitted to the SNF. OTP8 and OTP9 described attempting to make the environment more home-like to help individuals engage in self-care routines. SNFADM1 and SNFADM3 confirmed observing OTs rearranging rooms to help clients with a NCD. The unfamiliarity with the equipment made it more difficult for the client with the NCD to interact with the equipment in the environment and OTP2 indicated unfamiliar items can cause “agitation” and other types of BPSD to occur. This supports the research reviewed in Chapter 2 that creating a “home-like” environment has been found to promote engagement in self-care and quality of life by incorporating aspects of PCC (Bosco et al., 2019; Chaudhury et al., 2018; van Gennip et al., 2016).

SNFADM1 and SNFADM2 confirmed that the physical design of a SNF can be confusing for a client with a NCD. OTP3 reported working on pathfinding as an intervention for clients getting from their bedroom to other meaningful locations in the facility (e.g., dining room or activities room). Specific self-care skills routines that were frequently discussed as being impacted by the built environment are grooming, toileting, and bathing. Due to the design of where the shower is located from the client's bedroom, OTP2 reported that clients are often pushed down the hallway in a shower chair with a sheet over them prior to bathing. This was reported as decreasing dignity and a barrier to providing PCC and resulted in poor engagement in bathing from the individual. OTP respondents indicated that to address this they would use strategies to make the shower environment more "home-like" by using familiar bathroom toiletries or rearranging the bathroom to be more familiar to the client. This supports the literature reviewed in Chapter 2 that showed that providing PCC by attempting to decrease external environmental stressors will help promote engagement in bathing (Fazio, Pace & Maslow, et al., 2018; Jensen & Padilla, 2017; Prizer & Zimmerman, 2018). Additionally, this aligns with the LELQ by decreasing physical environmental barriers that limit functioning by creating an stressful environment (Wood et al., 2017).

Familiar Objects

OTP respondents shared many stories of using familiar objects in the SNF to encourage time being used in a meaningful way and address BPSD types of behaviors. SNFADM1 reported that the unfamiliar design impacts time use "100%". This statement aligns with the LELQ by creating an environment that occupationally deadening through

the disengagement of purposeful activity (Wood et al., 2017). OTP2, OTP3 and OTP6 reported that familiar physical items built into the facility such as aquariums or aviaries helped clients engage in time in a purposeful way.

Additional stories shared of familiar objects that helped promote leisure participation such as playing basketball or shining shoes illustrated that that having those physical items in the environment promoted spontaneous engagement with the items. This then helps create and foster an occupational enlivening environment (Wood et al., 2017). Furthermore, familiar items were demonstrated to decrease BPSD behaviors. For example, OTP6's story of using a stop sign to limit wandering behavior of a gentleman entering other client's rooms and OTP2's story of placing a rocking chair in the activities room to help individuals who were agitated illustrated the OTPs use familiar object as a means of NPI to address BPSD behaviors. This is in agreement with the research reviewed that NPIs that include PCC and environmental based modifications can improve engagement in meaningful activities and decrease NPI (Anderiesen et al., 2014; Jensen & Padilla, 2017; Scales et al., 2018; Woodbridge et al., 2018).

Although the use of items that were culturally familiar to the client was not identified in the data collected for this study it was indicated that familiar items were often used that connected to the client's previous roles, habits or routines, such as in the postcard story shared by OTP6. Suggesting the OTP took into account the identity of the individual when facilitating use of the objects which is agrees with the literature as a means of providing PCC (Du Toit & Buchanan, 2018; Du Toit & McGrath, 2017).

Outdoor Environment

Many reports of the use of an outdoor space or nature related objects were provided in this theme. Nature related objects or outdoor space was indicated to have an inherent familiar aspect. The outdoor space itself was indicated to promote autonomy and quality of life by fostering the ability for the client to engage in leisure related occupations such as golf, bird watching, smoking or gardening. The ability to engage in gardening was reported by OTP5, OTP6, OT7P and OT12P, as an occupation that was purposeful for many clients with a NCD. OTP5 shared a story of bringing gardening items into a clients' room to help promote engagement in leisure and OTP6 indicated that creating a gardening program was her "favorite program". This aligns with the LELQ by providing an opportunity for time spent in a meaningful occupation (Wood et al., 2017). Additionally it illustrates how PCC can be incorporated into a leisure related activity (Bosco et al., 2019; Mitchell & Van Puymbroeck, 2019).

LELQ and Findings

The LELQ model was used as a conceptual framework for this study. The findings of this study align with this framework. This study demonstrated how OTs use their knowledge of how NCDs impact occupational performance. Additionally, this study demonstrated how OTs grade activities to match the retained cognitive capacities of individual with a NCD and use the adapt the physical environment to help the client engage in self-care and leisure related activities. These adaptations resulted in increased time spent engaged in activities. Furthermore, adaptions made to the environment that met the cognitive capacity of the client agrees with the literature regarding adapting

environmental stressors and resulted in increased quality of life (Jensen & Padilla, 2017; Wood et al., 2017).

Limitations of the Study

This study is limited by the generalizability of using a case study design focused on the built environment of SNF in the United States. The term SNF was defined to include institutionalized facilities such as long-term care related or memory care facilities. This is a limitation as, the study focused primarily on those environments in which individuals with a NCD may be treated by an OT and cannot be generalized to other clinical settings such as home health care, adult day health care facility or an outpatient-based type of facility in the United States (see Creswell, 2007; Patton, 2019).

This study is also limited by the sampling technique of purposeful sampling, the sample size and lack of triangulation from multiple data points. The sample size from both the OTPs and SNFADMs was small and may limit the ability to generalize it to a wider population. The OTPs interviewed for this study were all OTs with a history of working with the NCD population in a SNF setting. Therefore, this study cannot be generalized to OTs working with clients with other types of cognitive impairments or in other therapy settings. Additionally, this study is limited in that triangulation from multiple data points was not obtained. This study interviewed 12 OTPs and four SNFADMs to confirm the data collected. However, other data points were not reviewed and other disciplines that work in a SNF or caregivers of individuals with a NCD were not interviewed.

Recommendations

The recommendations gained from this study are pulled from the findings of this study and are aimed at adapting the environmental stressors of a SNF and improving the quality of life for those individuals living with a NCD in an institutionalized type of facility through NPIs and purposeful PCC. The recommendations are focused on caregiver training, environmental modifications, and collaboration with family and caregivers.

Caregiver Training

First, it is recommended that the caregiving microsystem be changed from a pessimistic view to an optimistic view of what the individual with a NCD can do versus what they cannot do. It is recommended that those who work with clients a NCD have an understanding of the NCD and how it impacts a person's ability to function and engage in self-care and leisure related skills in the SNF environment. This area was reported being a barrier to care for individuals with a NCD by multiple OTP respondents.

It is recommended that trainings focus on helping caregivers who work in SNFs to gain a better understanding of NCDs and how they impact cognitive capacities. This recommendation aligns with the LELQ model in that of the caregiving microsystem and encourages PCC by promoting the preservation of dignity and autonomy (Bosco et al., 2019; Fazio, Pace & Maslow et al., 2018; Wood et al., 2017). Trainings are recommended to be focused on shifting the caregiving culture to an optimistic view of what the client can do. By gaining a better understanding of what they client can do,

those in a caregiving role can create a culture of promoting engagement in self-care and leisure activities.

It is recommended that OTs and nursing professionals collaborate regarding self-care capabilities. Specifically, bathing, toileting and eating. By actively collaborating with nursing, the OT can help identify the retained cognitive capacities of the client, share the best strategies to promote engagement and provide environmental recommendations for helping the client engage in those related tasks. These specific ADLs are supported in the literature to be associated with fostering quality of life, increased autonomy and preserved dignity (van Gennip et al., 2016; Woodbridge et al., 2018).

Occupational History

Next, it recommended that an occupational history is obtained on any client with a NCD being admitted to a SNF environment. Occupational history gathering can be done in collaboration with the client, their family and any previous caregivers of the client. Information that is gathered should focus on past roles to help identify important life experiences and previous self-care routines that the individual engaged in. Specifically, bathroom routines to include grooming, toileting and bathing routines and routines related to mealtimes. This was supported by OTP respondents reporting that they would use this knowledge to help the client engage in these routines in the facility. This is also supported in the research as a means of providing PCC to support ADLs and IADLs (Du Toit & Buchanan, 2018; Du Toit & McGrath, 2017).

AOTA has a document that is used by OTs as a means of gathering an occupational history from clients (AOTA, 2020). However, this form is general in nature and is not created specifically for clients with a NCD living in an institutionalized type of facility. Therefore, it is recommended that OTs use this form as a general template to gather an occupational history for the client and share this information with the rest of the team working with the client in the facility. This can help collaboration and carry over of information with all members of the caregiving team and aligns with the recommended best practices for providing PCC to individuals with a NCD (Bosco et al., 2019).

Built-Environment Changes

Recommendations from this study related to the built environment are focused on increasing familiar aspects of the environment to help the client with a NCD function in that environment. It is recommended that the caregiving team of the client with a NCD make their room as home-like as possible. This is agreed with in the literature and referenced by many of the OTP respondents as a way of decreasing BPSD related behaviors and increasing function in self-care and leisure related activities (Bosco et al., 2019; Chaudhury et al., 2018; van Gennip et al., 2016). Recommendations for adapting the SNF environment to a home-like environment for the client include having the family bring in familiar objects associated with self-care routines such as common toiletries, blankets or pillowcases such as reported by OTP2. Items that are meaningful in nature to the client and can be held or easily transported, such as a post card as described by OTP6 or other forms of memorabilia that connects to a client's past roles (pictures, cards, trophies, medals, etc.) are also recommended. In addition to bringing in familiar items,

creating the space to be familiar as possible (e.g., moving the bed against the wall) is recommended to help the client increase engagement in the environment. This is agreed with in the literature reviewed to help preserve dignity and promote PCC by connecting to personal identity (Chaudhury et al., 2018; van Gennip et al., 2016).

Next, it is recommended for that the overall physical environment in the SNF is more home-like versus institutional like. Specific recommendations related to this include a review of facility policies to make adaptions to the physical environment that result in a more "home-like" environment versus an institutionalized environmental setting. For example, the policies related to the overall design should be more focused on how to adapt the built environment to support a client with a NCD. Physical environment changes that are recommend as a result of policy changes include decreasing the shine on the floor, using neutral paint colors or painting murals of familiar home-like objects. These examples were provided in the study and were reported to help the clients engaged in self-care related tasks. Other familiar aspects of the environment are recommended and may result in a policy review include having an aquarium, aviaries or creating a physical location where clients can spend time watching birds or a connecting to nature.

It is also recommended to use familiar objects to address BPSD, encourage time spent engaged in meaningful leisure related activities and foster spontaneity in a SNF environment. The examples of using a stop sign to mitigate an undesirable BPSD or a rocking chair to address sensory needs illustrated how familiar objects can be used as a form of NPIs to address BPSD. The other examples such as having a shoe shine station or a basketball hoop illustrate how placing the familiar objects in the environment helps

foster leisure participation via NPI related interventions and is supported in the literature as being the desired approach to addressing BPSD related behaviors (Inventor et al., 2018; Scales et al., 2018). Therefore, it is recommended that caregivers in the SNF collaborate together to determine how they could use familiar items in their facility as a means of providing NPIs to address BPSD and promote leisure participation.

Additionally, it is recommended that the SNF environment provides access to gardening is some format. Gardening was mentioned by multiple OTPs a means of fostering leisure participation. It is recommended that OTs collaborate with SNF administrators and activities professionals to determine implementing gardening related programs. Creating gardening programs in which clients can participate and share what they grow with others in the facility can be a means of creating a culture of an optimistic caregiving environment.

Implications for Social Change

This study has implications for social change by contributing to the understanding of how the physical environment in a SNF impacts the ability for an individual with a NCD to engage in self-care and leisure related skills. This may lead to a greater understanding of how the physical environment and objects in the environment may be used to help create an occupational enlivening environment in which autonomy and dignity may be preserved for the client with a NCD. Thus, findings from this study contribute to the LELQ framework and can minimally provide a greater understanding of how OTs may implement this framework when working with this client population in a SNF to address BPSD via NPIs. Furthermore, this can lead to a greater implementation of

PCC practices being implemented into SNFs and improved quality of life for individuals with a NCD in a SNF.

Further social change implications may minimally contribute to SNF caregivers gaining a better understanding of how to help individuals with a NCD use their retained cognitive capacities to engage in self-care and leisure related activities. This may lead to promoting a caregiving culture that is an optimistic caregiving support system. In this caregiving support system, the focus becomes what the individual with a NCD can do versus what they cannot do. This may lead to increased quality of life opportunities being provided in the SNF environment and could foster social change by providing a better understanding of how OTs in the SNF setting use the environment to address self-care and leisure related skills for individuals with a NCD in a SNF.

Conclusion

This study aimed to gain a better understanding of how OTs use the physical environment in a SNF to help individuals with a NCD engage in self-care and leisure related activities. Furthermore, this study aimed to gain a better understanding of what OTs perceive are the barriers or facilitators of the physical environment for individuals with a NCD engaging in these activities in a SNF setting. The findings in this study identified three themes. These themes are: (a) the complexities of collaboration; (b) pragmatic aspects of care; (c) familiarities of the environment. The themes were aligned within the context of the conceptual framework of the LELQ.

The findings of this study may minimally contribute to filling the gap in the research related to how OTs use the environment to help clients with a NCD engage in

self-care and leisure related activities. Positive social change opportunities related to this study include providing a better understanding of how individuals with a NCD can use retained cognitive capacities to maintain engagement in self-care and leisure activities in a SNF environment. Additionally, this study may provide an increased educational opportunity for individuals caregiving for clients with a NCD in a SNF and increased opportunities for collaboration amongst caregivers to provide NPIs to treat BPSD symptoms and implement PCC.

References

Ahessy, B. (2017). Song writing with clients who have dementia: A case study. *The Arts in Psychotherapy*, *55*, 23–31. https://doi.org/10.1016/j.aip.2017.03.002

Allen, C. K. (1985). *Occupational therapy for psychiatric diseases: Measurement and management of cognitive disabilities.* Little, Brown.

Alzheimer's Association. (2021). 2021 Alzheimer's disease facts and figures. *Alzheimer's and Dementia*, *17*(3), 327–406. https://doi.org/10.1002/alz.12328

Alzheimer's Association National Plan Care and Support Milestone Workgroup, Borson, S., Boustani, M. A., Buckwalter, K. C., Burgio, L. D., Chodosh, J., Fortinsky, R. H., Gifford, D. R., Gwyther, L. P., Koren, M. J., Lynn, J., Phillips, C., Roherty, M., Ronch, J., Stahl, C., Rodgers, L., Kim, H., Baumgart, M., & Geiger, A. (2016). Report on milestones for care and support under the U.S. national plan to address Alzheimer's disease. *Alzheimer's & Dementia*, *12*(3), 334–369. https://doi.org/10.1016/j.jalz.2016.01.005

American Occupational Therapy Association. (2019). Cognition, cognitive rehabilitation, and occupational performance. *American Journal of Occupational Therapy*, *73*(Suppl. 2), 7312410010p1-7312410010p25. https://doi.org/10.5014/ajot.2019.73S201

American Occupational Therapy Association. (2020a). Occupational therapy practice framework: Domain and process—fourth edition. *American Journal of Occupational Therapy*, *74*(Suppl. 2), 7412410010p1-7412410010p87. https://doi.org/10.5014/ajot.2020.74S2001

American Occupational Therapy Association. (2020b). *2019 workforce & salary survey*. https://library.aota.org/AOTA-Workforce-Salary-Survey-2019/1

Anderiesen, H., Scherder, E. J. A., Goossens, R. H. M., & Sonneveld, M. H. (2014a). A systematic review – physical activity in dementia: The influence of the nursing home environment. *Applied Ergonomics*, *45*(6), 1678–1686. https://doi.org/10.1016/j.apergo.2014.05.011

Anney, V. N. (2014). Ensuring the quality of the findings of qualitative research: Looking at trustworthiness criteria. *Journal of Emerging Trends in Educational Research and Policy Studies*, *5*(2), 272-281.

Atchison, B. J., & Dirette, D. P. (2017). *Conditions in occupational therapy: Effect on occupational performance* (5th ed.). Wolters Kluwer.

Blair, J., & Sweeney, D. L. E. (2018). Visual deficits in Alzheimer's disease and dementia. *D Em Entia*, 69–73.

Bortnick, K. N. (2017). An ecological framework to support small-scale shared housing for persons with neurocognitive disorders of the Alzheimer's and related types: A literature review. *Hong Kong Journal of Occupational Therapy*, *29*, 26–38. https://doi.org/10.1016/j.hkjot.2017.03.001

Bosco, A., Schneider, J., Coleston-Shields, D. M., & Orrell, M. (2019). Dementia care model: Promoting personhood through co-production. *Archives of Gerontology and Geriatrics*, *81*, 59–73. https://doi.org/10.1016/j.archger.2018.11.003

Boublay, N., Fédérico, D., Pesce, A., Verny, M., Blanc, F., Paccalin, M., Desmidt, T., Grosmaître, P., Moreaud, O., Relland, S., Bravant, E., Bouet, R., & Krolak-

Salmon, P. (2018). Study protocol on Alzheimer's disease and related disorders: Focus on clinical and imaging predictive markers in co-existing lesions. *BMC Geriatrics*, *18*. https://doi.org /10.1186/s12877-018-0949-2

Bowen, M. E., & Rowe, M. (2019). Wandering behaviors and activities of daily living among older adults with cognitive impairment: *Rehabilitation Nursing*, *44*(5), 282–289. https://doi.org/10.1097/rnj.0000000000000148

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.

Calkins, M. P. (2018). From research to application: Supportive and therapeutic environments for people living with dementia. *The Gerontologist*, *58*(Suppl. 1), S114–S128. https://doi:10.1093/geront/gnx146

Cara, E., & MacRae, A. (2005). *Psychosocial occupational therapy: A clinical practice* (2nd ed.). Delmar, Cengage Learning.

Cerquera-Jaramillo, M. A., Nava-Mesa, M. O., González-Reyes, R. E., Tellez-Conti, C., & de-la-Torre, A. (2018). Visual features in Alzheimer's disease: From basic mechanisms to clinical overview. *Neural Plasticity*, *2018*, 1–21. https://doi.org/10.1155/2018/2941783

Cerquera-Jaramillo, M. A., Nava-Mesa, M. O., González-Reyes, R. E., Tellez-Conti, C., & de-la-Torre, A. (2018). Visual features in Alzheimer's disease: From basic mechanisms to clinical overview. *Neural Plasticity*, *2018*, 1–21. https://doi.org/10.1155/2018/2941783

Chaudhury, H., Cooke, H. A., Cowie, H., & Razaghi, L. (2018). The influence of the physical environment on residents with dementia in long-term care settings: A review of the empirical literature. *The Gerontologist*, *58*(5), e325–e337. https://doi.org/10.1093/geront/gnw259

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). SAGE Publications.

Creswell, J. W., & Creswell, J. (2018). *Research design: Qualitative, quantitative, and mixed methods* (5th ed.). SAGE Publications.

Curtin, M., & Fossey, E. (2007). Appraising the trustworthiness of qualitative studies: Guidelines for occupational therapists. *Australian Occupational Therapy Journal*, *54*(2), 88–94. https://doi.org/10.1111/j.1440-1630.2007.00661.x

Davison, T. E., Camões-Costa, V., & Clark, A. (2019). Adjusting to life in a residential aged care facility: Perspectives of people with dementia, family members and facility care staff. *Journal of Clinical Nursing*, *28*(21–22), 3901–3913. https://doi.org/10.1111/jocn.14978

Dawson, D. R., McEwen, S. E., & Polatajko, H. J. (2017). *Cognitive orientation to daily occupational performance in occupational therapy: Using the co–op approach® to enable participation across the lifespan.* AOTA Press.

Dirette, D. P., & Gutman, S. A. (2021). *Occupational therapy for physical dysfunction* (8th ed.). Philadelphia: Wolters Kluwer.

Du Toit, S. H., & Buchanan, H. (2018). Embracing cultural diversity: Meaningful engagement for older adults with advanced dementia in a residential care setting.

American Journal of Occupational Therapy, *72*(6), 7206205090p1-7206205090p8. https://doi.org/10.5014/ajot.2018.027292

Du Toit, S. H. J., Shen, X., & McGrath, M. (2019). Meaningful engagement and person-centered residential dementia care: A critical interpretive synthesis. *Scandinavian Journal of Occupational Therapy*, *26*(5), 343–355. https://doi.org/10.1080/11038128.2018.1441323

Du Toit, S. H., & McGrath, M. (2017). A sense of belonging-how connectedness motivates engagement in meaningful activities for people with dementia. *Australian Occupational Therapy Journal*, *64*(2), 198–199. https://doi.org/10.1111/1440-1630.12383

Edwards, D. F., Wolf, T. J., Marks, T., Alter, S., Larkin, V., Padesky, B. L., Spiers, M., Al-Heizan, M. O., & Giles, G. M. (2019). Reliability and validity of a functional cognition screening tool to identify the need for occupational therapy. *American Journal of Occupational Therapy*, *73*(2), 7302205050p1. https://doi.org/10.5014/ajot.2019.028753

Farlow, M. R., Borson, S., Connor, S. R., Grossberg, G. T., & Mittelman, M. S. (2016). Quality improvement in skilled nursing facilities for residents with Alzheimer's disease. *American Journal of Alzheimer's Disease & Other Dementias*, *31*(2), 156–162. https://doi.org/10.1177/1533317515603501

Fazio, S., Pace, D., Flinner, J., & Kallmyer, B. (2018). The fundamentals of person-centered care for individuals with dementia. *The Gerontologist*, *58*(Suppl. 1), S10–S19. https://doi.org/10.1093/geront/gnx122

Fazio, S., Pace, D., Maslow, K., Zimmerman, S., & Kallmyer, B. (2018). Alzheimer's association dementia care practice recommendations. *Gerontologist, 58* (Suppl. 1), S1–S9. https://doi:10.1093/geront/gnx182

Fieo, R., Zahodne, L., Tang, M. X., Manly, J. J., Cohen, R., & Stern, Y. (2018). The historical progression from ADL scrutiny to IADL to advanced ADL: Assessing functional status in the earliest stages of dementia. *The Journals of Gerontology: Series A*, *73*(12), 1695–1700. https://doi.org/10.1016/j.jalz.2016.01.005

Fleming, R., & Bennett, K. (2015). Assessing the quality of environmental design of nursing homes for people with dementia: Development of a new tool: the environmental audit tool-high care. *Australasian Journal on Ageing*, *34*(3), 191–194. https://doi.org/10.1016/j.jalz.2016.01.005

Fleming, R., Goodenough, B., Low, L.-F., Chenoweth, L., & Brodaty, H. (2016). The relationship between the quality of the built environment and the quality of life of people with dementia in residential care. *Dementia*, *15*(4), 663–680. https://doi.org/10.1177/1471301214532460

Giles, G. M. (2018). Neurocognitive rehabilitation: Skills or strategies? *American Journal of Occupational Therapy*, *72*(6), 7206150010p1-7206150010p16. https://doi.org/10.5014/ajot.2018.726001

Giles, G. M., & Clark-Wilson, J. (1993). *Brain injury rehabilitation: A neurofunctional approach.* Singular.

Giles, G. M., Edwards, D. F., Baum, C., Furniss, J., Skidmore, E., Wolf, T., & Leland, N. E. (2020). Making functional cognition a professional priority. *American Journal*

of Occupational Therapy, *74*(1), 7401090010p1-7401090010p6. https://doi.org/10.5014/ajot.2020.741002

Gilster, S. D., Boltz, M., & Dalessandro, J. L. (2018). Long-term care workforce issues: Practice principles for quality dementia care. *The Gerontologist*, *58*(Suppl. 1), S103–S113. https://doi:10.1093/geront/gnx174

Gitlin, L. N., Arthur, P., Piersol, C., Hessels, V., Wu, S. S., Dai, Y., & Mann, W. C. (2018). Targeting behavioral symptoms and functional decline in dementia: A randomized clinical trial. *Journal of the American Geriatrics Society*, *66*(2), 339–345. https://doi.org/10.1111/jgs.15194

Gitlin, L. N., Winter, L., Dennis, M. P., Hodgson, N., & Hauck, W. W. (2010). Targeting and managing behavioral symptoms in individuals with dementia: A randomized trial of a nonpharmacological intervention: Reducing target behavior and caregiver upset. *Journal of the American Geriatrics Society*, *58*(8), 1465–1474. https://doi.org/10.1111/j.1532-5415.2010.02971.x

Glanz, K., Rimer, B. K., & Viswanth, K. (2015). *Health behavior: Theory, research, and practice.* (5th ed.). Jossey-Bass.

Goble, R. E. A. (1969). The role of the occupational therapist in disabled living research. *American Journal of Occupational therapy*, *23*, 145–152.

Gitlin, L. N., Winter, L., Dennis, M. P., Hodgson, N., & Hauck, W. W. (2010). Targeting and managing behavioral symptoms in individuals with dementia: A randomized trial of a nonpharmacological intervention: Reducing target behavior and

caregiver upset. *Journal of the American Geriatrics Society*, *58*(8), 1465–1474 https://doi.org/10.1111/j.1532-5415.2010.02971.x

Goris, E. D., Ansel, K. N., & Schutte, D. L. (2016). Quantitative systematic review of the effects of non-pharmacological interventions on reducing apathy in persons with dementia. *Journal of Advanced Nursing*, *72*(11), 2612–2628. https://doi.org/10.1111/jan.13026

Gutman, S. A. (1995). Influence of the u.s. Military and occupational therapy reconstruction aides in world war I on the development of occupational therapy. *American Journal of Occupational Therapy*, *49*(3), 256–262. https://doi.org/10.5014/ajot.49.3.256

Gutman, S. A. (1997). Occupational therapy's link to vocational reeducation, 1910-1925. *American Journal of Occupational Therapy*, *51*(10), 907–915. https://doi.org/10.5014/ajot.51.10.907

Hadi, M. A., & Closs, S. J. (2016). Ensuring rigour and trustworthiness of qualitative research in clinical pharmacy. *International Journal of Clinical Pharmacy*, *38*(3), 641–646. https://doi:10.1007/s11096-015-0237

Harris-Kojetin, L. D., Sengupta, M., Lendon, J.P., Rome, V., Valverde, R., Caffrey, C., & National Center for Health Statistics (U.S). (2019). Long-term care providers and services users in the United States, 2015–2016. *Vital Health Statistics 3*(43), 2019-1427. *3*(43). https://stacks.cdc.gov/view/cdc/76253

Handley, M., Bunn, F., & Goodman, C. (2015). Interventions that support the creation of dementia friendly environments in health care: Protocol for a realist review. *Systematic Reviews*, *4*(1), 180. https://doi.org/10.1186/s13643-015-0168-2

Handley, M., Bunn, F., & Goodman, C. (2015). Interventions that support the creation of dementia friendly environments in health care: Protocol for a realist review. *Systematic Reviews*, *4*(1), 180. https://doi.org/10.1186/s13643-015-0168-2

Hsieh, C.-L., Nelson, D. L., Smith, D. A., & Peterson, C. Q. (1996). A comparison of performance in added-purpose occupations and rote exercise for dynamic standing balance in persons with hemiplegia. *American Journal of Occupational Therapy*, *50*(1), 10–16. https://doi.org/10.5014/ajot.50.1.10

Inventor, B. R., Farran, C. J., Paun, O., Cothran, F., Rajan, K., Swantek, S. S., & McCann, J. J. (2018). Longitudinal effects of activities, social environment, and psychotropic medication use on behavioral symptoms of individuals with Alzheimer's disease in nursing homes. *Journal of Psychosocial Nursing and Mental Health Services*, *56*(11), 18–26. https://doi.org/10.3928/02793695-20180503-04

Jao, Y.-L., Liu, W., Williams, K., Chaudhury, H., & Parajuli, J. (2019a). Association between environmental stimulation and apathy in nursing home residents with dementia. *International Psychogeriatrics*, *31*(08), 1109–1120. https://doi.org/10.1017/S1041610219000589

Jensen, L., & Padilla, R. (2017). Effectiveness of environment-based interventions that address behavior, perception, and falls in people with Alzheimer's disease and

related major neurocognitive disorders: A systematic review. *American Journal of Occupational Therapy*, *71*(5), 7105180030p1. https://doi.org/10.5014/ajot.2017.027409

Jutkowitz, E., Gaugler, J. E., Trivedi, A. N., Mitchell, L. L., & Gozalo, P. (2020a). Family caregiving in the community up to 8-years after onset of dementia. *BMC Geriatrics*, *20*(1), 216. https://doi.org/10.1186/s12877-020-01613-9

Jutkowitz, E., Gozalo, P., Trivedi, A., Mitchell, L., & Gaugler, J. E. (2020b). The effect of physical and cognitive impairments on caregiving. *Medical Care*, *58*(7), 601–609. https://doi.org/10.1097/MLR.0000000000001323

Jutkowitz, E., Kane, R. L., Gaugler, J. E., MacLehose, R. F., Dowd, B., & Kuntz, K. M. (2017). Societal and family lifetime cost of dementia: Implications for policy. *Journal of the American Geriatrics Society*, *65*(10), 2169–2175. https://doi.org/10.1111/jgs.15043

Kenigsberg, P.-A., Aquino, J.-P., Bérard, A., Gzil, F., Andrieu, S., Banerjee, S., Brémond, F., Buée, L., Cohen-Mansfield, J., Mangialasche, F., Platel, H., Salmon, E., & Robert, P. (2016a). Dementia beyond 2025: Knowledge and uncertainties. *Dementia*, *15*(1), 6–21. https://doi.org/10.1177/1471301215574785

Kielhofner, G. (1995). *Model of human occupation: Theory and application* (2nd ed.). Williams & Wilkins.

Kielhofner, G. (2008). *Model of human occupation: Theory and application* (4th ed.). Lippincott Williams & Wilkins: Wolters Kluwer.

Kitwood, T. M. (1997). *Dementia Reconsidered: The person comes first*. Open University Press.

Koo, S. G., Kim, M. J., Woo, Y. S., Shin, G. I., Park, H. Y., & Park, J. H. (2018). Nonpharmacological interventions for activities of daily living in patients with dementia: A systematic review. *American Journal of Occupational Therapy*, *72*(Supp. 1), 7211505096p1-7211505096p1. https://doi.org/10.5014/ajot.2018.72S1-PO3011

Laver, K., Cumming, R., Dyer, S., Agar, M., Anstey, K. J., Beattie, E., Brodaty, H., Broe, T., Clemson, L., Crotty, M., Dietz, M., Draper, B., Flicker, L., Friel, M., Heuzenroeder, L., Koch, S., Kurrle, S., Nay, R., Pond, D., … Yates, M. (2017). Evidence-based occupational therapy for people with dementia and their families: What clinical practice guidelines tell us and implications for practice. *Australian Occupational Therapy Journal*, *64*(1), 3–10. https://doi.org/10.1111/1440-1630.12309

Law, M. (1991). The environment: A focus for occupational therapy. *Canadian Journal of Occupational Therapy*, *58*(4), 171–179. https://doi.org/10.1177/000841749105800404

Law, M. (1993). Evaluating activities of daily living: Directions for the future. *American Journal of Occupational Therapy*, *47*(3), 233–237. https://doi.org/10.5014/ajot.47.3.233

Law, M. (2002). Participation in the occupations of everyday life. *American Journal of Occupational Therapy*, *56*(6), 640–649. https://doi.org/10.5014/ajot.56.6.640

Law, M., Cooper, B., Strong, S., Stewart, D., Rigby, P., & Letts, L. (1996). The person-environment-occupation model: A transactive approach to occupational performance. *Canadian Journal of Occupational Therapy*, *63*(1), 9–23. https://doi.org/10.1177/000841749606300103

Lawton, M. P. (1983). Environment and other determinants of well- being in older people. *The Gerontologist,* 23(4*),* 349- 357. https://doi.org/10.1093/geront/23.4.349

Lawton, M. P. (1986). *Environment and aging*. (2nd ed.). Albany, NY. Center for the Study of Aging.

Lawton, M. P., & Nahemow, L. E. (1973). Ecology and the aging process. In C. Eisdorfer & M.P. Lawton (Eds.), *The psychology of adult development and aging* (pp. 619–674). American Psychological Association.

Lea, E. J., Goldberg, L. R., Price, A. D., Tierney, L. T., & McInerney, F. J. (2019). Best intentions or best practice? A case study of the nutritional needs and outcomes of a person with dementia living in a residential aged care home. *International Journal of Nursing Practice*, *25*(1), e12692. https://doi.org/10.1111/ijn.12692

Lee, S. W., Taylor, R., Kielhofner, G., & Fisher, G. (2008). Theory use in practice: A national survey of therapists who use the model of human occupation. *American Journal of Occupational Therapy*, *62*(1), 106–117. https://doi.org/10.5014/ajot.62.1.106

Low, J. F. (1992). The reconstruction aides. *American Journal of Occupational Therapy*, *46*(1), 38–43. https://doi.org/10.5014/ajot.46.1.38

Mahoney, W. J., Peters, C. O., & Martin, P. M. (2017). Willard and Spackman's enduring legacy for future occupational therapy pathways. *American Journal of Occupational Therapy*, *71*(1), 7101100020p1. https://doi.org/10.5014/ajot.2017.023994

Marks, T., Everson, V., Leighton, M., Manor, S., Palomer, L., Rivas, G., Al-Heizan, M., Giles, G., & Edwards, D. F. (2019). Screening for functional cognition using a simple performance-based test of cognition and medication management. *American Journal of Occupational Therapy*, *73*(Supp. 1), 7311515264p1. https://doi.org/10.5014/ajot.2019.73S1-PO4060

Marshall, A., Myers, C., & Pierce, D. (2017). A century of therapeutic use of the physical environment. *American Journal of Occupational Therapy*, *71*(1), 7101100030p1. https://doi.org/10.5014/ajot.2017.023960

Maust, D. T., Kim, H. M., Seyfried, L. S., Chiang, C., Kavanagh, J., Schneider, L. S., & Kales, H. C. (2015). Antipsychotics, other psychotropics, and the risk of death in patients with dementia: Number needed to harm. *JAMA Psychiatry*, *72*(5), 438. https://doi.org/10.1001/jamapsychiatry.2014.3018

McCleery, J., Flicker, L., Richard, E., & Quinn, T. J. (2019). When is Alzheimer's not dementia — Cochrane commentary on the national institute on ageing and Alzheimer's association research framework for Alzheimer's disease. *Age and Ageing*, *48*(2), 174–177. https://doi.org/10.1093/ageing/afy167

McLaren, J., Shin, M., & Moo, L. (2020). Poor insight and forward thinking in early dementia: Implications for ot practice. *American Journal of Occupational*

Therapy, *74*(Supp. 1), 7411510287p1-7411510287p1. https://doi.org/10.5014/ajot.2020.74S1-PO4611

Mitchell, K., & Van Puymbroeck, M. (2019). Recreational therapy for dementia-related symptoms in a long-term care setting: A case study. *Therapeutic Recreation Journal*, *53*(2), 165–174. https://doi.org/10.18666/TRJ-2019-V53-I2-8907

Mondaca, M., Josephsson, S., Katz, A., & Rosenberg, L. (2017). Influencing everyday activities in a nursing home setting: A call for ethical and responsive engagement. *Nursing Inquiry*, *25*(2), e12217. https://doi.org/10.1111/nin.12217

Nickel, F., Barth, J., & Kolominsky-Rabas, P. L. (2018). Health economic evaluations of non-pharmacological interventions for persons with dementia and their informal caregivers: A systematic review. *BMC Geriatrics*, *18*(1), 69. https://doi.org/10.1186/s12877-018-0751-1

Nordin, S., McKee, K., Wijk, H., & Elf, M. (2017). The association between the physical environment and the well-being of older people in residential care facilities: A multilevel analysis. *Journal of Advanced Nursing*, *73*(12), 2942–2952. https://doi.org/10.1111/jan.13358

O'Rourke, P., & Caramanica, L. (2020). Addressing workforce needs in skilled nursing facilities. *Nurse Leader*, *18*(2), 122–125. https://doi.org/10.1016/j.mnl.2019.12.007

Padilla, R. (2011). Effectiveness of interventions designed to modify the activity demands of the occupations of self-care and leisure for people with Alzheimer's

disease and related dementias. *American Journal of Occupational Therapy*, *65*(5), 523–531. https://doi.org/10.5014/ajot.2011.002618

Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). SAGE Publications, Inc.

Pettigrew, J., Robinson, K., & Moloney, S. (2017). The bluebirds: World war I soldiers' experiences of occupational therapy. *American Journal of Occupational Therapy*, *71*(1), 7101100010p1. https://doi.org/10.5014/ajot.2017.023812

Pimouguet, C., Le Goff, M., Wittwer, J., Dartigues, J.-F., & Helmer, C. (2017). Benefits of occupational therapy in dementia patients: Findings from a real-world observational study. *Journal of Alzheimer's Disease*, *56*(2), 509–517. https://doi.org/10.1016/j.jalz.2016.01.005

Porter, R., Berry, J., Cude, K., Anderson, S., & Britt, S. (2018). Twenty five years of cognitive care education research: Time for a revolutionary change. *Educational Gerontology*, *44*(2–3), 82–89. https://doi.org/10.1080/03601277.2017.1402418

Prizer, L. P., & Zimmerman, S. (2018). Progressive support for activities of daily living for persons living with dementia. *The Gerontologist*, *58*(suppl_1), S74–S87. https://doi.org/10.1093/geront/gnx103

Radomski, M.V. & Giles, G.M. (2021). Cognitive intervention. In Dirette D.P. & Gutman, S. (Ed.) Occupational therapy for physical dysfunction (8th ed., 161 - 175). Wolters Kluwer.

Rafeedie, S., Metzler, C., & Lamb, A. J. (2018). Opportunities for occupational therapy to serve as a catalyst for culture change in nursing facilities. *American Journal of*

Occupational Therapy, *72*(4), 7204090010p1. https://doi.org/10.5014/ajot.2018.724003

Raj, S. E., Mackintosh, S., Fryer, C., & Stanley, M. (2021). Home-based occupational therapy for adults with dementia and their informal caregivers: A systematic review. *American Journal of Occupational Therapy*, *75*(1), 7501205060p1-7501205060p27. https://doi.org/10.5014/ajot.2020.040782

Rajan, K. B., Weuve, J., Barnes, L. L., Wilson, R. S., & Evans, D. A. (2019). Prevalence and incidence of clinically diagnosed Alzheimer's disease dementia from 1994 to 2012 in a population study. *Alzheimer's & Dementia*, *15*(1), 1–7. https://doi.org/10.1016/j.jalz.2018.07.216

Ravitch, S. M., & Carl, N. M. (2016). *Qualitative research: Bridging the conceptual, theoretical and methodological*. SAGE Publications, Inc.

Romero-Mas, M., Gómez-Zúñiga, B., Cox, A. M., & Ramon-Aribau, A. (2020). Designing virtual communities of practice for informal caregivers of Alzheimer's patients: An integrative review. *Health Informatics Journal*, *26*(4), 2976–2991. https://doi.org/10.1177/1460458220950883

Saldana, J. (2016). *The coding manual for qualitative researchers*. SAGE Publications, Inc.

Scales, K., Zimmerman, S., & Miller, S. J. (2018). Evidence-based nonpharmacological practices to address behavioral and psychological symptoms of dementia. *The Gerontologist*, *58*(Suppl. 1), S88–S102. https://doi.org/10.1093/geront/gnx167

Scammell, E. M., Bates, S. V., Houldin, A., & Polatajko, H. J. (2016). The cognitive orientation to daily occupational performance (co-op): A scoping review: l'approche co-op (cognitive orientation to daily occupational performance): examen de la portée. *Canadian Journal of Occupational Therapy*, *83*(4), 216–225. https://doi.org/10.1177/0008417416651277

Scott, W. A. (1923). *Occupational* Smallfield, S. (2017). Supporting adults with Alzheimer's disease and related major neurocognitive disorders and their caregivers: Effective occupational therapy interventions. *American Journal of Occupational Therapy*, *71*(5), 7105170010p1-7105170010p4. https://doi.org/10.5014/ajot.2017.715002

Smallfield, S., & Heckenlaible, C. (2017). Effectiveness of occupational therapy interventions to enhance occupational performance for adults with Alzheimer's disease and related major neurocognitive disorders: A systematic review. *American Journal of Occupational Therapy*, *71*(5), 7105180010p1-7105180010p9. https://doi.org/10.5014/ajot.2017.024752

Smallfield, S., & Molitor, W. L. (2018). Occupational therapy interventions supporting social participation and leisure engagement for community-dwelling older adults: A systematic review. *American Journal of Occupational Therapy*, *72*(4), 7204190020p1-7204190020p8. https://doi.org/10.5014/ajot.2018.030627

Smith, N., Towers, A.-M., Palmer, S., Beecham, J., & Welch, E. (2018). Being occupied: Supporting 'meaningful activity' in care homes for older people in england.

Ageing and Society, *38*(11), 2218–2240. http://dx.doi.org.ezp.waldenulibrary.org/10.1017/S0144686X17000678

Stutte, K., Hahn, S., Fierz, K., & Zúñiga, F. (2017). Factors associated with aggressive behavior between residents and staff in nursing homes. *Geriatric Nursing*, *38*(5), 398–405. https://doi.org/10.1016/j.gerinurse.2017.02.001

Thomas, H. (2015). *Occupation-based activity analysis* (2 nd). SLACK Incorporated.

Thunborg, C., von Heideken Wågert, P., Götell, E., Ivarsson, A.-B., & Söderlund, A. (2015). Development of a new assessment scale for measuring interaction during staff-assisted transfer of residents in dementia special care units. *BMC Geriatrics*, *15*(1), 6. https://doi.org/10.1186/s12877-015-0003-6

Toglia, J., & Kirk, U. (2000). Understanding awareness deficits following brain injury. *NeuroRehabilitation*, *15*, 57-70.

Tom, S. E., Hubbard, R. A., Crane, P. K., Haneuse, S. J., Bowen, J., McCormick, W. C., McCurry, S., & Larson, E. B. (2015). Characterization of dementia and Alzheimer's disease in an older population: Updated incidence and life expectancy with and without dementia. *American Journal of Public Health*, *105*(2), 408–413. https://doi.org/10.2105/AJPH.2014.301935

Tompkins, A. L. (1926). The organization of an occupational therapy department at the marcy division of the Utica state hospital. *American Journal of Physical Medicine & Rehabilitation*, *5*(6), 419–426.

Trenkle, D. L., Shankle, W. R., & Azen, S. P. (2007). Detecting cognitive impairment in primary care: Performance assessment of three screening instruments. *Journal of Alzheimer's Disease, 11*(3), 323–335. https://doi.org/10.3233/JAD-2007-11309

Trevena-Peters, J., McKay, A., Spitz, G., Suda, R., Renison, B., & Ponsford, J. (2018). Efficacy of activities of daily living retraining during posttraumatic amnesia: A randomized controlled trial. *Archives of Physical Medicine and Rehabilitation*, *99*(2), 329-337.e2. https://doi.org/10.1016/j.apmr.2017.08.486

van Gennip, I. E., W. Pasman, H. R., Oosterveld-Vlug, M. G., Willems, D. L., & Onwuteaka-Philipsen, B. D. (2016). How dementia affects personal dignity: A qualitative study on the perspective of individuals with mild to moderate dementia: table 1. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *71*(3), 491–501. https://doi.org/10.1093/geronb/gbu137

Van Hecke, L., Van Steenwinkel, I., & Heylighen, A. (2019). How enclosure and spatial organization affect residents' use and experience of a dementia special care unit: A case study. *HERD: Health Environments Research & Design Journal*, *12*(1), 145–159. https://doi.org/10.1177/1937586718796614

Wolf, T. J., Edwards, D. F., & Giles, G. M. (2019). *Functional cognition and occupational therapy: A practical approach to treating individuals with cognitive loss.* AOTA Press.

Wong, C., Fagan, B., & Leland, N. E. (2018). Occupational therapy practitioners' perspectives on occupation-based interventions for clients with hip fracture.

American Journal of Occupational Therapy, *72*(4), 7204205050p1. https://doi.org/10.5014/ajot.2018.026492

Wood, W., Fields, B., Rose, M., & McLure, M. (2017). Animal-assisted therapies and dementia: A systematic mapping review using the lived environment life quality (lelq) model. *American Journal of Occupational Therapy*, *71*(5), 7105190030p1. https://doi.org/10.5014/ajot.2017.027219

Wood, W., Lampe, J. L., Logan, C. A., Metcalfe, A. R., & Hoesly, B. E. (2017). The lived environment life quality model for institutionalized people with dementia: Le lived environment life quality model pour intervenir dans les établissements de soins auprès des personnes atteintes d'une démence. *Canadian Journal of Occupational Therapy*, *84*(1), 22–33. https://doi.org/10.1177/0008417416656207

Wood, W., Womack, J., & Hooper, B. (2009). Dying of boredom: An exploratory case study of time use, apparent affect, and routine activity situations on two Alzheimer's special care units. *American Journal of Occupational Therapy*, *63*(3), 337–350. https://doi.org/10.5014/ajot.63.3.337

Woodbridge, R., Sullivan, M., Harding, E., Crutch, S., Gilhooly, K., Gilhooly, M., McIntyre, A., & Wilson, L. (2018). Use of the physical environment to support everyday activities for people with dementia: A systematic review. *Dementia*, *17*(5), 533–572. https://doi.org/10.1177/1471301216648670

Yates, L., Csipke, E., Moniz-Cook, E., Leung, P., Walton, H., Charlesworth, G., Spector, A., Hogervorst, E., Mountain, G., & Orrell, M. (2019). The development of the promoting independence in dementia (pride) intervention to enhance

independence in dementia. *Clinical Interventions in Aging*, *Volume 14*, 1615–1630. https://doi.org/10.2147/CIA.S214367

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications, Inc.

Zimmerman, S., Anderson, W. L., Brode, S., Jonas, D., Lux, L., Beeber, A. S., Watson, L. C., Viswanathan, M., Lohr, K. N., & Sloane, P. D. (2013). Systematic review: Effective characteristics of nursing homes and other residential long-term care settings for people with dementia. *Journal of the American Geriatrics Society*, *61*(8), 1399–1409. https://doi.org/10.1111/jgs.12372

Zlotnik, S., Sachs, D., Rosenblum, S., Shpasser, R., & Josman, N. (2009). Use of the dynamic interactional model in self-care and motor intervention after traumatic brain injury: Explanatory case studies. *American Journal of Occupational Therapy*, *63*(5), 549–558. https://doi.org/10.5014/ajot.63.5.549

Zucchella, C., Sinforiani, E., Tamburin, S., Federico, A., Mantovani, E., Bernini, S., Casale, R., & Bartolo, M. (2018). The multidisciplinary approach to Alzheimer's disease and dementia. A narrative review of non-pharmacological treatment. *Frontiers in Neurology*, *9*, 1058. https://doi.org/10.3389/fneur.2018.01058

Zur, B. M., Rudman, D. L., Johnson, A. M., Roy, E. A., & Wells, J. L. (2013). Components of cognitive competence predictive of occupational competence in persons with dementia: A delphi study: étude delphi sur les composantes de la compétence cognitive permettant de prédire la compétence occupationnelle chez

les personnes atteintes de démence. *Canadian Journal of Occupational Therapy*, *80*(2), 71–81. https://doi.org/10.1177/0008417413481574

Appendix A: Interview Questions for Occupational Therapists

1. Do you think the SNF environment promotes or discourages engagement in self-care or leisure skills for individuals with NCD?
2. How do you use the space and / or object s in the SNF environment to promote engagement in self-care or leisure activities?
3. How does the occupational profile help you address self-care and leisure activities for your client with an NCD?
4. How does the occupational profile information help shape your use of the environment?
5. Please provide an example of how you used objects in the environment to promote engagement in self-care and or leisure activities?
6. Do you modify the environment to increase engagement in self-care or leisure skills? If so, please provide an example and explain why you modified the environment?
7. Do you think the environment influences how your clients with a NCD use their time?
8. Can you give an example of a modification that you did that resulted in a client increasing time spent engaged in an occupation?
9. In your opinion, does the environment influence spontaneity in self-care and leisure activities? If so, please explain how.
10. Quality of life – How does the SNF environment impact quality of life for residents with dementia?

11. What do you believe your role is in impacting quality of life for residents with dementia?
12. What barriers in the environment have you encountered that impact quality of life for clients with NCD?
13. What facilitators have you encountered in the environment to help clients have a better quality of life in the SNF environment?

Appendix B: Interview Questions for SNF Administrators

1. Do you think the SNF environment promotes or discourages engagement in self-care or leisure skills for individuals with NCD?
2. Please describe the SNF environment that you work in?
3. Please describe how you have seen occupational therapists use the space and / or objects in the SNF environment to promote engagement in self-care or leisure activities?
4. Have you seen or are you aware of environmental modifications that occupational therapists have made to increase engagement in self-care or leisure skills for clients with NCD? If so, please provide an example of how the environment was modified?
5. Do you think the environment in the SNF influences how clients with a NCD use their time?

Appendix C: Reflexive Questions

1. Does the research study align with the conceptual framework?
2. Do the research questions align with the conceptual framework?
3. Is the conceptual framework guiding my research design?
4. Have I selected appropriate participants to provide me with information to address my study?
5. Have I provided opportunities for triangulation? Are my descriptions thick?
6. How have I presented myself?
7. What influences my communication?
8. How does my communication style influence data being generated?
9. Do I allow time for ideas to be generated?
10. Do I impose my values or beliefs on data being generated?
11. Would another individual have similar findings? How would they be different?