The Impact of the Environment on Occupational Engagement and Agitation of People with Dementia

Author: Rachel D'Cruz

This thesis is submitted in partial fulfilment of the requirements of the Bachelor of Occupational Science and Therapy (Honours)

Deakin University
Faculty of Health

November, 2011
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The environment in which a person with dementia lives has been recognised as important in maintaining their wellbeing and functional ability. The overall aim of this study was to investigate the impact of the environment on occupational engagement and agitation of people with dementia living within dementia facilities. This study compared two styles of dementia facilities both located in rural Victoria: a traditional facility (design guided by the Aged Care Residential Services Generic Brief) and a person-centred facility (an innovative design). A total of four staff members and 13 residents participated in the study, and two assessment tools: the Residential Environment Impact Survey (REIS) and the Cohen-Mansfield Agitation Inventory (CMAI) were used to compare the two facilities. Results indicate that residents living in the person-centred facility had more instances of occupational engagement, and identified the types of agitation behaviours that were more prevalent in one facility than the other. The physical and social environment including staff presence within each facility was discussed in relation to occupational engagement and agitation. It was concluded that the environment within person-centred facilities do have a positive impact on residents. From this study it was recommended that further research on person-centred facilities be carried out in Australia.
CHAPTER ONE: INTRODUCTION

The purpose of this thesis is to describe the contextual background, research design, findings and implications of an honours level research study, which compared the occupational engagement and agitation of residents living in a person-centred dementia facility with residents living in a traditional dementia facility. This chapter will provide the background regarding the area of interest for this thesis, introduce residential care concepts used within the thesis, provide information on the significance of the study, and the aims of the study, as well as outline the structure of the thesis.

Background

In Australia in 2003, 167,000 people aged 60 years and over lived in residential care facilities, with the main health condition of almost a third being some form of dementia (Australian Bureau of Statistics, 2006). The environment in which a person with dementia lives has been recognised as important in maintaining their wellbeing and functional ability (Chalfont & Rodiek, 2005; Day, Carreon & Stump, 2000; Morgan, Stewart, D'Arcy & Werezak, 2004). The environment within residential care facilities influences the daily behaviour of individuals' with dementia, including their participation in meaningful activities or relationships, occupational engagement, interactions with others, distress, passivity and agitation. As a result, dementia-specific facilities have been created.

Within Victoria, no guidelines for dementia-specific care facilities exist, therefore traditional dementia facilities are guided by the Aged Care Residential Services Generic Brief (Department of Human Services, 2000), resulting in these facilities being designed similarly to generic residential care facilities. Lack of dementia-specific guidelines results in high variability between facilities and no benchmark standards for facility design. As a result a number of health services have decided to design dementia-specific facilities in a more innovative, person-centred manner, and thus are required to self-fund their facilities. These facilities focus on encouraging personal contact, choice and meaningful activity (Reimer, Slaughter, Donaldson, Currie, & Eliasziw, 2004).
Residential care concepts

Throughout this thesis a number of different levels of residential care facilities will be referred to. Figure 1.1 is a diagram representing their relationship to one another. These concepts will be explored further within Chapter Two.

![Diagram](image)

Figure 1.1. Diagram representing the relationship between the different levels of residential facilities referred to throughout this thesis.

Significance of the Study

There is contradictory evidence regarding the effectiveness of person-centred dementia facilities therefore, more supporting evidence is required before these are accepted as the best practice in residential dementia care in Australia. The person-centred dementia facility is something which is relatively new to Australia, and Australian evidence supporting these facilities is limited.
As there are no guidelines regarding dementia-specific environments in Australia, there is a need for Australian studies to provide rich descriptive data on the physical and social features of the facilities that are being researched. As the environment can positively (occupational engagement) or negatively (agitation) influence the behaviour of people with dementia, this study aims to consider both in terms of dementia-specific facilities. The two facilities in this study are located in rural Victoria. Literature that focuses specifically on the occupational engagement and agitation of people living in dementia-specific facilities in rural Australia was not found, which indicates a clear gap in current knowledge. This study will aim to provide evidence that person-centred dementia facilities that are uniquely tailored toward meeting the needs of people with dementia will result in less agitation and increased occupational engagement from residents.

**Research Aims**

The overall aim of this study was to investigate the impact of the environment on occupational engagement and agitation of people with dementia living within dementia-specific facilities. The following research question was used to guide the study: "What differences exist in the occupational engagement and agitation of people with dementia living in a person-centred dementia facility as compared to people with dementia living in a traditional dementia facility?".

In order to address this research question the following four study aims were devised:

- **Aim One:** How does occupational engagement differ between people with dementia who live in a person-centred dementia facility and people with dementia who live in a traditional dementia facility?
- **Aim Two:** Within a traditional dementia facility, what are staff members' perceptions on occupational engagement and agitation of residents?
- **Aim Three:** Within a person-centred dementia facility, what are staff members' perceptions on occupational engagement and agitation of residents?
- **Aim Four:** Is there a difference in the prevalence of agitation behaviours between people with dementia who live in a person-centred dementia facility and people with dementia who live in a traditional dementia facility?

**Structure of Thesis**

This thesis consists of five chapters. Chapter One has introduced the thesis and the research topic. Chapter Two presents a review of the literature on the research topic. It aims to explore the impacts of the environment within residential care facilities on people with dementia. Chapter Three provides details of the methodology used in the study. Chapter Four presents the results of the study and Chapter Five presents a discussion of these results. The discussion will include implications of the results for Australian dementia-specific facilities, and make recommendations for future research.

Chapter Two presents a review of the literature on the research topic. It aims to explore the impacts of the environment within residential care facilities on people with dementia.
CHAPTER TWO: LITERATURE REVIEW

Chapter One presented the aim of the thesis and the significance of the research being conducted. This chapter will provide the context of the current study through exploring and presenting the available literature surrounding the research topic. The aim of this literature review is to explore the impact of the environment of residential care facilities on people with dementia. Firstly, the introduction defines key words and outlines the structure of the review.

Introduction

Dementia is an umbrella term describing a progressive mental disorder characterized by confusion, disorientation, deteriorating intellectual capacity, and declining control of memory, judgment and impulses (Harris, Nagy & Vardaxis, 2006). Changes in cognitive function affect the physical, social and emotional life of the person with dementia, their families, carers and friends. This often results in difficulty caring for these individuals at home (Taneli, 2007), and a move into residential care may occur. As the dementia progresses, the individuals are often moved into dementia-specific residential facilities. In Australia in 2003, 167,000 people aged 60 years and over lived in residential care facilities, with the main health condition of almost a third being some form of dementia (Australian Bureau of Statistics, 2006).

This review begins by exploring links between dementia and the general environment followed by the environment within residential care facilities. In this review the 'environment' refers to features of a specific context that impact upon what one does, and how it is done (Kielhofner, 2008). The concept of dementia-specific facilities will be introduced. Traditional facilities and person-centred facilities will be defined and presented separately, as key differences exist between their philosophies of care and environmental features. Next, the impact of the care facility on agitation of people with dementia will be critically examined. Agitation, often termed 'challenging behaviours' is defined as "any verbal, vocal or motor activity that is not clearly perceived as a normal response to needs or confusion" (Cohen-Mansfield, as cited in Wilkes, Fleming, Wilkes, Cioffi & Le Miere, 2005, p. 141). Following this, the impact of the care facility on the occupational engagement of people with dementia will be critically discussed. The Model of Human
Occupation (MOHO) conceptualizes how occupational engagement is motivated and organized into everyday life, and performed in and influenced by environmental settings (Kielhofner, 2008). Kielhofner (2008) states the environment consists of: objects people use, spaces in which people do things, available tasks, social groups and cultural and political constructs. This multi-faceted description is applicable to residential settings as the behaviour of an individual with dementia results from their motivation and capabilities combining with the impact of the environment to support, demand or constrain performance (Kielhofner, 2008). 'Occupational engagement' is defined as the act of being involved purposefully with an external stimulus (Cohen-Mansfield, Dakheel-Ali & Marx, 2009). The review concludes by identifying gaps in the literature regarding the topic of interest.

Dementia and the environment

The environment encompasses physical, social and cultural features of a person's context (Kielhofuer, 2008). The fit between the person and their environments can create a dynamic interplay of one’s use of space (Lawton, 1983). Noelle (as cited in Scheidt & Windley, 2003) echoed this view terming the environment the 'silent partner' in caregiving. Environments can create both freedoms and constraints, impacting on an individual's use and experience of a setting (Lawton, 1983). The physical environment can potentially help people with dementia maximize current capabilities (Marshall, Brown, Stewart, Hoskins, Page & Laurie, 1999). However, even the best physical environment can be unsuccessful if it is not part of an integrated system involving the organizational and social environments, supporting the needs of people with dementia and their families (Calkins as cited in Davis, Byers, Nay, & Koch, 2009)

Dementia-specific facilities

Dementia-specific residential facilities have evolved over time, and a range of facilities and units currently exist (Morgan et al., 2004). Chalfont and Rodiek (2005) stated it is time to move from designing for purposes of control or to diminish difficult behaviours, towards understanding how the environment can actively encourage satisfying behaviours. Dementia care settings for people must focus on using environmental design to contribute
to a milieu that positively supports people experiencing cognitive decline (Werezak & Morgan, 2003). The environment is becoming increasingly recognized as a therapeutic resource promoting the wellbeing and functional ability of people with dementia (Day, et al., 2000). A change from identifying dementia as a 'condition' to seeing it as an 'experience' has allowed people with dementia to move from being passive care recipients to active participants in everyday life (Hiroto, 2010). A gradual shift is being made from the biomedical model of care used in traditional dementia facilities, to a holistic model of care used in person-centred facilities however, both still exist and promote different care philosophies (Davis et al., 2009). Within Victoria, no guidelines for dementia-specific care facilities exist, and traditional facilities are guided by the Aged Care Residential Services Generic Brief (Department of Human Services, 2000), resulting in these designed similarly to generic residential care facilities. Lack of dementia-specific guidelines results in high variability between facilities and no benchmark standards for environment design.

**Traditional dementia facilities.** Traditional environments focus on task-driven management and treatment of dementia (Epp, 2003; Verbeek, van Rossum, Zwakhalen, Kempen & Hamers, 2009). The traditional care environment is underpinned by the medical model, emphasizing an individual's physical care needs (Reimer, Slaughter, Donaldson, Currie & Eliasziw, 2004; Ronch, 2004). This model focuses on biological factors comprising an individual's condition, rather than the psychosocial effects of a disease on the person (Davis et al., 2009; Verbeek et al., 2009; Cotrell & Schulz as cited in Werezak & Morgan, 2003). In this review, traditional dementia facilities will be defined as a long-term residential option in which resident's physical needs are prioritised over non-pharmacological, social and environmental care strategies (Reimer et al., 2004). Facilities may have been adapted to varying degrees in relation to physical design or activity programs, but structural features and staffing focusing on medical care needs define this facility type (Reimer et al., 2004).

The Aged Care Residential Services Generic Brief (Department of Human Services (DHS), 2000) gives an overview of services and activities that a Victorian aged care facility commonly provides, and describes spaces required to conduct these. This brief guides the
design of traditional dementia facilities. It outlines generic design aspects relating to mobility, acoustics, sensory aspects and signage, which are critical elements to consider when constructing a dementia-specific facility. Features of the residential care facility identified in the brief include: multipurpose spaces, specific colour schemes used to differentiate areas and use of passageways to links areas. The considerations listed in relation to dementia, centre mainly on maximizing security, with suggestions including eliminating potential for residents to harm themselves, use of lockable doors to restrict access, and staff areas that may have internal windows to assist with discreet supervision of residents (DHS, 2000).

**Person-centred dementia facilities.** In relation to people with dementia, person-centred care involves integration of non-pharmacological methods (Cohen-Mansfield, 2005), including environmental design. The most common needs of people with dementia are physical and social stimulation (Cohen-Mansfield, Thein, Dakheel-Ali & Marx, 2010; Verbeek et al., 2009). The characteristics of dementia often limit people achieving optimum stimulation levels. In traditional dementia facilities these limitations can be more evident due to; monotony of routine, starkness of physical environment, limited meaningful activities and constraints in space usage (Reimer et al., 2004; Cohen-Mansfield, 2005). In response to these limitations, person-centred facilities for dementia care maximize independence by matching characteristics of the person with dementia with opportunities and features of the environment (Brooker, 2007; Joosse, 2009; Lawton, 2001). Terms used in relation to person-centred care include; life-affirming, holistic, psychosocial, meaningful culture, respect for needs and choices, autonomy, reinforcement of personal identity and care through the eyes of the person (Brooker, 2007; Chalfont, 2007; Dewing, 2009; Fleming, Crookes & Sum, 2009; Fleming & Purandare, 2010; Keane & Shoesmith, 2005; Morgan et al. 2004; Reimer et al., 2004; Torrington, 2006). Person-centred will be defined as viewing a person holistically, not merely in terms of their physical health, but by their unique characteristics, life experiences and values. In this review, person-centred dementia facilities will be defined as a long-term residential option that offers a comfortable, homelike setting, with care focused on encouraging personal contact, choice and meaningful activity (Reimer et al., 2004).
Designs of person-centred dementia facilities include features aiming to increase resident navigational ease and reduce confusion and disorientation, these include open floor-plans, unique landmarks, name or picture cues on bedroom doors and defined paths and communal areas (Cantley & Wilson, 2002; Torrington, 2006;). Another aim is to increase physical links between indoor and outdoor environments including; window seats, skylights, resident accessible doors and garden paths leading back to entry doors (Chalfont & Rodieck, 2005; Cohen-Mansfield & Werner, 1998; Dewing, 2009). Fewer residents within a facility and eliminating shared bedrooms contributes towards making residents feel at home rather than like nursing home patients. This is further achieved by minimizing visible clinical elements by placing medication carts and equipment out of view when not in use, creating approachable nursing stations and unobtrusive safety features (Fleming & Purandare, 2010; Keane & Shoesmith, 2005). Resident communal areas in person-centred facilities should provide opportunities for stimulation with homelike age and generational appropriate furnishings, and commonplace and novel objects in logical places (Cantley & Wilson, 2002; Fleming & Purandare, 2010; Lawton, 2001). These encourage staff-resident interaction, and typify that the environment also encompasses the social setting (Slaughter, Calkins, Eliasziw, & Reimer, 2006). Social aspects of person-centred dementia facilities include staff encouraging resident involvement in domestic or productivity tasks (Brooker, 2007, Teitelman, Raber & Watts, 2010), and therapeutic staff-caregiver partnerships. Often elements within the physical or social environment can either increase or reduce the occurrence of agitation behaviours.

Agitation and the residential care facility

Conceptualization of agitation

Agitation, challenging or problem behaviours and neuropsychiatric symptoms are terms used interchangeably however, in this review agitation will be used. One respected author in the field, Cohen-Mansfield has done extensive research on the topic, and developed the Cohen-Mansfield Agitation Inventory (CMAI) used worldwide to investigate the type and frequency of agitation behaviours. Cohen-Mansfield identifies agitation as consisting of two dimensions; physical and verbal, with each consisting of two sub-types; aggressive and
non-aggressive (Cohen-Mansfield, 1996). Each sub-type comprises a variety of observable behaviours.

Examples of each subtype include:

1. Physically non-aggressive: restlessness, repetitious mannerisms and pacing.
2. Physically aggressive: hitting, pushing and scratching others.
3. Verbally non-aggressive: negativism, uncooperativeness and unwarranted requests.

(Weiner et al. 2002).

This conceptualization was chosen as it does not merely consider disruptive behaviours but accounts for passive forms of agitation that may cause internal discord within an individual. Researchers examining agitation have also been interested in the impact of the environment on these agitation behaviours.

**Links between the environment and agitation**

Lawton (as cited in Joosse, 2009) stated that a person’s competence and cognitive ability determines their capacity to deal with environmental stressors. This is reflected in more recent literature that implies that little or too much environmental stimulation is often the underlying cause of agitation (Perez, Calkins & Proffitt, 2001; Shah, Chiu & Ames, 2000; Taneli, 2007; Wilkes et al., 2005). Environmental factors within the residential care facility including physical aspects of the facility, social interactions, stimulation and traffic flow have been identified as contributors to agitation (Taneli, 2007). Some recent studies linking agitation and the residential care facility have focused on aggressive and self-disruptive behaviours of agitation, with their justification surrounding the need to address impacts of these behaviours on the physical safety of staff (Low, Draper & Brodaty, 2004; Shah et al, 2000). Although aggressive behaviours do strongly impact on the care environment and can be triggered by the environment, it is important to consider the whole scope of agitation behaviours detailed by Cohen-Mansfield (1996), as practice implications extend to each type of these behaviours.
**Residential care facilities and reductions in agitation.** The design of dementia facilities should aim to reduce agitation behaviours occurring (Opie, Rosewarne & O'Connor, 1999). Wilkes et al. (2005) aimed to determine if there was any difference in residents' agitation behaviours after moving to a person-centred dementia facility in Sydney, Australia from a traditional nursing home. An interrupted time-series quasi-experimental design was used with assessments (including the CMAI) undertaken at points prior to and after the move. This study was strengthened by an environmental comparison showing differences between the facilities in physical layout, objects, outdoor areas and daily activities. The most significant results were that verbally agitated behaviours (negativism, screaming, complaints and requests for attention) decreased throughout the study post-move into the person-centred unit (Wilkes et al., 2005), providing evidence that the environment can impact positively on people with dementia.

Zuidema, de Jonghe, Verhey & Koopmans (2010) used a cross-sectional cohort study involving 56 dementia-specific units to investigate the relationship between agitation rates and environmental correlates including; number of residents sharing a living area, staff-patient ratios and presence of a meaningful walking circuit. Findings indicated a wide range of agitation prevalence rates existed. Researchers concluded that findings provided evidence that agitation cannot only be explained by the dementia itself but also by the physical and psychosocial environment of the residents living in dementia-specific facilities. These conclusions were reflected in a cross-sectional study by Zeisel, Silverstein, Hyde, Levkoff, Lawton, & Holmes (2003), with a sample of 427 residents from 15 person-centred dementia facilities in America. Researchers developed a design checklist rating each facility in terms of eight observable features and conditions, including residential character and sensory comprehension. This ensured variability among selected facilities and increased the statistical power of analysis. Behavioural health measures including the CMAI were used with residents. Environmental features including privacy and personalisation in bedrooms and a homelike decor were associated with reduced agitated behaviours (Zeisel et al., 2003).
Residential care facilities and increases in agitation. The majority of studies on this topic have produced findings suggesting that person-centred dementia facilities reduce agitation however some studies found contradictory results. Reimer et al. (2004) conducted a prospective, matched-group study in Canada aiming to compare the effect of a person-centred dementia facility on quality of life of residents with middle to late-stage dementia with residents in traditional facilities. This study was conducted over one year, with behavioural assessments including the CMAI completed every three months. Findings indicated that the residents from the person-centred facility demonstrated greater interest in their environment however, increasing trends in physical agitation. Authors noted that this finding was not necessarily negative as environmental freedom in the person-centred facility may have encouraged this. This study used comprehensive interactive and observational assessments however it was acknowledged that data may be limited by resident-specific factors that could not be controlled for.

Low et al. (2004) conducted a cross-sectional study with 647 participants across 11 nursing homes in Sydney, Australia exploring the relationship between self-destructive behaviour and the residential care facility. Information on the facilities, including resident characteristics, building design and staffing details was gathered using a questionnaire completed by each director of nursing. Residents were rated twice using a harmful behaviour scale, with harmful behaviours, risk-taking and passive self-harm higher in environments with better design features. A limitation of this study was that no details were provided on what ‘better design features’ were. Often in response to agitation occurring, either staff or residents themselves will initiate resident occupational engagement within the environment of the facility.

Occupational engagement and the residential care facility

Conceptualization of occupational engagement

Occupational engagement of people with dementia within their environments has been shown to provide beneficial effects including positive emotions, improved relationships and activity participation (Cohen-Mansfield et al., 2009). Kielhofner (2008) identifies different ways occupational engagement can occur in the midst of environmental conditions
including: assigning meaning and significance to what is done, feeling able or unable to do a task, displaying enjoyment or satisfaction with performance, enacting a role, evoking habits and using one’s skills to perform a task. The focus for people with dementia is to improve the quality of life and the environment plays a major part in this (Brawley, 1997; Ohman & Nygard, 2005). Occupational engagement involves non-pharmacological care for people with dementia. Using the environment to encourage occupational engagement allows an approach addressing a number of issues including agitation, boredom, apathy, depression or loneliness (Cohen-Mansfield et al., 2010). The residential care facility has the potential to facilitate or hinder occupational engagement (Cohen-Mansfield et al, 2009). Engagement with any type of stimulus within an environment is affected by the stimulus attributes, a person’s characteristics and the environmental influences overlaying the interaction (Cohen-Mansfield et al., 2010). This results in either interest and engagement or the display of negative feelings and behaviours (Cohen-Mansfield et al., 2010). Residents of residential facilities have been found to spend most of their time unoccupied or passively involved in activity (Holthe, Thorsen & Josephsson, 2007). Person-centred dementia facilities aim to provide opportunities for residents to either actively engage or have engagement initiated by staff and maintained by environmental elements (Kovach, Weisman, Chaudhury & Calkins, 1997).

Links between occupational engagement and the environment

Occupational engagement is partly determined by how the physical and social environment supports a resident with dementia (Chung, 2004). A naturalistic case study by Wood, Harris, Snider & Patchel (2005) aimed to discover whether routine situations in a person-centred dementia facility were affected by the environment. The facility studied was extensively described. Results showed that meal times and activity groups with staff involvement were associated with use of objects and engagement. However, during 'downtime', residents were predominately disengaged or inactive. This study concluded that the physical environment itself is insufficient to promote engagement, with skillfulness of staff and effective activity programming required. Objects aiming to stimulate interest, encourage manipulation and invite conversation, are a distinct feature of the person-centred dementia facility. Cohen-Mansfield et al. (2010) aimed to examine factors affecting the
occupational engagement of persons with dementia when using specific stimuli. Individualized-stimuli that tapped into residents past experiences or interests and allowed recollection of former roles were most successful in engaging residents. Examples of individualized-stimuli included family photographs, making a craft item for a loved one, and building materials for a resident who previously worked in carpentry. This is consistent with the aim of person-centred facilities to emphasize individual uniqueness. The importance of stimuli such as meaningful pictures, memory boxes, pleasant aromas, music and photos have been linked with increased occupational engagement (Cohen-Mansfield et. al, 2010; Hiroto, 2010).

A Canadian study by Hung & Chaudhury (2011) aimed to examine differences between traditional and person-centred facilities in terms of occupational engagement displayed during dining. Data was collected through resident interviews, staff focus groups, mealtime observations and examination of files. Multiple data-gathering methods added different dimensions and richness to data. Results found that mealtime is an activity that can be highly individualized and used as a way to encourage interaction and maximize capabilities. The person-centred dining area was smaller, quieter and had a more homelike ambience, promoting interactions involving reminiscence, storytelling and freedom of movement. The traditional dining area was larger, had institutional decor including blank walls and furniture with metal frames and vinyl covers, and observed to have an overwhelming amount of dining-room stimuli including medication and food carts. This resulted in residents reporting confusion in the environment and feeling a lack of options existed for eating in a quieter location. Researchers observed staff controlling the way residents ate, whereas staff in the person-centred facility tailored the dining experience to resident capabilities. Hung & Chaudhury (2011) found staff had the greatest impact on resident engagement however, they observed that the physical environment influenced staff provision of care. Lawton (2001) noted environments encouraging a person's individuality were the product of staff knowledge regarding resident preferences, and environmental markers tailored to individuals needs. A study by Kovach, et al., (1997) echoes this, finding dementia facilities allowing 'traditional' staff domains such as the nurses' desk or kitchen, to be accessed by residents will increase resident activity and engagement. For example a
kitchen, allowing staff to prepare tea whilst residents observe, converse or assist, or a nurses' desk which allows residents to sit alongside staff (Korvach et al., 1997) will increase the likelihood of occupational engagement.

A primary difference between person-centred and traditional dementia facilities is their use of space. The open-plan design of person-centred facilities promotes movement between different spaces, whereas traditional facilities tend to have a corridor linking resident rooms to other spaces (Morgan et al., 2004). A study by Cohen-Mansfield & Werner (1998) aimed to assess effects of an enhanced environment by using a variety of observational scales. The foundations for this study were based upon prior research which suggested that individuals that wander spend most of their time wandering in corridors (Cohen-Mansfield & Werner, 1998). Two specific simulated environments aiming to symbolize scenes that would be familiar to residents, but also maintain a homelike feel were designed within two of the corridors within a nursing home. These scenes were: a nature scene and a home and people scene, with both scenes containing various seating and benches allowing residents’ to sit and become part of the setting. This study was conducted in four 2-week phases, with the first a baseline phase conducted prior to three intervention phases. The baseline phase involved observation of the two empty corridors. During each phase the scenes were rotated with the first intervention phase having one scene per corridor, and the second and third phases with just one scene in a corridor and the other corridor empty. (Cohen-Mansfield & Werner, 1998). This process aimed to control the potential of residents associating a particular scene with a specific corridor. This study found modifying an institutional-style corridor to include visual, auditory and olfactory stimuli increased resident pleasure and time spent navigating this enhanced environment. Cohen-Mansfield (2007) used a survey questionnaire distributed across America to 320 dementia-specific facilities with outdoor areas. This study aimed to discover the impact of outdoor areas on residents with dementia, with the questionnaire examining features, benefits, limitations, types of activity and actual utilization of outdoor spaces. Cohen-Mansfield (2007) found circular paths preventing residents getting lost and taking them past stimuli including garden tools, animals or plants, can change aimless wandering into engaged, purposeful walking. An Australian study by Cox, Bums & Savage (2004) examined effectiveness of multisensory environments
introduced within a dementia facility. Data consisted of resident observation and caregiver interviews. Cox et al. (2004) found designating a multi-purpose room opening out into a garden, as a room that residents and families could drink tea out of china cups and use sights and smells of the garden as stimuli for engagement, promoted calmness and spontaneous actions by residents.

**Gaps in Literature**

Though there is recent literature available on the importance of designing person-centred dementia facilities, there are a number of significant gaps in research in this area. Although there are discussions surrounding the features of person-centred and traditional dementia-specific facilities, there is no concrete standard these facilities are measured against resulting in large variety between dementia-specific units, making comparison difficult. As there are no guidelines regarding dementia-specific environments in Australia, there is a need for Australian studies to provide rich descriptive data on the physical and social features of the facilities that are being researched. As there is contradictory evidence regarding the effectiveness of person-centred dementia environments, more supporting evidence is required before these are accepted as the best practice in residential dementia care in Australia. Literature that focuses specifically on the occupational engagement and agitation of people living in dementia-specific facilities in rural Australia was not found, which indicates a clear gap in current knowledge.

Most studies undertaking analysis of the impact of the environment on agitation do not directly address the phenomenon of occupational engagement. This is despite it being implied that non-pharmacological interventions for people with dementia involving a stimulus or environmental feature that has resulted in decreased agitation, must have produced some form of engagement to affect change. As the environment can have positive (occupational engagement and interactions with others and the environment) and negative (agitation and passivity) impacts on people with dementia, an Australian study which considers both potential impacts would be beneficial.

Chapter Three will provide an outline of the methodology used for such a study.
CHAPTER THREE: METHODS

Introduction

Chapter Two provided a review of the literature, and explored the impact of the environment of the residential care facility on people with dementia living in traditional and person-centred dementia-specific facilities. The literature supports the importance of designing person-centred dementia facilities. However, as there is contradictory evidence regarding the effectiveness of person-centred dementia facilities, it was concluded that further Australian supporting research is required before these facilities are accepted as best practice in Australia. This chapter will describe the methodology used to answer the research question: What differences exist in the occupational engagement and agitation of people with dementia living in a person-centred dementia facility as compared to a traditional dementia facility?

Based on this research question this chapter will describe the methodology used to answer four study aims:

**Aim One:** How does occupational engagement differ between people with dementia who live in a person-centred dementia facility and people with dementia who live in a traditional dementia facility?

**Aim Two:** Within a traditional dementia facility, what are staff members’ perceptions on occupational engagement and agitation of residents?

**Aim Three:** Within a person-centred dementia facility, what are staff members’ perceptions on occupational engagement and agitation of residents?

**Aim Four:** Is there a difference in the prevalence of agitation behaviours between people with dementia who live in a person-centred dementia facility and people with dementia who live in a traditional dementia facility?

**Participants**

A sample of 13 residents with dementia and four direct-care staff were recruited from two Victorian dementia specific facilities to participate in the study.
Residents with dementia

To be included in the study participants were required to be permanent residents of one of the two participating facilities, have a diagnosis of dementia and have been living within their facility on July 1st 2011.

The traditional facility had a sample of 4 residents comprising of three female and one male with a mean age of 85.25 years, and had been living in this facility for a range of 9 to 33 months (average of 18 months). All participants from this facility had lived locally prior to admission.

The person-centred facility had a sample of 9 participants comprising of four females and five males with a mean age of 79.44 years, and had been living in this facility for a range of three to 33 months (average of 16.44 months). Participants were a combination of individuals who had lived locally (within half an hour of the health service) prior to admission and individuals who moved from a further location.

Staff members

Two direct-care staff members were recruited from each dementia-specific facility. To reflect the staffing systems of the involved facilities, a personal care worker (PCW) and a division two nurse were selected to participate from each facility. The average amount of time staff members from the traditional facility had worked within their healthcare service was 14 years, with an average of 12.5 years experience in dementia care. The average amount of time staff members from the person-centred facility had worked within their healthcare service was 11.25 years, with an average of 10.75 years experience in dementia care.

Instruments

There were two instruments used in the study. Occupational engagement was investigated using the Residential Environment Impact Survey (REIS) (Fisher, Arriaga, Less, Lee & Ashpole, 2008), and incidences of agitation were calculated using the Cohen-Mansfield
Agitation Inventory (CMAI) (Cohen-Mansfield, 1991). Aims one, two and three will be investigated using the REIS and Aim four will be investigated using the CMAI.

Residential Environment Impact Survey (REIS)
The REIS (Fisher et al., 2008) is a non-standardised, semi-structured assessment and consulting instrument that was designed to examine whether residential facilities provide the needed and desired opportunities for residents to function optimally and participate in their living environment. The REIS was designed based on the Occupational Therapy theoretical framework of the Model of Human Occupation (MOHO) (Kielhofner, 2008). The REIS was initially designed to be used in residential settings for adults with intellectual disabilities however, was structured to be appropriate with minor modifications for use in residential settings with individuals with a history of substance abuse, homelessness, mental illness or behavioural disorders. The full version of the REIS requires an investment of 8-12 hours to complete administration, scoring and formulation of recommendations.

The REIS is conducted within the residential facility and consists of four components:

1: A visual evaluation of the home environment (used to gather detailed descriptions of the environments of each facility).
2: Observation of three chosen tasks/activities (used to investigate Aim One).
3: A semi-structured focus group interview with residents (in this study this component was not conducted).
4: Staff individual interviews (used to investigate Aims Two and Three).

The components of the REIS combine to provide a multi-dimensional perspective of the daily life within the residential facility. The information gathered from the REIS can be synthesized by the completion of a rating form which is included in the REIS manual. The rating consists of 24 different areas each to be scored on a 4-point Likert scale. This rating form was deemed not to be appropriate for this study as its purpose is consultative and provides individual facilities with numerical feedback on areas that are strengths and those needing improvement. As this is not consultative, the rating form was not used.
majority of interview questions from the REIS tool were used however, some modifications were made to make them more applicable to the type of staff being interviewed and the concepts of occupational engagement and agitation. As a result it was important to ensure the interviews were structured, with the same ordered pattern of questions used at both facilities. As two facilities were being compared and the type of information that was sought from the staff members was highly specific and focused, the interviewer only strayed from the pattern to clarify questions or to allow for elaboration of answers (Neutens & Rubinson, 2010).

Reliability and validity.
The REIS is a relatively new tool launched in 2008, and thus no published studies exist describing its reliability and validity. A pilot was conducted by two of the tool's authors, Arriaga and Less (Fisher, 2004), at two residential homes in Chicago. This pilot involved a total of 14 women with intellectual disabilities. Arriaga and Less found that the REIS tool was able to provide an in-depth view of the homes and residents, and highlighted strengths and areas of concern (Fisher, 2004). Following the pilot testing, feedback was sought from international experts in the field of developmental disabilities and the Model of Human Occupation. Overall this feedback was positive. This feedback in conjunction with a practice development session arranged for UK occupational therapists to discuss the tool (Parkinson, Fisher & Fisher, n.d.), increased the content validity of the REIS. The authors in conjunction with the experts determined that the REIS has utility as a non-standardised, semi-structured instrument with the ability of sections to be modified to match the particular facility or residents, or used in part to suit the therapist/administrator and their areas of interest (Parkinson, Fisher & Fisher, n.d.).

Justification.
The REIS was chosen as the tool to explore occupational engagement, as it was developed by occupational therapists and based on the Occupational Therapy theoretical framework of the MOHO. This tool was created to fill a perceived gap in current tools that consider the degree to which residential facilities provide the needed and desired opportunities for residents to function optimally (Fisher et al., 2008). This tool was selected as the most
appropriate as it contains a number of different methods of data collection which allows rich, descriptive information to be collected on the two specific facilities, providing the reader with a detailed insight into the differences between the two facilities and the activities taking place within them. This tool allows the researcher opportunity to observe daily life in the facilities (through the walk-through and task observation) and combine this information with staff interview responses which will either: support the researcher's observation, provide a new perspective, or add new information (Halcomb & Andrew, 2005). This allows methodological triangulation of data to occur (Halcomb & Andrew, 2005). The researchers decided not to use the semi-structured focus group interview with residents. The questions for this interview were quite in-depth and time-intensive. As the resident group consisted of people with moderate to severe dementia, ethically it was deemed that conducting such a group interview could potentially be highly distressing to residents. These risks far outweigh the possibilities of gaining useful insights from residents. Researchers determined the other portions of the REIS would provide sufficient descriptive information.

**Cohen-Mansfield Agitation Inventory (CMAI)**

The purpose of the CMAI is to systematically assess the frequency of manifestations of agitation behaviours in elderly persons. The CMAI was used in this study to investigate Aim Four. The CMAI manual outlines operational definitions of 29 observable agitated behaviours with each consisting of a group of related behaviours. For example behaviour seven is 'hitting (including self)' consists of behaviours such as; physical abuse, striking others, pinching others and banging self or furniture (Cohen-Mansfield, 1991). Each of the 29 behaviours is then rated on a 7-point Likert scale of frequency, ranging from 1: never to 7: several times an hour. Typically this tool is either self-administered in a questionnaire format by staff or caregivers, or staff or caregivers are asked in a one-to-one interview to reflect verbally on an individual's behaviour. A period of two weeks is suggested in the manual to base one's ratings on (Cohen-Mansfield, 1991). If a particular behaviour is not specifically listed under one of the 29 behaviours outlined in the CMAI manual, additions can be made to categorize such a behaviour under the most closely-related option. In the CMAI manual Cohen-Mansfield outlines three 'factors' (or categories) of agitated
behaviours: aggressive behaviours, non-aggressive and verbally agitated behaviours (Cohen-Mansfield, 1991) that 21 of the behaviours can be categorized under.

**Concurrent validity.**
Miller, Snowdon & Vaughan (1995) found evidence that the CMAI ratings correlate well with those obtained using other behavioural rating instruments including the Nursing Home Behaviour Problem Scale (NHBPS) and the Behavioural and Emotional Activities Manifested in Dementia (BEAM-D). When conducting a study consisting of 2445 Australian residents across 46 nursing homes in Sydney, Ray, Taylor, Lichenstein & Meador (1992) provided evidence of the concurrent validity of the CMAI finding it had a high correlation (0.91) with the NHBPS when used among 122 nursing home residents.

**Content validity.**
Cohen-Mansfield, Marx & Rosenthal (1989) performed factor analysis on the responses to the CMAI from 408 residents living within care facilities, this resulted in three subtypes of agitation being identified: aggressive behaviours, non-aggressive and verbally agitated behaviours. Subsequent factor analysis was performed by Miller et al. (1995), using the CMAI data from 704 residents. The CMAI items which were manifested in less than 5% of the subjects were removed from the analysis. The remaining 26 items were analysed and three factors emerged, and the researchers retained Cohen-Mansfield’s original labels in naming these, as: aggressive behaviours, non-aggressive and verbally agitated behaviours (Miller, et al., 1995), with most of these matching the original factor analysis done by Cohen-Mansfield et al (1989).

**Inter-rater reliability.**
In a study with 232 residents of a residential care facility when using the CMAI in an interview format with nursing staff, Finkel, Lyons & Anderson (1992) found that the CMAI demonstrated high internal consistency however, its inter-rater reliability was highly variable. Miller et al. (1995) found inter-rater reliability of the CMAI was considerably higher than reported in the study by Finkel et al. (1992) particularly in relation to the subtypes of aggressive and physically non-aggressive behaviours. Verbally aggressive
behaviours were less reliably rated with Miller et al. (1995) suggesting this may be due to the possible foreign education of raters or language and cultural differences, which may impact on staff's interpretations of resident's verbalizations.

**Justification.**

The CMAI was chosen as its accompanying conceptualization of agitation by Cohen-Mansfield is widely known and used in the majority of studies regarding agitation in dementia (Kong, 2005). The operationally defined behaviours in the CMAI consider more than the physical agitation that is often most recognizable in people with dementia, and includes physically non-aggressive and verbally aggressive behaviours which may cause internal discord for an individual. A file audit over two weeks was chosen as the method by which to collect the data for the CMAI. As this study involves the comparison between facilities, one researcher auditing files from the same two week period at both facilities will provide greater inter-rater reliability, rather than relying on staff interpretations and recollection of resident behaviours which are likely to be variable between facilities.

**Description of Settings (Guided by the REIS Walk-Through Observation Guide)**

**Traditional facility**

**Background information.**
This facility is government funded and therefore constructed based on the generic government design brief (Department of Human Services, 2000). This resulted in it being designed in a similar fashion to the other residential care facilities within the health service. This facility was opened in 1995 and has 13 beds.

**General description.** (See Appendix O for floor plan)
This facility aims to provide a bright and welcoming environment, with the many windows offering garden, courtyard or farmland views. The dementia wing features 13 bedrooms arranged in a T-shaped corridor with ensuite bathrooms, a dining room adjoining the lounge area, resident-access garden and a nursing station. The facility is painted in a colour scheme of cream and yellow. The lighting is a combination of small semi circle wall lights and
small rectangular florescent lights. The same pattern of homelike floral print curtains is used throughout the wing, except for in the dining room where a cream transparent curtain is pulled across to hide the view of the main corridor of the health service. Various types of framed pictures hang on the walls, with a combination of prints and paintings featuring various scenes in nature.

**Resident rooms.**
Resident bedrooms have each resident's name on their door along with a picture they see themselves as, whether this is one from the past or present. Residents are encouraged to bring their own possessions to furnish their rooms including bedside tables or armchairs, to minimize the clinical nature of the room. Many residents have brought items such as photo frames and ornaments. A space has been made at the end of one side of the T-shaped corridor. It overlooks the garden and contains a small table and chairs, which provides a semi-private area for families or residents. A locked door located at the end of the corridor leads to the outdoor area.

**Lounge room.**
The lounge room is the first room encountered upon entrance to the facility. It contains a range of homelike armchairs and clinical chairs. Many of these have been personalized with crocheted rugs. The lounge also contains: a wall-mounted television, a wooden bookshelf with generationally appropriate books and magazines and a mantle piece containing homelike bric-a-brac ornaments. A large pin board hangs in the lounge room with information such as: the monthly activity timetable, meeting dates and the resident newsletter. A speaker linked to the Public Address (PA) system is mounted on the wall allowing service-wide announcements to be made.

**Dining room.**
The dining room consists of three tables each seating four residents, and a smaller table seating two residents. Each table is set with traditional print placemats, a small vase of flowers and salt and pepper shakers. Despite their functionality and safety, the chairs are vinyl covered and institutional-like. A white board on the wall details the lunch menu for
the day and any activities planned. The dining room overlooks the garden. A small shelf with bright coloured canvases is a feature of this room. A number of locked rooms adjoin this room including one to the outside, and two with signs for clinical areas.

**Staff areas.**

These are clearly defined, by signage on locked doors such as: Dirty Linen, Activities and Linen. The nurse's station has two key locked entry doors and a roll up window. In this station, a dishwasher, microwave, sink and cupboards allows this space to be used by staff for meal preparation. Next door to this is a key-pad entry office that is shared by the staff of the three adjoined nursing home facilities. Staff members spend time in both these spaces however, during the walkthrough staff completed some paperwork in the main lounge area to allow for more interaction with residents.

**Outdoor environment.**

The flat outdoor area has a traditional Australian backyard feel. It contains two navigational circular concrete-paved paths, leading an individual past a variety of sensory stimulating native and flowering plants. It has a paved barbeque area surrounded by lawn and covered by a shade sail. Along the edge of the wing, a variety of benches, deck chairs and clinical chairs allow for undercover seating. Other areas within the health service are visible from the outdoor area. Features of the outdoor environment are: a letter box, views beyond the locked fence of paddocks, houses and trees, raised garden planter boxes and a birdbath.

**Person-centred facility**

**Background information.**

A small rural health service identified a need to provide specialized dementia care, to provide access to and equity in dementia services. This included providing local individuals with a dementia-specific long term residential care facility. This service then embarked on a 5 year journey highlighted by a community, business and health service partnership, which resulted in the small rural town fund-raising the entire cost of a person-centred dementia facility, and thus removing the constraints of having to follow the generic state government residential design brief. This person-centred facility was planned, researched, designed,
funded and constructed by members of the local community. A major process in the planning of this facility was global research into the current body of knowledge relating to the design of dementia-specific environments. The aim of their unique design was to create a secure environment for people with advanced dementia that not only considers the aspects of the condition but the rural environment of the community, providing a specialized local option for families. This facility was opened in 2009 and has 10 beds.

**General description.** (See Appendix C for floor plan)
The indoor decor of the facility features cedar paneling and solid blackwood cabinetry combined with internal walled brickwork. An open communal living space is the main area for activity within the facility. Individual bedrooms with ensuites sit adjacent to the dining and lounge areas, eliminating the need for corridors or hallways. Other private, resident-accessible breakaway points from the main living area are: a staff kitchen, a small formal glass conservatory and an artist's studio, with the latter two having resident-access doors and a level-entry to the outdoor area. Farm and garden spaces are resident accessible, and have a number of rural features familiar to local residents. Promotion of natural light occurs throughout the facility, with large picture windows in communal areas overlooking garden and farm spaces. Interior lighting with circular light fixtures promote a soft, natural glow. Two 'roof turrets' in the lounge and dining areas feature coloured leadlight glass, which during daylight hours can cast coloured light streams across the floor. Coloured and textured stained glass has been incorporated into a series of panel doorways within the facility. The stained glass is inspired by colours within nature. Stained glass encased within the main entry also aims to deter residents from trying to leave, and provides them with visual stimulation.

Many framed scenic artworks hang on the facility walls. The majority of these are done by local artists with each having some kind of human form represented in them. These were chosen because this allows the residents to interpret their own meaning from the artwork. A brightly coloured canvas craft piece featuring an underwater scene with various animals
and plant life is another wall feature. Three-dimensional tactile elements are on this canvas including different textures, materials and glitter.

Resident rooms.
These feature large wide doorways with sensor lights above each room alerting staff to residents entering or exiting rooms. A photo frame with two photo spaces hangs next to each resident's door. The majority of residents have their name printed in one space and a recognizable photo of themselves, their family or a particular interest in the other space. Rooms are very personalized with residents encouraged to bring their possessions such as objects, items of interests, photos, bedspreads, quilts and pillows.

Living area.
This is divided into two functional areas by the double-sided fireplace but still maintains an open-plan vision and feel. When residents' leave their rooms, they are immediately within the main point of activity within the facility.

Lounge area.
The lounge area has a number of seating options including: facing the television, overlooking the garden and at small tables. An in-wall tropical fish task extending into the living space was designed as a reference point and to promote calmness and tranquillity. The fish tank can be seen by all residents upon exiting their bedrooms, which aims to promote navigation and wayfinding. A framed communication board introduced by occupational therapy students is located on a wall in the living area. On this board are photos of residents during time prior to living in the facility which have been brought in by family members. Photos of the residents during their time in the facility are also on the board. Within the lounge area there are many cupboards and drawers that are unlocked and thus accessible by residents. These contain various objects which can be used in activities desirable to residents such as: games (carpet bowls, various balls), sensory and tactile objects, miniature items and tools, musical instruments. A small 'nook' with two bright comfortable chairs next to a china cabinet with silverware and crockery, is a part of the living area offering a quieter space for residents. A small communal glass conservatory
links onto the lounge area. This overlooks the garden area and has a resident-accessible door leading to the outdoor area. This is a private area that can be used by families, residents and staff. It features comfortable chairs and a stained glass entry.

Dining area.
The dining room is the first room encountered upon entrance to the facility. The dining table has three tables each accommodating four residents and also a lower table with lounge-type chairs, providing residents with various dining preferences. A coat stand is positioned beside the entry door with scarves, bags and hats adorning it. A side-table with various homelike objects including flowers and bric-a-brac items is in this area. The nurse's desk is a defining feature in this facility. It is a long desk in a corner of the dining area. The desk is at the same height as the resident dining tables. This allows residents to pull up a chair and sit alongside staff whilst they work, which often results in friendly conversation, spontaneous social interaction and stimulation for residents. Resident files and paperwork are stored in locked wooden cupboards behind the nurse's desk. Medicine carts, food and beverage carts, linen trolleys are only brought out when they are required. Nursing staff have a keypad code for locked meal preparation, pharmacy and storage areas which has a 'camouflaged' door blending into the panelling of the walls.

Kitchen.
Nursing staff make use of the sink, bench, fridge, cupboards within this resident-access staff kitchen however, these blend into the homelike feel of the room. A small kitchen table with chairs allows residents to stand or sit near staff during nursing tasks, again prompting engagement and interaction. Two large wooden shelves add to the homelike feel and contain objects that are generationally appropriate including: crockery on a stand, an old telephone and radio, kitchen scales, kettle, biscuit tins, recipe books and glassware. An 'artists studio' used by an employed art therapist on a regular basis, is a room adjoining the resident-access kitchen and overlooking the garden area. This room has a resident-accessible door leading into the outdoor area. It features cane furniture, a large work table, art canvases and paintings on display on the walls and shelves. Various art materials
including: crayons, paper, pastels and pens are left on the table for spontaneous staff and resident use.

**Outdoor environment.**

This has level-entry into the facility however, has a sloped landscape. Multiple resident-access doors encourage residents to freely go outside and receive benefits from nature and the outdoors. Paths are all concrete paved and encase smaller lawn areas and garden beds. Different seating options are provided with varying privacy levels, some close to the entry doors and some around corners. A raised garden planter with herbs and a variety of ground and potted plants feature in the garden beds. The outdoor environment aims to mimic the rurality of the surrounding town and the farming environment that typifies what the majority of residents are familiar with. Pathways functionally lead residents into the gardens and the farming area, and logically return to entry points into the facility. The outdoor area overlooks a field with alpacas, sheep, paddocks, the local cricket ground, a traditional windmill and a water harvesting lake surrounded by rockery. A series of familiar farm timber fences aim to deter climbing and have been designed to roll and spin without points of leverage. A chicken shed is in a corner of the garden, with chickens often found wandering around. A functional outhouse is part of this garden area. This looks like an old-fashioned outhouse but inside has a modern disability access toilet and basin. A work shed with a tin roof is a feature of the outdoor environment and a space reflecting many of the past vocational occupations of residents. This work shed features a car, tractor, petrol bowser, workbench with tools, hay bales, an old shed phone and radio, watering cans, gumboots, petrol cans, paint tins, shovel, large wooden table and chairs.

**Procedure**

Ethical approval was received from the Deakin University Human Research Ethics Committee (DU-HREC) on June 9th 2011 (see Appendix E). The person-centred dementia facility had approached the university to conduct a research project on their facility. Following the research design being determined, the person-centred facility then sought the
traditional facility for the project using their networks (see Appendix F for copy of email of support from the traditional facility). The two dementia facilities were located in similar sized rural towns, part of similar rural health services, had similar staffing systems and similar bed numbers. The facilities were chosen for their differences in environmental design. After ethical approval was received, the researchers handed the Chief Executive Officers (CEO's) of the two health services organizational plain language statements (see Appendix G), and both agreed to participate by signing organizational consent forms (see Appendix H).

Identifying participants
Purposive sampling was used to select participants for this study, with researchers deliberately targeting individuals that were either residents of or staff members working within the two facilities selected for the study (DePoy & Gitlin, 1998).

Residents with dementia.
Due to ethical considerations the researcher did not directly contact residents for participation in the study, this process was done by the management of the participating facilities. Residents all have a diagnosis of dementia and subsequent cognitive impairment, thus consent to audit their files was sought from their family members. All residents living in the two facilities were invited to participate. When invited by the management, families were provided with a plain language statement and consent form (see Appendix I), and reply-paid envelope. Families were given the option to seek further information or verbal clarification on the study aim and participation details from the researcher. Demographic information regarding the residents was collected through discussions with relevant nursing staff members.

Staff members.
Each organization distributed plain language statements and consent forms (see Appendix I & J), and reply-paid envelopes to four direct-care staff working within their dementia-specific facility. From the consents received two staff members from each facility were randomly selected to participate. Staff members were given the option to seek further
information or verbal clarification on the study aim and participation details from the researcher. Demographic information regarding: position title, years at the facility and years of experience in dementia care, were gathered from staff members themselves.

Staff and family members were also provided with a revocation of consent form, in the instance where a participant no longer wished to participate or a family member wished to withdraw their resident from the study. Consent was gained from staff and family members by the returning of signed consent forms by reply-paid envelopes or returning envelopes to nursing staff within their facility. Consent was received for all individuals who participated in the study.

Data Collection

Using the REIS.
The visual evaluation of the home environment was the first part of data collection and was completed at the researcher's convenience.

Following this, times for observation of tasks, were negotiated by the researcher and the nursing management based on the specific meal and activity schedules of each facility. During task observation the researcher was not participating in the observed activity, and was seated in an unobtrusive and uninvolved position within the activity environment (Kielhofner, 2006). Throughout the activity the researcher utilized the Guide for Observation form to make detailed observations, and noted specific interactions between residents, staff and environment with particular focus on the resident's engagement in the task and with aspects of and objects within their environment. If residents approached the researcher during the observation process, the researcher acknowledged this and if relevant to the observation (for example, the resident presenting an object found within the environment to the researcher), included this in their notes.

The staff interview section of the REIS was completed at both facilities following the task observation. Structured interviews were conducted individually, face-to-face with two direct-care staff members from each facility. This was to determine staff perceptions of the
daily life within the facility, with a focus on occupational engagement and agitation. A time was arranged at the participants' convenience and the interview was held at their respective workplaces in a private area. Probing was only used to encourage participants to discuss their responses and opinions in more detail (Minichiello, Madison, Hayes & Parmenter, 2004), rather than to ask further questions. Interviews were audio-recorded and the researcher also took notes of any significant points during the interview. Transcripts of each interview were completed by the researcher. The researcher downloaded the audio files onto their computer, and then played the files back and transcribed the interviews into a word document. Member-checking was conducted to clarify information and improve rigor (Creswell & Miller, 2000). This was done by the researcher identifying key quotes in each transcript and requesting staff members expand on these to ensure responses were interpreted correctly by the researcher.

**Using the CMAI.**

The auditing of a two week period of residents files was completed gradually during July and August as consents were returned from family members. The person-centred facility used paper-based files so the auditing was completed within the facility at the nurses' desk. The traditional facility used computer-based files so the auditing was completed in the library room within the health service. The researcher utilized a tally form to note each instance of agitation (see Appendix K). This information was then transferred onto the CMAI Long Form (see Appendix L).

**Data Analysis**

1. Aim One relating to how occupational engagement differs between people with dementia who live in a person-centred dementia facility and people with dementia who live in a traditional dementia facility, was investigated using the REIS activity/task observations at both facilities. Data analysis occurred by the researcher examining field notes taken during each observation period, and identifying and presenting descriptive information relating directly to observations which fit with the chosen definition of occupational engagement (the act of being involved purposefully with an external stimulus (Cohen-Mansfield et al., 2009).
2. Aims Two and Three regarding staff members’ perceptions on occupational engagement and agitation of residents were investigated through the structured interview component of the REIS. All interviews were audio recorded and transcribed verbatim. Data analysis occurred by comparing and contrasting answers to each question between the two facilities, to identify differences and similarities in staff perceptions. A separate word document for each question was created allowing the researcher to compare and contrast responses from staff members. Another member of the research team who was not involved in data collection was given a random selection of these word documents, and highlighted what they interpreted as the key points. This was compared with the researchers’ interpretations, and any differences were discussed (Creswell & Miller, 2000)

3. Aim Four relating to if there is a difference in the prevalence of agitation behaviours between people with dementia who live in a person-centred dementia facility and people with dementia who live in a traditional facility, was investigated using the CMAI and analysed using the Statistical Package for Social Science (SPSS) Version 17.0 for Windows software. After data collection, data were entered into the SPSS program prior to analysis. Descriptive statistics were generated.

This chapter presented the methodology of the study. Chapter Four presents the results of the study.
CHAPTER FOUR: RESULTS

In Chapter 3, the research methodology was outlined including study aims, participant details, sampling and recruitment processes, data collection instruments, descriptions of participating facilities, data collection processes and data analysis techniques. This chapter presents the findings of the research study. The results will be presented under each of the four study aims.

Aim One: How does occupational engagement differ between people with dementia who live in a person-centred dementia facility and people with dementia who live in a traditional dementia facility?

Occupational engagement was defined by Cohen-Mansfield et al. (2009) as the act of being involved purposefully with an external stimulus. This stimulus can be another person or something within the physical environment. This definition was used to identify whether observations were classed as occupational engagement.

Three different activities were observed within each of the facilities. These were: a mealtime, a group activity and unstructured time. The observations from the traditional facility will be presented first, followed by those from the person-centred facility.

Traditional Facility.

Table 4.1 lists observations of occupational engagement during mealtime in the traditional facility.

<table>
<thead>
<tr>
<th>Observations of occupational engagement during mealtime in the traditional facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Residents talking amongst themselves.</td>
</tr>
<tr>
<td>-Music put on as residents leave the dining area encourages: singing, humming and tapping feet.</td>
</tr>
</tbody>
</table>
Mealtime (lunch) in the traditional facility is held at 12 midday. It is held in the dining room however, one resident chose to eat in their bedroom. The curtains in the dining room were opened allowing natural light to flow into the facility. Two personal care workers and one student were present. Staff members brought residents into the dining room ten minutes early which meant residents sat at the dining tables unengaged whilst staff completed non-resident duties.

Generally male and female residents are seated at different tables, with an average of 3-4 residents at each table. One resident in a nursing style lounge chair, was positioned by staff in a space on their own. Due to the table set up and dining room size the chair was unable to fit at a table. Throughout the meal residents remained seated at all times. All residents were required to wear disposable paper bibs during mealtime and staff members wore aprons, which promoted a more institutional dining experience.

The staff tasks during mealtime involved:
- Setting the table
- Assisting residents into the dining room
- Helping residents put on paper bibs
- Serving meals
- Assisting residents with cutting up food and eating.
- Preparing and serving drinks
- Preparation and administration of medications
- Clearing table
- Washing, drying and putting away dishes.

Staff tasks tended to centre within the nursing station which contains a microwave, oven and dishwasher. One door to the nurses' station is adjoined to the dining room and this resulted in noise from this area heard and seen in the dining room, and frequent movement of staff between the two areas. This noise dominated the dining room and the researcher observed that this may have impacted on conversations by residents being heard. The number of tasks staff had to complete within the nurses' station during mealtime resulted in
staff not having much time to sit and interact with residents. Consequently, the social meaning of the meal for residents was reduced, with staff focused on completing their tasks.

As residents finish eating at different times, staff put on music in the lounge area which is highly engaging for residents. A number of them begin tapping their feet, singing softly and humming. A resident who routinely wanders within the facility began smiling and singing to herself as she walks. These were all indications that the music facilitated resident occupational engagement.

Table 4.2 lists observations of occupational engagement during a group activity in the traditional facility.

<table>
<thead>
<tr>
<th>Observations of occupational engagement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents singing, tapping their feet in time to music.</td>
<td></td>
</tr>
<tr>
<td>When encouraged by staff, residents were shaking their musical shakers.</td>
<td></td>
</tr>
<tr>
<td>One resident accompanies the keyboardist by singing (a regular occurrence).</td>
<td></td>
</tr>
<tr>
<td>A staff member initiates dancing with residents one on one.</td>
<td></td>
</tr>
</tbody>
</table>

The group activity observed was a 'music hour' run by a local volunteer and held in the lounge area. This activity occurs weekly as part of a combined activity timetable for this facility and the nursing home, also located within the health service. The local volunteer plays a keyboard, and one of the residents sits beside the volunteer and accompanies her by singing. The other residents are seated in lounge chairs, with a number of residents falling asleep instantly or drifting in and out of sleep during the activity which reduced their potential for occupational engagement. One personal care worker was present during the majority of the activity. All residents in the lounge area have a view of the volunteer, however due to the room being quite long and the lounge chairs positioned around the room, all residents are not directly facing the activity. This resulted in limited opportunity
for communication between residents themselves. The residents who are not initially in the lounge room for the activity remain in their room for the duration.

The staff role during this activity included
- Assisting residents to seats.
- Facilitating one on one interactions including dancing, singing, clapping, shaking of instruments.
- Distributing hand-held musical shakers and bells to residents.
- The staff member not participating in the activity is completing paperwork in the staff office.
- Preparing and serving hot drinks and morning tea.

The personal care worker is highly active in trying to get all residents to participate in the music session; however, these are limited to one on one interactions (for example, initiating one on one conversation or encouraging one resident to shake an instrument or clap their hands).

The personal care worker encourages a few residents to dance in the centre of the room which provides pleasure and engagement for them. If residents are unable to stand up to dance the personal care worker facilitates physical activity more appropriate to their capabilities such as waving their arms or tapping their instrument. This is done to make the activity more meaningful and increase resident occupational engagement.

During the 'music hour' another personal care worker begins to serve morning tea during the session. In many cases the distraction of the cup of tea causes residents to disengage from the music and put down their musical instrument. In this situation the morning tea routine does not allow for continual engagement in the activity.

Table 4.3 lists observations of occupational engagement during an unstructured time in the traditional facility.
Table 4.3

Observations of occupational engagement during unstructured time in the traditional facility

<table>
<thead>
<tr>
<th>Observations of occupational engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>- One resident engages with a teddy bear treating like a baby, murmuring to it,</td>
</tr>
<tr>
<td>rocking it and waving its hands to staff. This was given to her by a staff</td>
</tr>
<tr>
<td>member.</td>
</tr>
<tr>
<td>- One resident stops to look at the notice board briefly.</td>
</tr>
<tr>
<td>- Two residents converse about a doll that is on a lounge chair and who it</td>
</tr>
<tr>
<td>belongs to.</td>
</tr>
<tr>
<td>- One resident goes outside through the resident-access door for a cigarette on</td>
</tr>
<tr>
<td>two occasions, inviting another resident to join them on one occasion.</td>
</tr>
<tr>
<td>- One resident tries to go outside and opens the resident access door to the</td>
</tr>
<tr>
<td>garden &quot;if I go out there for long enough I’ll be able to go home&quot;</td>
</tr>
<tr>
<td>- One resident wanders on a consistent indoor path through the facility,</td>
</tr>
<tr>
<td>stopping to laugh or incoherently speaking to staff.</td>
</tr>
</tbody>
</table>

To give a broader view of resident occupational engagement over a whole day, observation occurred in both the morning and afternoon. The central point for activity in the traditional facility is the lounge room, thus observation occurred within this area.

During unstructured time periods various individuals were present in the facility including personal care workers, nursing staff, cleaners and residents family members and friends.

During this period staff members were observed to undertake the following tasks:
- Completion of paperwork in staff office.
- Visual monitoring of residents.
- Assisting residents with toileting and personal care.

In addition to the facility environment itself described in Chapter 3, a number of stimuli were introduced by staff to facilitate resident engagement. These included staff members putting on a DVD for residents and a teddy bear and doll sitting on lounge chairs.
Person-centred facility.

Table 4.4 lists observations of occupational engagement during mealtime in the person-centred facility.

Table 4.4

*Observations of occupational engagement during mealtime in the person-centred facility*

<table>
<thead>
<tr>
<th>Observations of occupational engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Resident self-initiating dancing and invites another resident to dance.</td>
</tr>
<tr>
<td>- Reminiscence and conversation relating to the music.</td>
</tr>
<tr>
<td>- One resident appearing to count and measure the paneled wall and various cupboards, reporting numbers verbally to himself, stating to staff that he is checking out things.</td>
</tr>
<tr>
<td>- Wooden stand at entrance provides engagement for one resident who strokes the materials and mutters to herself.</td>
</tr>
</tbody>
</table>

Mealtime (lunch) in the person-centred facility is held at 12 midday. It is held in the dining area of the main living area however, one resident chose to eat in the lounge area with visiting family members and another is served their meal in their bedroom. Eating with family makes mealtime a meaningful activity, and allows residents to occupationally engage with their social environment by having a choice of where to eat. Some staff tasks including preparing drinks and washing dishes are done in the resident-access kitchen. The resident in the lounge area has two family members visiting and they decide to eat in the lounge area which is overlooking the garden, providing privacy and a pleasant setting. All residents, including those in nursing style lounge chairs are placed around two large tables, which fosters a sense of belonging and allows all residents the opportunity to engage.

The staff role during mealtime involved:
- Setting the table with brightly coloured tablecloths.
- Assisting residents to tables
- Serving meals
- Assisting residents with cutting up food and eating
- Preparing drinks
- Preparation and administration of medications
-Clearing table
-Washing, drying and putting away dishes.

Due to the open planned living area, most of the residents are cued to the dining room by visually seeing the kitchen staff bringing in the meals trolley or observing staff setting the table. One resident assists staff with putting the tablecloth on the table. This resident appears to be occupationally engaged both in the task and with the staff member. When staff members are undertaking tasks that do not directly involve residents, such as washing dishes or organizing the meals trolley, these are done in resident-access areas. On a number of occasions residents were observed to shadow staff and initiate conversations which indicated their occupational engagement with the staff. As there is no closed nurses’ station, staff spent the majority of their time visible to residents and directly interacting with them. One staff member puts on a classic hits CD which sets the mood for a lively dining experience. Although staff members have specific tasks to perform during mealtime, they are always visible to residents and engaging them in eating and conversation.

A number of residents are regular wanderers, thus at various times during the meal they are allowed to walk around the dining area however, they do return to the table and finish their meals. The freedom of movement allowed by this facility allows these residents to wander during mealtime and still be triggered visually by the dining area as a cue to return to mealtime when ready.

The music playing during the mealtime stimulates conversation and reminiscing between residents themselves and staff. Staff members sing along to the music playing and converse with residents on the various singers, which residents recognize on a number of occasions. The following two quotes are examples of how residents engaged with music by relating it to a meaningful point in time. When praised on his two-step dancing style by a staff member a resident remarked:

_I was the king of the dance when I was a kid. (Resident 1)_
This resident then says to a seated resident

Do you want a date do you? (Resident I)

This then leads to the two residents dancing hand in hand around the dining area.

Table 4.5 lists observations of occupational engagement during a group activity in the person-centred facility.

Table 4.5
Observations of occupational engagement during group activity time in the person-centred facility

<table>
<thead>
<tr>
<th>Observations of occupational engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Different types of balls (beach ball, basketball) stimulate reminiscence about the past.</td>
</tr>
<tr>
<td>- Resident visually engaged by seeing the ballgames when looking out her bedroom door.</td>
</tr>
<tr>
<td>- Residents able to wander in and out of the game, often drawn back by the ballgame or the music.</td>
</tr>
<tr>
<td>- Residents singing, tapping their feet in time to music</td>
</tr>
</tbody>
</table>

The group activity observed was staff initiated ball games and held in the lounge area. Two personal care workers were present, with one running the activity and the other attending to other duties. The basis of the activity involved various sized balls (beach ball, softball, basketball), and the staff member facilitating residents passing the ball between members of the group. At various points of the activity some residents were sitting while others preferred to stand.

The staff role during this activity included
- Encouraging residents to join the group
- Putting on lively music CD, singing along to songs.
- Assisting residents to seats
- Positioning lower-functioning residents in view of the activity
- Initiating and encouraging ball throwing, kicking and bouncing.
Laughter and good humour was a key feature of this activity, with the different balls stimulating conversation surrounding residents and staff members past sporting pursuits and interests. The following two quotes provide examples of how the ball game engaged residents in conversation. During a game involving residents rolling the ball, one resident commented

*I used to be a bowler. (Resident 2)*

When another resident kept catching the ball during another game, another resident laughingly remarked

*He must have the ball on a string, he keeps catching it! (Resident 3)*

During the game one resident changed from a seated position to standing up and becoming involved in leading the game. A number of residents wandered in and out of the game. The resident leading the game engaged one of the residents for a few minutes by initiating one-to-one throwing. During the game when the leading staff member had to briefly leave the game, residents were able to continue the game for a short period of time before becoming disengaged until the staff member returned.

A number of residents were engaged by the music playing, with some tapping their feet or clapping in time to the music. One resident wandered regularly in and out of their bedroom during the activity. This resident was visually engaged by the game for brief periods due to being able to see the living area upon exiting their room. Initially they were standing and watching the game however, on two occasions directly picking the ball up off the ground and throwing it to a staff member.

Table 4.6 lists observations of occupational engagement during a group activity in the person-centred facility.
Table 4.6

Observations of occupational engagement during unstructured time in the person-centred facility

<table>
<thead>
<tr>
<th>Observations of occupational engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dining area:</strong></td>
</tr>
<tr>
<td>- Two residents stack dining chairs on a table.</td>
</tr>
<tr>
<td>- A number of wandering residents pick up beads and feather boas and present them to staff at nurses' desk.</td>
</tr>
<tr>
<td>- Two residents attempt to fiddle with the record player on the sideboard.</td>
</tr>
<tr>
<td>- One resident wanders around behind the nurse's desk and checks his watch with the clock behind the desk.</td>
</tr>
<tr>
<td>- A number of residents initiate conversation with staff and the researcher at the nurses' desk, some even sitting down to interact.</td>
</tr>
<tr>
<td>- Two wandering residents are engaged by the hat stand near the main entry area and one comments 'she must have arrived' before both pointing to various items (bag, hat and scarf) on this stand.</td>
</tr>
<tr>
<td>- Resident comments on the fresh flowers on the dining tables stating 'you can't keep them for long, they will look dead'.</td>
</tr>
<tr>
<td>- Residents adjusting/moving/pushing dining table chairs within the living area.</td>
</tr>
<tr>
<td><strong>Lounge area (including nurse's desk):</strong></td>
</tr>
<tr>
<td>- A resident engaged by the fish tank while the housekeeper is cleaning it, converses with her and then returns to it again after the housekeeper has gone.</td>
</tr>
<tr>
<td>- Resident taps on fish tank and mumbles to herself.</td>
</tr>
<tr>
<td>- Resident wanders around with cup and plate and then encouraged to assist staff with collecting tea cups and plates.</td>
</tr>
<tr>
<td>- One resident picks up a newspaper from the table and carries this to another area.</td>
</tr>
<tr>
<td>This is discovered by another resident who then goes and fetches his glasses before beginning to read it.</td>
</tr>
<tr>
<td>- Two residents separately self-initiate use of the small quiet space off the living area which has two bright lounge chairs next to a china display cabinet.</td>
</tr>
<tr>
<td><strong>Resident-access kitchen:</strong></td>
</tr>
<tr>
<td>- One resident picked up a bottle of dishwashing liquid from the resident-accessible kitchen and presented it to a nursing staff member who is clearing the table.</td>
</tr>
<tr>
<td>- Numerous times residents are 'shadowing' staff in resident-access kitchen when staff are preparing drinks or washing and putting away dishes.</td>
</tr>
<tr>
<td><strong>Outdoor area:</strong></td>
</tr>
<tr>
<td>- One resident who appeared restless wandered outside and found a rake in the garden, they spent about half an hour raking the garden and appeared to calm down.</td>
</tr>
<tr>
<td>- One resident wandered down to the fence at the end of the garden and looked over it and examined the fence posts.</td>
</tr>
</tbody>
</table>
To give a broader view of resident occupational engagement over a whole day, observation occurred in both the morning and afternoon. The areas within the person-centred facility that were observed were all the resident communal areas which included the main living space (lounge and dining areas), resident-access kitchen and the outdoor area. During unstructured time periods various individuals were present in the environment including personal care workers, nursing staff, housekeepers, gardeners, volunteers and residents' family members and friends.

During this period staff members were observed to undertake the following tasks:
- Administrative duties such as writing in files at the nurses’ desk.
- Attending to resident toileting or other personal care.
- Preparing and serving hot and cold drinks to residents.

In addition to the facility environment itself described in Chapter 3, a number of stimuli were introduced by staff to facilitate resident engagement. These included newspapers and magazines on the nurses’ desk and on tables by the lounge room window, coloured beaded necklaces and feather boas on dining tables, dance-hall and sing-along music playing and the television on at soft volume.

During unstructured time at least one staff member was always present in the resident-access areas, and for the majority of the observations both staff members could be seen by residents within the main living areas.

Residents were observed to have lots of short engagement periods (varying from ten seconds to 5 minutes) with objects where they touched or fiddled with an item, took an object from a table or shelf and then put it back in the same place, straightened or tided objects within the environment or commented on an object to self or others.
Aims Two and Three:

Within a traditional dementia facility, what are staff members' perceptions on occupational engagement and agitation of residents?

Within a person-centred dementia facility, what are staff members' perceptions on occupational engagement and agitation of residents?

The REIS structured interview was used to answer these aims. Results are presented question by question, with answers from staff members from both facilities compared and contrasted.

A pseudonym was assigned to each staff member interviewed:

Debbie- works at person-centred facility
Julie- works at person-centred facility
Linda- works at traditional facility
Allison- works at traditional facility

Question 1

a) How do residents get along with staff?

All four staff members interviewed reported that residents generally got on well with staff, although instances where this may not be the case do occur sporadically, as reflected by the following quote:

There are now and then little personality things, depending on what mood [residents] are in some things might rub them up the wrong way. (Debbie)

Staff from the person-centred facility stated that being adaptable to daily changes in residents personality, memory, behaviours and moods resulted in good relationships being maintained. The following quote expresses this view:
In dementia you have your good days and your bad days. We just go with it, everyone is different and have got their different forms of dementia and their different behaviours. (Julie)

Both facilities in this study had a small number of beds. This was highlighted by a staff member from the traditional facility as a factor impacting on how they got on with residents.

They get on really well with them, because it's a small unit with a small staff base, there is only two staff on at a time. (Linda)

b) How do the residents get along with each other?

All staff reported residents generally get along well with one another. However, a number of different reasons were provided as to why incidents may or may not occur between residents. These included: the presence of agitation behaviours, being bored or having a limited choice in activities, moving into a new environment and perceiving others as invading ones' space.

The presence of agitation behaviours was explored by a staff member from the traditional facility who recounted a story about when a resident's repetitive behaviours caused responses of aggression of some residents, stating:

Every now and then you get a resident, we've got one at the minute she's very very repetitive and there are other residents that do get aggressive and try to shut her up (Linda)

Residents being bored or having limited choice in activity was discussed by a staff member from the traditional facility as a reason why male residents may not get along, she stated:
With the early stages of dementia, the male residents...they tend to be bored ...there is not really a lot to offer the men at the moment ...they have a men's shed... the activities people take them out for gardening and that but there is not a great deal for men (Allison).

This view was echoed by one of the staff members from the person-centred facility who stated that keeping residents engaged resulted in residents getting on well with one another, she stated:

*If you have group things, or if you have music or singing, just keeping them busy they are pretty good.* (Julie)

Moving into a new environment or perceiving new residents as people coming into what current residents consider 'their' environment, was discussed by a staff member from the person-centred facility as a cause of conflict:

*With a new one coming in you might get a bit of conflict...it's just a spur of the moment thing often...and it will...happen like that and then they have forgotten about it.* (Debbie)

Linking to this statement, another staff member stated that invasion of one's personal space can potentially cause conflict among residents:

*Some are just oblivious to everything and some are a bit more protective of their rooms or their walker.* (Julie)
Question 2

a) How much help is needed by the residents as a whole with the different things that they do?

Mealtime:
Generally staff from both facilities reported helping residents in similar ways during mealtime: supervising, cutting up food, feeding, assisting residents to and from the table and encouraging and prompting residents to eat. However, one staff member from the person centred facility described mealtime in terms of the atmosphere and environment in which it occurred.

We have the music going, its light and nice, we...encourage chat, it's a nice, relaxed comfortable meal time, it is not formal...if someone wanted to eat in their room or chose to sit down at the big sunny window, that's fine, there is no set place, it's all very easygoing. (Julie)

Leisure (Including one on one):
Staff from the traditional facility stated that their role is quite informal in terms of leisure with one staff member stating:

It's on a needs basis. (Linda)

Staff from this facility reported that leisure was something that they helped residents with if they had time or if a resident was upset or distressed.

Often convenience was a factor in encouraging leisure, with music, talking and singing reported to be mostly used by staff members from the traditional facility, as these were able to be fitted in around clinical tasks.
Person-centred facility staff emphasized that leisure is an important part of the residents' day, and that it is something that they have tried to implement into the daily routine.

*We do try of a morning to do a bit of exercise, ball games that type of thing.*

*(Debbie)*

A staff member from the person-centred facility reported their use of the outside environment to provide leisure outlets for residents when they may be unsettled or needing some one on one time:

*I have encouraged him to go outside as he loves the garden, and he has grabbed a rake and for probably the last half an hour probably, he has been raking the gardens and that's really settled him down.* *(Julie)*

Staff members from the person-centred facility readily listed the available leisure options within their facility including: animals, the garden, indoor and outdoor games and sensory based tasks.

Staff members from both facilities stated that one on one activities were most suitable for people with dementia, rather than group activities.

**Group Activities:**

Staff from the traditional facility stated that a set activities program run by activities staff based primarily in the nursing home located in the same building was available for residents. One staff member describes her role in relation to group activities:

*These are organized by the activities team, what we do is assist them with the activities and bring residents back again.* *(Allison)*

Staff from this facility stated that besides this program they themselves did not initiate other group activities.
Staff from the person-centred facility stated that group activities are initiated and run by them, and these are highly dependent on how the residents are each day. Staff from this facility mentioned group activities that were spontaneous such as sitting around and chatting or reading the paper, foot and hand massage or going for walks outside, were most successful. This was emphasized by one staff member describing a successful group activity:

> Just to set up a big afternoon tea with the nice cups and saucers, we get the ladies in their necklaces, they love things like that. (Julie)

**Facilitating communication and interaction between residents:**

All staff stated that conversation between residents themselves required staff initiation and encouragement. 'Being a part' of the group and being able to listen to others, even though no verbal communication may occur was mentioned by most staff as being just as important as talking:

> But they can't all join in, some don't speak but it is nice for them to sit around so they can hear you. (Julie)

A staff member from traditional facility mentioned that the set-up of the environment may encourage interaction stating:

> The dining room set-up, there is small tables offour....They will sit beside each other, they prefer to sit beside each other then in the circles. It's less intimidating. (Linda)

**b) Do you feel residents are provided with enough help to do these things?**

A lack of time was emphasized by all staff in relation to provision of leisure activities. All staff reported that they prioritized their clinical tasks such as personal care and food and drink provision above leisure, as these were part of their basic care responsibilities. All staff
expressed they would love more time to dedicate to leisure however, the nature of their role often did not allow this.

Question 3- Do you feel you need additional knowledge and skills to provide the right kind of help to the residents? What are these knowledge areas and skills?

Staff members from both facilities stated the areas of management of difficult behaviours, communication strategies for people with dementia and new ideas regarding provision of leisure as areas they would like to gain additional knowledge in.

Question 4

a) How are difficult or agitated behaviours by the residents handled?

The basic procedure for handling a difficult behaviour was very similar between the two facilities, with all staff noting steps such as: taking a person out of the situation, changing the topic, ensuring all residents' safety or try to find out why a person is upset. If these steps were unsuccessful, both facilities had different approaches to dealing with agitation.

The person-centred facility staff members were more likely to distract the person by providing one on one attention either by: taking them for a walk outside, giving them a massage or inviting residents to assist them in productivity tasks:

*It is sometimes simply making them feel useful or like they are needed, for example something they used to do at home that was part of their daily life like setting the table or putting out the tablecloth. (Julie)*

The traditional facility staff members employed a more clinical approach, seeing if any medication had been prescribed for a particular behaviour or taking them to their room to find out what is wrong or to lie down:
Usually if you've got a difficult one, if they have gone through a doctor they usually prescribe something that will settle them down. (Allison)

If you take them to their room, settle them down, talk to them ....or let them lay down on their beds ...that rides it. (Allison)

b) Do you ever use the environment or a particular object to calm a resident down?

The use of music to settle residents who may be agitated or to soothe a resident who may be looking on edge was mentioned by staff members from both facilities.

The traditional facility staff members reported using objects such as activity mat, a doll or a newspaper or book, to calm a resident down.

The person-centred facility staff members referred to their use of the outside environment to calm a resident with examples such as: going to see the animals, gardening, sitting outside, eating outside or simply walking and talking. One staff member reports:

*There is no reason why the residents all can't go outside.* (Debbie)

Use of aspects of the environment relating to residents' hobbies or past interests or to stimulate memories were another common intervention used by staff members from the person-centred facility.

*It depends what their hobby is....You sort of know what will help with some and not with others.* (Julie)

Like we had a resident out the other day in the sunshine, and he just leaned over the back fence for half an hour, just looking around and he would talk about old times and things like that. (Debbie)
How to deal with the agitation of residents who are immobile or unable to walk were discussed by staff from both facilities. A staff member from the traditional facility stated:

[Referring to the activity mat] We use those every now and then for the ressies in chairs... they might be looking just to get out and getting a little bit agitated.

(Linda)

A staff member from the person-centred facility describes how she uses the outdoor area for residents who are in nursing chairs stating:

The residents that are immobile, in chairs, on a nice day we can sit them out in the garden. Especially in the summer we might all have lunch outside. (Debbie)

c) What types of agitated behaviours are most common? (physically aggressive, non-aggressive- pacing, repetitive behaviours, verbally aggressive- shouting etc).

Pacing and repetitive behaviours such as whistling, moving furniture or repeating requests or statements were agitated behaviours reported to occur by all of the staff. Staff all stated physical aggression was uncommon however it did occur.

One person-centred facility staff member did emphasize that although pacing is a common occurrence, explains that this may not always be aimless wandering.

Sometimes they just enjoy the walking, they feel/ike they are walking somewhere and just are happy doing that. (Debbie)
Question 5- Do you feel that good communication exists between the staff and families of residents?

All staff reported extremely positive communication and a good rapport existing between themselves and families. A common theme existing between staff from both facilities was that being a facility in a small town meant that residents, families and staff were more likely to know one another, and this resulted in a more welcoming environment. The following quotes illustrate this common theme:

*They feel like they are part of the family....the families that come in they know the other residents.* (Julie)

*It's a small town, a lot of the ressies or their families are from around here, so you know a lot of them.* (Linda)

Question 6- What do you do to support self-advocacy and empowerment of the residents? (Make them feel like they are in control and can make their own decisions)

All staff members reported that they use language to emphasize a choice to residents, rather than an order, for example:

*We don't say 'you are going to have a cup of tea', we say 'would you like a cuppa?* (Julie)

All staff stated asking rather than telling, giving residents as much control over their daily activities and genuinely following up residents concerns will improve empowerment.

A staff member from the person-centred facility reported that although due to cognitive deficits residents may not always be able to make a choice or choose an activity from a few suggestions, just providing them with the option of making a decision is beneficial. The same staff member also stated that looking back over residents' histories for what they may
have liked to do and asking residents if they would like to do activities of interest improved empowerment:

*We do try to look back over what they have done if there is something there of interest they might like to do. (Debbie)*

The same staff member explained that making residents all feel part of the group can impact positively on self-esteem:

*If we put him in the group or circle with everybody else, he actually enjoys the activity even though he can’t directly participate, hearing the laughing and the noise he just feels part of it. (Debbie)*

**Question 7- How do you select activities for residents to participate in that aim to utilize their current abilities?**

The staff members from each facility differ significantly in their approach to activity selection.

Staff from the traditional facility tended to rely on secondary sources of information from the care plan, family members and histories gathered by the activities department, to determine activities most appropriate for the residents. Staff stated these are most often carried out by activities staff and guided by their activities timetable.

Another staff member from the traditional facility described the process that the activity staff used, rather than how she approaches activity selection stating:

*They (activity staff) would try and integrate it in or base an activity around what the resident’s past interests were…. If the ressies can’t verbalize it, they might do an interview with the daughter or something. (Linda)*
The person-centred facility tended to take a 'day by day' approach to activity selection, with one staff member stating:

*Depends on how they wake up and how the day is going.* (Julie)

Staff from this facility stated that monitoring and observing residents' moods carefully determined what type of activity to run. Both staff from this facility stated music was regularly used to stimulate residents, 'get them going' or engage them. Ball games, musical instruments, manicures, craft activities, reading and walking were described as activities to physically and mentally engage residents. Staff also stated that an activity timetable was not appropriate for their residents and staff must be adaptable to changing needs:

*It's a bit hard to say, 'right II o'clock, we do this'. It is more just observing the way they are, at that time and going with that. Some days we might not have a group thing and it might just be all one on ones.* (Julie)

Question 8- How does the environment within this facility allow residents to engage in everyday activities?

This question aimed to get staff to consider the environment in which they worked and relate it to resident engagement and participation in activities.

A staff member from the traditional facility stated that despite the lack of clutter in her facility, more activities or objects should be available visually and on-hand for residents to choose from, stating:

*I just think they probably need a table of items that they can choose from ....unless the activities staff are actually coming in and we have time to be doing things, they just sit a bit...they need someone to initiate.* (Allison)
A staff member from the same facility expressed that a lack of private, intimate areas for residents was a limitation to residents who wanted to rest or sit in areas besides their bedroom or the larger communal rooms.

This staff member explained that she had seen the benefits of having smaller, resident-accessible spaces, describing the closest area the facility has to this currently. This area has been created within the end of a corridor next to a window overlooking the garden, she states:

*We have got a couple of sitting areas up the end of the hall and that's pretty much it. A couple of ladies, the sun comes in of an afternoon and they sit in the chairs and fall asleep!* (Linda)

A staff member from the person-centred facility stated the options of smaller spaces existing within their environment promoted resident engagement and provided them with different dining options such as breakfast in the lounge area overlooking the garden.

Staff from the person-centred facility answered this question by describing how elements of the environment worked together to allow residents to engage in everyday activities. Both staff provided descriptive examples, with the following quote one of these:

*The small kitchen is great, one of the residents loves sitting at the table watching us get breakfast ready and just potter around the kitchen, it keeps him active and allows him to keep some independence.* (Julie)

Both staff members from the person-centred facility emphasize the openness of their facility, one staff member stating:

*One of the residents, she usually doesn't elect to participate in activities... because of the way the rooms are just off the main area, she can pop her head out, and can*
hear and see what is happening and is often drawn to the activity. Even though she may not directly engage she is still a part of it. (Julie)

Allowing residents to participate in everyday routines that may have been familiar to them in the past, and utilizing the environment to engage residents in these was another theme reported by person-centred facility staff. One staff member states:

It’s the routines like, getting afternoon tea ready or having a ‘cuppa’ break, its things they would have always done at home, it’s what they know. (Julie)

Staff members stated being visually present in the environment and having more of the environment being resident-accessible were strengths of the person-centred facility. The resident-accessible staff kitchen, the nurses’ desk and the open living space were mentioned by staff as facilitating engagement, with one staff member stating:

We are always ‘with’ them even though we have other tasks like writing in files to complete. (Julie)

The natural environment incorporating the animals, the rural views, the outdoor paths and the presence of large windows and stained glass promoting natural light inside were all mentioned by the staff from the person-centred facility as facilitating enjoyment and engagement with the environment.

The animals, they do like the animals and going out to have a look. And they have got great views out there, we are really lucky to have good views. (Debbie)

Question 9- What features of this environment, do you feel cater for people with dementia?

This question aimed to get staff to consider how their environment is appropriate for the resident population (people with dementia).
The traditional staff members referred to more clinical environmental features like the floor being non-slip, the bathroom setup and the chairs being suitable for residents with dementia. Navigation was a theme that came out of three staff members’ answers. A traditional staff member stated:

*There are ressies that do get lost, but we know the ones that can’t recognize where they are going.* (Linda)

The two staff members from the person-centred facility stated that the absence of corridors catered well for people with dementia with one stating:

*When they come out of their room, right away there is someone there, so they feel safe.* (Debbie).

One staff member from the person-centred facility stated that their facility was well-set up to deter residents from trying to leave or escape, she explained that:

*The front part [entrance] is dull and dark so they are not hanging around up the front much, it's more like they are being guided towards the sunshine up that way [lounge area/garden].* (Julie)

The gardens were mentioned by a staff member from the person-centred facility, with the multiple views outside and the presence of resident-accessible doors outside allows residents to have freedom, whilst still being secure, this staff member stated:

*It is important that we are able to keep an eye on residents without them feeling like we are too intrusive into their ‘home’ environment.* (Debbie)

The outdoor area was also mentioned by a staff member from the traditional facility who stated:

*We have got three or four of the ressies that like to go outside and they can go out and get back in quite okay and find their way around outside.* (Linda)
Question 10- For people who have dementia, how important is it for the environment to be 'homelike'?

The literature surrounding dementia facilities, in particular person-centred facilities stresses the importance of them being homelike, thus this question was included.

All staff members stated they believed it was very important for a dementia specific environment to be homelike. One staff member from each facility highlighted that bringing elements of familiarity from a residents past, childhood or previous home environment were highly important to making an environment 'homelike'.

A staff member from the person-centred facility stated:

*It is very homely, with the antique pieces and all of that. That is what they probably had back in their homes.* (Julie)

A staff member from the traditional facility echoed this view stating:

*They lose so much when they come here and when they start with dementia. But they do remember what they did at home and they always remember what they did when they were younger.* (Allison)

Staff members from both facilities recognized improvements that could be made to their environments to improve their homelike quality.

Question 11- In summary, in terms of the physical and social environment what do you think this facility does well?

The traditional facility staff mainly focused on clinical strengths of their facility including the different health professionals available and the security of the environment.
A staff member from the person-centred facility also reflected on clinical strengths however with a holistic view, stating:

_We do a good job, of delivering the care and looking after the residents needs, physically and mentally and emotionally._ (Debbie)

The rurality of the location of the facility being reflected in the environmental design was a strength identified by one staff member from the person-centred facility:

_It is still rural, it looks rural. They don’t go out and it is a busy main road...it's peaceful, with the dam and windmill out there._ (Julie)

An environment that allows the residents to clearly see what is happening around them was another strength described, one staff member from the person-centred facility stated their environment allowed residents to be aware of what is going on inside and outside.

_You can see the local cricket oval from the outside, if there is a game going on or people walking their dogs, the residents have a view of it all....the ones that don’t like going outside, we can open the glass doors from the lounge right up and those residents can know what is going on outside and be happily engaged sitting doing that, but can still enjoy the nature and the sunshine from inside._ (Julie)

**Question 12- What areas do you think need improvement?**

Some clinical suggestions were put forward by the staff members including: more reclining chairs, changing the dining room chairs and improving furnishings. Staff from both facilities recognized the need to introduce more elements of 'home' into their environment with a staff member from the traditional facility suggesting
Having some more homelike figurines like a basket of fake flowers or ornaments, like they grew up with and are familiar with would be nice. Just the sort of things your ‘nana’ had in her house. (Linda)

One staff member from the person-centred facility suggested that an area for improvement was to bring more elements of the outside in, stating:

Indoor plants on the sideboard here would remind them of having that...when they were at home ...introducing a planter box of greenery, creating a more permanent element rather than just vases of fresh flowers during spring. (Debbie)

One staff member from the person-centred facility spoke about the strengths and limitations about having a nurses’ desk in the main area. She stated benefits included that residents could see staff when they leave their room:

They can come up and sit down and have a scribble or whatever, and they certainly don't take any notice about what we are saying or writing....its quite good that they can come up and see us and have a yak. (Debbie)

She explained that the desk had provided benefits to residents and staff, and the positive impact it has had on the residents in everyday situations was evident.

Aim Four: Is there a difference in the prevalence of agitation behaviours between people with dementia who live in a person-centred dementia facility and people with dementia who live in a traditional dementia facility?

This aim was investigated using the CMAI. Table 4.7 presents the percentages of occurrence for each of the 29 CMAI behaviours in each facility.
Table 4.7  
Percentage of occurrence of CMAI behaviours 1-29 in person-centred and traditional facilities

<table>
<thead>
<tr>
<th>CMAL Behaviour</th>
<th>Person-centred</th>
<th>Facility</th>
<th>Traditional</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Less than once a week</td>
<td>Weekly</td>
</tr>
<tr>
<td></td>
<td>Percentage of occurrence</td>
<td>Percentage of occurrence</td>
<td></td>
</tr>
<tr>
<td>1- Pacing and aimless wandering</td>
<td>33.3</td>
<td>0</td>
<td>66.7</td>
</tr>
<tr>
<td>2- Inappropriate dressing or disrobing</td>
<td>66.7</td>
<td>33.3</td>
<td>0</td>
</tr>
<tr>
<td>3- Splitting (including while feeding)</td>
<td>88.9</td>
<td>0</td>
<td>11.1</td>
</tr>
<tr>
<td>4- Cursing or verbal aggression</td>
<td>33.3</td>
<td>11.1</td>
<td>55.5</td>
</tr>
<tr>
<td>5- Constant unwarranted requests for attention or help</td>
<td>77.8</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>6- Repetitive sentences or questions</td>
<td>77.8</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>7- Hitting (including self)</td>
<td>77.8</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>8- Kicking</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9- Grabbing onto people or things appropriately</td>
<td>77.8</td>
<td>22.2</td>
<td>0</td>
</tr>
<tr>
<td>10- Pushing</td>
<td>88.9</td>
<td>11.1</td>
<td>0</td>
</tr>
<tr>
<td>11- Throwing things</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12- Making strange noises</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13- Screaming</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>14- Biting</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15- Scratching</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>16- Trying to get to a different place</td>
<td>44.4</td>
<td>33.3</td>
<td>22.2</td>
</tr>
<tr>
<td>17- Intentional falling</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>18- Complaining</td>
<td>88.9</td>
<td>11.1</td>
<td>0</td>
</tr>
<tr>
<td>19- Negativism</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20- Eating or drinking inappropriate substances</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21- Hurting self or other</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>22- Handling things appropriately</td>
<td>88.9</td>
<td>11.1</td>
<td>0</td>
</tr>
<tr>
<td>23- Hiding things</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>24- Hoarding things</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>25- Tearing things or destroying property</td>
<td>88.9</td>
<td>0</td>
<td>11.1</td>
</tr>
<tr>
<td>26- Performing repetitious mannerisms</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>27- Making verbal sexual advances</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>28- Making physical sexual advances or exposing genitals</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>29- General restlessness</td>
<td>44.4</td>
<td>J1.1</td>
<td>44.4</td>
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Note: ‘Weekly’ comprises of ‘once or twice a week’ and ‘several times a week’. Due to this combining of categories the total percentage for a particular behaviour within each facility may not add up to exactly one hundred percent.
The behaviours that were more prevalent in the person-centred facility were: pacing and aimless wandering, spitting (including while feeding), cursing or verbal aggression, hitting (including self) and tearing things or destroying property.

The behaviours that were more prevalent in the traditional facility were: constant unwarranted requests for attention or help, repetitive sentences or questions, scratching, trying to get to a different place, complaining, negativism and general restlessness.

This chapter presented the results of the study. Chapter Five will discuss the significance of the results and how they relate to current literature.
CHAPTER FIVE: DISCUSSION

Chapter Four presented the results of the study. The purpose of this chapter is to discuss the implications of the results and how these relate to current literature. Two concepts were studied: occupational engagement and agitation, and these will be explored. Each concept will be discussed by comparing and contrasting the two facilities studied: person-centred dementia facility and traditional dementia facility. Results will be discussed by combining all sources of information (researcher observations, staff interview responses and agitation behaviour prevalence's). The 'environment' section of the Model of Human Occupation (MOHO) briefly introduced in Chapter Two will be referred to throughout this chapter (Kielhofner, 2008).

Study limitations will then be identified and implications of the research study and recommendations for future research will be discussed. Finally, a conclusion to the research study will be provided at the end of this chapter.

**Occupational Engagement**

In this study 'occupational engagement' has been defined as the act of being involved purposefully with an external stimulus (Cohen-Mansfield et al, 2009). Based on researcher observation, the present study found residents from the person-centred facility displayed more instances of occupational engagement in all three types of activities (mealtime, group activity and unstructured time) than residents from the traditional facility. Staff members from both facilities emphasised that having small staff and resident numbers did allow positive relationships to develop and as the majority of residents were from the local community, families, staff and residents were part of a large extended 'family' who used the environment within the facility. During all activities staff members were observed to undertake similar tasks however, the underlying care philosophy of a facility and the facility environment both played major roles in whether residents occupationally engaged or not.
Philosophies of Care

Traditional dementia facilities which are underpinned by the medical model have been reported to emphasise an individual's physical care needs, with staff taking a more task-driven approach to care (Davis et al. 2009, Reimer et al. 2004). This philosophy was indicative of the manner in which staff from the traditional facility approached a task and the way the facility environment facilitated their care provision. During the 'music hour' group activity observed in the traditional facility, a staff member interrupted residents to serve them morning tea. To drink the cup of tea residents were required to put down their music shaker, which for many of them was the outlet by which they were occupationally engaging with the music. This clearly demonstrates that the established routine of the staff was prioritised over the occupational engagement and activity enjoyment of residents. In the circumstance described above a person-centred approach would have provided more sustained occupational engagement.

Person-centred dementia facilities are based on the holistic model of care that emphasizes an individual's unique characteristics and life experiences (Brooker, 2007; Epp, 2003; Reimer et al., 2004). This philosophy was indicative of the approach taken by staff from the person-centred facility. During the mealtime observation at the person-centred facility residents were allowed to freely walk around the dining area, with staff members often praising residents who were doing this rather than forcing them to return to the table. Often a resident who was walking around would become occupationally engaged by their environment either by singing or dancing to music, being stimulated by an object or conversing with a staff member. Rubinstein (as cited in Kielhofner, 2008) states that engagement such as this can provide sensory pleasure, give stories to tell and 'fill ' a room. A staff member from the person-centred facility supports these observations by describing mealtime in her facility as having a relaxed, easygoing atmosphere. Contrastingly, residents in the traditional facility all wear paper bibs during their mealtime which immediately put a focus on accomplishment of care-related tasks and not on personal or social aspects of dining. This was a similar finding to Coulson (1993) who found that in traditional nursing homes conversation between carers and resident tended to be care-related and often custodial in comment. The person-centred mealtime was highly contrasting to this, as it
promoted dining as a social experience which encouraged resident occupational engagement, and promoted the use of the 'dining area' as more than purely an area to eat meals (Korvach et al., 1997). Having choice of eating in another space other than the dining area, family members being present during mealtime and space around the dining tables allowing residents in nursing chairs to sit at them, fostered a sense of community and inclusion in a similar manner to the person-centred dining observed by Hung & Chaudhury (2011) who found this style of dining promoted a homelike ambience. In the traditional facility, due to the confined dining area a resident in a nursing chair was unable to be positioned at a table with the other residents. This resident was placed on their own away from the tables, which immediately decreased their potential for occupational engagement. Although they received the nutritional benefits of eating, they were not able to use the dining experience as an opportunity to physically and socially engage with fellow residents and staff. Lawton (2001) states the importance of having opportunities naturally existing in the residential care facility for people to appreciate and become engaged with.

The Facility Environment and Occupational Engagement

A number of researchers have found that boredom and long periods of passivity are a common occurrence in residential care facilities (Holthe et al, 2007; Wood et al, 2005; Wood, Womack & Hooper, 2009). Although dementia is characterised by a decline in mental capacity (Harris et al, 2006), a study by Wells & Dawson (2000) found that residents in dementia facilities still retain a wide range of abilities including the capacity to attend to their environment, engage socially, complete familiar activities, understand and enjoy humour and experience emotion. During observation of unstructured time in the person-centred facility a number of residents made use of the open-plan living space by exploring the dining, lounge, kitchen and outdoor areas. Having the bedrooms located off the main living area was an obvious contributor to these residents recording more occupational engagement. If an activity was taking place in the living areas, residents only had to look outside their bedroom door to see others and be drawn to the action. This finding links to Kielhofner (2008) who stated that an environment can either place limits on ones’ actions or motivate one to become engaged. The corridor setup of resident bedrooms in the traditional facility often prevented residents who spent time in their rooms from
seeing the activity happening in the lounge and subsequently becoming engaged. Another
distinct difference between the person-centred and traditional facility environments was the
presence of objects. Staff members from both facilities reported that they prioritized their
clinical tasks such as personal care and food and drink provision above leisure, as these were
part of their basic care responsibilities and the nature of their role often did not leave much
time for pure leisure activities. As a result spontaneous occupational engagement observed
during unstructured time was largely achieved through resident interaction with objects
within the environment.

Kielhofner (2008) states that the types of objects placed within the built environment and
how these are organized within a space strongly influence whether they lend themselves to
active exploration (or occupational engagement). In the traditional facility it was observed
that a limited amount of objects were freely available to residents both visually and
physically, and in terms of giving the facility a more homelike feel. The objects available in
the lounge room including a bookshelf with novels and magazines, and a small mantle with
ornaments were not observed to occupationally engage residents during unstructured time.
These objects did add aesthetic appeal to the room however they were positioned against
the wall and behind lounge chairs which did not stimulate resident interest or invite
exploration. Staff members from this facility supported this view stating that more items
were required for residents to physically choose from as they had observed residents to
simply remain seated in their chairs unless staff initiated engagement. This staff member
identified boredom and a limited choice in on-hand activities as factors contributing to this.
In contrast the person-centred facility had an abundance of objects placed appropriately
within the environment. For example, the wooden stand adorned with hats, scarves and
bags placed logically near the entrance of the facility provided numerous instances of
occupational engagement among residents. The reasons for this was that it was a feature
similar to what residents may have had in their own homes, the materials provided sensory
stimulation, and unobtrusive placement of the stand was inviting. This finding was similar
to that of Cohen-Mansfield et al. (2010) who found that individualized-stimuli that allow
recolletion of former roles or past experiences and objects which stimulate interest and
encourage manipulation were most successful in occupationally engaging residents.
The resident-communal areas within the person-centred facility aimed to lead residents to discover their environment. Having smaller, more intimate spaces overlooking outdoor areas allowing residents to be alone or with visitors add to the potential of the person-centred facility to promote positive engagement. The promotion of natural light and unlocked glass doors and windows revealing garden views from the main living area, allowed all residents to gain benefits from nature. A staff member stated that considering their facility as an extension of the rural town rather than an unlinked entity was a factor which increased residents’ occupational engagement and curiosity within their environment. This view was reflected in the findings of Cox et al. (2004) who found that multisensory environments within a dementia facility promoted resident calmness, engagement through use of stimuli and spontaneous actions. To simply look outside and see familiar rural elements or freely walking around the garden looking at animals or flowers provides a novel attraction for residents (Lawton, 2001). Kielhofner (2008) states that these properties within natural spaces offer opportunities for engagement. The traditional facility also had an outdoor area reflecting the rurality of the town however, it was not always in view of residents sitting in the lounge, and Kielhofner (2008) states that simple and familiar elements (such as a view) invite relaxing behaviours or patterns of engagement. A recently published study by Innes, Kelly & Dicarslan (2011) echoes this finding. This study identified the care needs of residents of dementia specific facilities and their families, and found that in addition to outdoor spaces being attractive, accessible and safe, facility gardens and grounds should reflect the wider community which residents expressed a desire to remain connected to.

Attributes of the physical environment such as those discussed do contribute to whether residents with dementia are occupationally engaged or not, however Calkins (as cited in Davis et al., 2009) states that the physical environment is only one part of an integrated system that also involves the social attributes of an environment. As residents dementia progresses they may become more dependent on staff members to help them express these abilities (Wood et al, 2009) and interact with their environment.
Two new findings came out of the current study in relation to people with dementia and the differences between the two facilities investigated. Both these findings were not found in any Australian literature. The findings related to staff facilitation of occupational engagement, these were: the role of the activity timetable versus a day-to-day approach, and staff seeing clinical tasks as opportunities for occupational engagement. These will be discussed below in detail.

**The role of the activity timetable versus a day-to-day approach**
The traditional facility in this study used an activity timetable to guide its leisure activities. This timetable was not specific to the dementia facility, instead encompassing this facility and the nursing home within the health service. Researchers have found that activities are what structure life and provide individuals with satisfaction and meaning (Buettner & Fitzsimmons, 2003). Being included in a group and gaining a sense of safety and belonging were identified by Holthe et al. (2007) as important contributors to occupational engagement. Staff from the traditional facility stated the responsibility of planning and running group activities was held by the activities team. Staff stated that outside of this set timetable they did not initiate any other group activities as their time was taken up by clinical tasks and they only initiated activities in response to a resident being upset or distressed. Buettner & Fitzsimmons (2003) state that timetables and calendars have long been a presence in residential care facilities, and suggested that further evaluation is required to determine whether this is an appropriate way to provide services to residents with severe cognitive impairments. Upon observing the group activity within the traditional facility it tended to be geared towards the higher functioning residents. The assisting staff member in this activity was active in trying to occupationally engage all residents however this was on a one on one basis, with the rest of the residents generally sitting disengaged or falling asleep. These observations were similar to those made by Morgan-Brown, Ormerod, Newton & Manley (2011) who found those running group activities generally focused on one or two residents at a time, which is not appropriate for residents with dementia who require constant stimulation to remain occupationally engaged. Residents from the traditional facility generally go into another part of the building (activities room or nursing home) to participate in activities. Thus, the items used for activities are generally not kept...
within the facility which could reduce the potential of residents to freely select items and occupationally engage with them. The staff members in the person-centred facility are solely responsible for provision of group activities. An interviewed staff member stated an activity timetable was not appropriate for their facility as dementia was a variable condition and that activities were decided spontaneously day-to-day depending on resident mood, behaviour and energy levels.

Staff in this person-centred facility tended to focus on interest-driven groups and one on one activities such as gardening, looking at photographs, spending time with animals, eating outdoors and reminiscence. A staff member from this facility described a spontaneous afternoon tea in which good china cups and plates were used and female residents were encouraged to wear fancy necklaces. This activity occupationally engaged residents as it gave them enjoyment and pleasure and all residents could be involved to a level they were comfortable with. These group activities are held in the communal living area and in the outdoor environment. These activities occupationally engaged residents as they emphasised residents' uniqueness, could be tailored to suit higher and lower functioning residents, made use of the different spaces within the facility and allow residents to engage in familiar pastimes as opposed to unfamiliar tasks. Morgan-Brown et al. (2011) found that those on multiple medications with the most functional impairments were the least likely to get any meaningful recreational activity on a regular basis as part of an activity timetable. Thus, this study demonstrates that the day-by-day approach taken by staff from the person-centred facility may be more appropriate for people with moderate to severe dementia, as activities can be better matched to clients' changing functional and cognitive capabilities. In the traditional facility if a resident is unable to attend or participate in a timetabled activity they may not get an opportunity until the next appropriate session however, in the person-centred facility opportunities for engagement can be integrated at any time.

Staff seeing clinical tasks as opportunities for occupational engagement
A key difference in the environmental design of the facilities was the level of resident access to staff clinical areas. The traditional facility has a non resident-accessible nurses'
station (containing kitchen amenities) and locked office. The person-centred facility has a resident-accessible staff kitchen and a nurses’ desk in the communal living area. As the staff from both facilities completed similar tasks during their day, the staff members from the person-centred facility were more visible and physically available to residents when completing tasks such as writing in files, washing dishes and organizing drinks. Staff members in the traditional facility completed these tasks within the nurse-specific areas, which often resulted in residents not being able to see staff for periods of time. This reduced the potential for staff to initiate resident occupational engagement with their environment. Staff from the person-centred facility clearly recognised the potential of having some of their staff areas resident-accessible as this allowed their domestic clinical tasks to be combined with potential resident occupational engagement. The resident-accessible staff kitchen was designed to represent a country kitchen and aims to be an area which residents can gravitate to. In a study by Korvach et al. (1997) a similar set-up was employed in the studied facility, and anecdotal and observational assessments showed that this transformed what were traditionally task-orientated spaces into central points of activity. Staff from the person-centred facility in the current study felt their facility had a similar impact stating that they often occupationally engaged residents in their productivity tasks such as putting the tablecloth on the table, folding napkins, washing dishes or scribbling on paper whilst staff wrote in files. These activities were thought to be highly beneficial for residents as it made them feel useful, gave them a sense of enjoyment and a satisfaction of being ‘helpful’ to staff. An American study by Marsden, Meehan & Calkins (2001) on the role of therapeutic kitchens found that familiar household tasks can reinforce previous roles and engage residents in normal, day-to-day activities.

In the traditional facility staff kept their purely clinical tasks such as setting the table for mealtime or washing the dishes separate from interaction with residents. As a lack of time for leisure and activities was emphasised from staff in this facility, these tasks provide a potential opportunity to combine occupational engagement with clinical duties. Even though the residents in the traditional facility were on average five years older than those in the person-centred facility and may not be able to actively assist with these tasks, just being present in the environment when domestic duties are completed will transform routine staff duties into interactive opportunities to engage residents in conversation. Van’t Leven &
Jonsson (2002) suggest that being in the atmosphere of doing is as therapeutic as the doing itself. Residents from the person-centred facility were observed to 'shadow' staff and initiate conversation whilst staff members were completing clinical duties such as preparing medications or organizing the drinks trolley. This clearly indicates that residents need to occupationally engage and feel a sense of independence or control within their environment, and that the environmental freedom existing within their facility contributes positively towards achieving this. As a staff member from the traditional facility concisely surmises:

*They lose so much when they come here and when they start with dementia. But they do remember what they did at home and...what they did when they were younger.* (Allison)

### Agitation

In this study agitation has been defined as "any verbal, vocal or motor activity that is not clearly perceived as a normal response to needs or confusion" (Cohen-Mansfield, as cited in Wilkes et al., 2005, p. 141). Chapter Four highlighted the different agitation behaviours that were recorded as being more prevalent in one dementia facility than in the other. Findings will be compared with those within current literature, and explore how the environment could have impacted on the occurrence of certain behaviours within each facility.

#### Traditional facility

Residents from the traditional facility recorded a higher prevalence of verbally agitated behaviours in the categories of constant unwarranted requests for attention or help, repetitive sentences or questions, complaining, and negativism than residents from the person-centred facility. All these behaviours can be grouped as actions which indicate a resident's internal anxiety or a need to release energy. The basic needs of an individual living in residential care from a biological and staff perspective include: hydration, food, being pain-free, and being warm, clean and safe. As mentioned previously, the tasks staff carried out in relation to basic care provision were similar in both facilities and appropriate for residents. Thus the higher prevalence of verbally agitated behaviour could be explained
by the differences between the two facilities in regards to the environment and level of staff presence. Staff presence in the traditional facility within resident-access areas was observed to fluctuate during the day, with staff moving between these areas and the windowed nurses' station and the locked office which residents could not visually see into. During observation times residents spent the majority of their time in the lounge area in chairs either dozing, asleep or watching television. This immediately suggests that the room provided limited stimulation and choice of activity, and without a staff presence residents are less likely to occupationally engage. Many residents may seek their stimulation in the form of verbally agitated behaviours as a reaction to the sensory sameness or limited interaction (Beck et al., 2011). Although these behaviours are often a disturbance to staff, it is important to consider that they also may be an expression of resident internal disturbance (Lawton, 2001). Staff members from the person-centred facility were observed to be more visually present in resident-access areas, which allowed them to more effectively manage verbal agitation by engaging residents with their environment, and encouraging them to verbalize in a more positive way through reminiscing about past experiences or sharing stories.

General restlessness is another agitated behaviour more prevalent in the traditional facility, which could be occurring as a result of residents having less stimulating spaces and options for occupational engagement. However for lower-functioning residents, in particular those who cannot independently ambulate, restlessness may be more difficult to resolve. Thus in this situation it is important to use the environment to provide stimulation that eases restlessness and calms residents down. For instance providing these residents with tactile objects to hold and fiddle with, playing music or taking them to a more novel environment. A staff member from the person-centred facility stated that on a sunny day all residents would be taken outside, including those in nursing chairs. Contrastingly when a staff member from the traditional facility states that some of the residents are able to get in and out of the outdoor area this implies that only residents who are mobile are able to use the outdoor area in the traditional facility. Greater use of this area could provide all residents who are restless with a multisensory environment with potential for occupational engagement, which in turn could reduce the general restlessness that is currently occurring.
Rural views, sights and smells of the garden and the company of others are potential elements of the traditional facility's outdoor area which could be utilized.

**Person-centred facility**

Residents from the person-centred facility recorded a higher prevalence of aggressive behaviours in the categories of cursing and verbal aggression, hitting, and spitting than residents from the traditional facility. This finding is congruent with Reimer et al. (2004) who also used the CMAI to assess agitation behaviours in a newly constructed person-centred dementia facility and compared it to agitation behaviours in traditional dementia facilities. This study found that the residents in the person-centred facility had an increasing trend in physical agitation, which was attributed to these residents having more environmental freedom. This reasoning could be applied to the present study, as staff members from this facility stated that conflict between residents, and between residents and staff members or visitors sometimes occurred as a result of residents being protective over their rooms and belongings. A more homelike physical and social environment could have resulted in residents taking more ownership over their facility, and physical agitation behaviours could occur in response to an invasion of residents' space. Lawton (as cited in Wood et al., 2009) states older adults are not simply controlled by their environment, they may also act to influence their environment. Residents in the person-centred facility were more occupationally engaged within their environment than residents from the traditional facility, and thus may be more likely to react to 'unfamiliar' people or events with a response of agitation. Despite this finding, staff from the person-centred stated that these instances of agitation were able to be dealt with by encouraging resident engagement with their environment, such as raking the garden or watering flowers.

Residents from the person-centred facility also had a higher prevalence of pacing and aimless wandering than the traditional facility. Observations made by the researcher found that residents who constantly walked around the person-centred facility were stimulated by objects within their environment. A staff member from this facility supported the researcher observations by emphasising that pacing may not always be aimless:
Sometimes they just enjoy the walking, they feel/ike they are walking somewhere and just are happy doing that. (Debbie)

A reason for this finding could be related to the nature of staff documentation. As a file audit was used to gather this information, staff members are likely to have only documented agitation behaviours that impacted negatively on the daily routine of the facility or were unusual patterns of behaviour for a particular resident. Thus it is unlikely that the occupational engagement occurring during a resident’s continuous walking would be documented, however, the ‘pacing’ or ‘wandering’ alone may have been noted. Algase, Beattie, Antonakos, Beel-Bates & Yao (2010) found in their study on wandering and the impacts of the physical environment, that in general individuals that were known to wander were more likely to do so when a location was more brightly lit, variation in sounds were greater and surrounds were more engaging. The person-centred facility in the current study aims to encourage residents to explore their environment, with Algase et al., (2010) suggesting that if the goal is to attract ‘wanderers’ to their environment, materials to occupationall y engage residents should be placed around a facility. Contrastingly a number of residents in the traditional facility were observed to constantly wander around the facility purely focused on staying on a consistent track and as this may be considered by staff as a 'typical' behaviour for these residents it may not have been documented.

Tearing things or destroying property was the other behaviour that was more prevalent in the person-centred facility than in the traditional facility. In a study by Johansson, Sandman & Karlsson (2004) these are classed as ‘picking behaviours’ and are defined as an attempt by residents to gain control and to establish contact with others. This study concluded that although these types of behaviours may create additional work for nursing staff, it is yet to be seen whether these behaviours are a positive strength displayed by people with dementia that should be encouraged in an appropriate way or whether interventions should be implemented to prevent these behaviours. In the current study, this finding was expected as there were many more items and objects physically available for residents in the person-centred facility to tear or destroy, whereas in the traditional facility these items are not as readily obtainable by residents. In the person-centred facility which has an environmental
design aiming to encourage residents to freely interact with the varied objects and elements of their environment, it is likely that all residents will favour or dislike certain items. Kielhofner (2008) supports this view suggesting that since each person has different capacities and beliefs, the same environment may engage and excite one person, bore another, and overwhelm a third. Each of these responses could result in agitation. The person-centred environment has a variety of stimuli, causing a variety of responses (including agitation) but is balanced out by its variety of options to calm a resident down. A staff member from this facility emphasized the differences in how staff members from this facility calm residents down during times of agitation stating that not every object is successful with every resident, and an awareness of individual’s preferences is important.

**Limitations of the Current Study**

This qualitative study had a small sample size for both populations of participants (residents and staff members). This was partly as a result of both participating facilities having small bed numbers however, this is reflective of the small-scale facilities which are becoming increasingly common in dementia care (Verbeek et al., 2009). Only having two facilities participating with small numbers of staff and residents allowed the researcher to present an in-depth view of the facilities and rich details about their environments and the daily life within them. This level of detail in relation to the two concepts studied: occupational engagement and agitation may not have been achieved if more facilities or larger facilities had been included. There were an uneven number of resident participants between the two facilities however, data triangulation was achieved through three data collection methods: structured interviews, observation and a file audit, which in turn increases the trustworthiness and rigour of the study (DePoy & Gitlin, 1998).

Both facilities studied were in a rural location in Victoria, Australia and thus results may not be able to be transferred to more urbanized settings or to larger facilities. A gap identified in the literature was lack of research within dementia facilities in rural Australia therefore this study fills a void in research. The two facilities in this study were selected based on their having comparable characteristics: small bed numbers, similar staffing systems, part of similar sized health services and located within similar rural locations. This
increased the likelihood that the major difference between the facilities was their physical and social environments.

Completing the CMAI by file audit may not have provided the most accurate agitation data as staff may have only documented certain behaviours and not others, thus this collection method only considered documented behaviours and not all actual occurrences of agitation. However data triangulation again increases the trustworthiness of the study as the file audit information was not considered in isolation, but instead combined with relevant observations and interview responses.

**Implication of findings and future research directions**

As this was the first study comparing a person-centred dementia facility with a traditional dementia facility, both located in rural Victoria, this study has clinical relevance for similar communities considering building or updating a dementia-specific facility.

In terms of wider implications, this study will contribute to the current body of knowledge existing on dementia-specific facilities in Australia. In particular, the rich descriptive information on the daily life within the innovative, person-centred facility may provide new ideas for government bodies that produce design guidelines for residential care facilities.

This study focused on the concepts of occupational engagement and agitation as current research considers the two interrelated. This study is the only known study in Australia to compare traditional and person-centred dementia facilities located in a rural area in regards to the two concepts. Therefore in order for wider comparisons to be made, further research in a number of areas is required:

- To improve the validity of the findings from the current study, more research is required in relation to occupational engagement and agitation specifically considering rural dementia facilities.
- In order to allow the findings to be applied Australia-wide, research regarding occupational engagement and agitation could be carried out in urban dementia facilities, to identify if differences exist.
• As innovative dementia care is relatively new to Australia, and the majority of research regarding the topic is American and European based, more research within Australia regarding these facilities is required. As Australia has a different healthcare system to these countries, before implementing environmental design guidelines for dementia facilities more research is required. This research could focus on one concept: occupational engagement or agitation, or could focus on elements of the person-centred facility environment identified as impacting resident occupational engagement and agitation in the current study including: the use of outdoor areas or communal areas, the role of staff members, the influence of a nurses desk as opposed to a nurses station, the effect of integrating rural elements into a facility located within a rural area, the impact of the presence of family members within the environment, or the use of objects and environmental features to calm a resident down.

Conclusion
The overall aim of this study was to investigate the impact of the environment on occupational engagement and agitation of people with dementia living within dementia-specific facilities. The research question used to guide this study was: What differences exist in the occupational engagement and agitation of people with dementia living in a person-centred dementia facility as compared to a traditional dementia facility?. Differences in the occupational engagement and agitation of residents were found when comparing the two facilities, and these could be largely attributable to the impact of the environment.

Even though limitations exist in this study, the findings have made a contribution to Australian research relating to dementia facilities. This study has further demonstrated that the relationship between humans and their environments is intimate and reciprocal, as the environment impacts on what people do and affects how they do it (Kielhofner, 2008). This study has reintegrated the conclusions of past research that the built, natural and social environments are valuable therapeutic resources existing within dementia facilities (Day et al., 2000). This study has identified that living in a person-centred dementia facility does
impact positively on the lives of residents with dementia, both increasing their level of occupational engagement and preventing the occurrence or reducing the impact of particular agitation behaviours. This study also emphasised the importance of staff members recognizing the potential of their facility’s environment and using it to encourage the occupational engagement and manage or reduce the agitation of residents with dementia. Furthermore, this study has reinforced and provided evidence in regards to the benefits of having specialized dementia care facilities in rural Australia. This study has provided a starting point for future research within dementia facilities located in rural Australia, which will contribute to improving the design guidelines for dementia facilities and ultimately provide individuals who have dementia with environments that are more specifically tailored to their unique needs.
## APPENDICES

### Appendix A: Modified REIS Guide for Observation

**REIS Activity/Task Observation**

**Activity Observed:**

**Number of Staff, Residents, Other present:**

**Nature of Interactions:**

- Resident-Resident

- Resident-Staff

- Resident-Environment (eg. Movement within spaces/indoors/outdoors etc.)

- Resident-Object (eg. use of/holding object, referring to object etc.)

**Staff and Environment Support**

- Type(s) of support provided

- How is support provided?

- Is the level of support appropriate?

- Is the level of support desired by residents?

**ADDITIONAL COMMENTS:**
Appendix B: Modified REIS structured interview schedule

Question 1
a) How do residents get along with staff?
b) How do the residents get along with each other?

Question 2
a) How much help is needed by the residents as a whole with the different things that they do? Mealtime, leisure (1:1), group activities, facilitating communication and interactions between residents.
b) Do you feel residents are provided with enough help to do these things?

Question 3
Do you feel you need additional knowledge and skills to provide the right kind of help to the residents? What are these knowledge areas and skills?

Question 4
a) How are difficult or agitated behaviours by the residents handled?
b) Do you ever use the environment or a particular object to calm a resident down?
c) What types of agitated behaviours are most common? (for example: physically aggressive, non-aggressive pacing, repetitive behaviours, verbally aggressive shouting etc).

Question 5
Do you feel that good communication exists between the staff and families of residents?

Question 6
What do you do to support self-advocacy and empowerment of the residents? (Make them feel like they are in control and can make their own decisions)

Question 7
How do you select activities for residents to participate in that aim to utilize their current abilities?

Question 8
How does the environment within this facility allow residents to engage in everyday activities?

Question 9
What features of this environment, do you feel cater for people with dementia?

Question 10
For people who have dementia, how important is it for the environment to be 'homelike'?

Question 11
In summary, in terms of the physical and social environment what do you think this facility does well?

Question 12
What areas do you think need improvement?
Appendix C: Floor plan of person-centred facility
Appendix D: Floor plan of traditional facility
Appendix E: Copy of Ethical Approval Letter- Deakin University Human Research Ethics Committee (DU-HREC)

DEAKIN UNIVERSITY

Human Ethics Research

Office of Research Integrity
Research Services Division
70 Elgar Road/Burwood Victoria
Postal: 221 Burwood Highway
Burwood Victoria 3125 Australia
Telephone 03 9251 7123 Facsimile 03 9244 6581
research-ethics@deakin.edu.au

Memorandum

To: Ms Sue Harman
School of Health & Social Development

cc: Miss Rachel D'Cruz

From: Deakin University Human Research Ethics Committee (DUHREC)

Date: 14 September, 2011

Subject: 2011-056

The impact of the environment on occupational engagement and agitation of people with dementia

Please quote this project number in all future communications

The modification to this project, submitted on 7/09/2011 has been approved by the committee executive on 14/09/2011.

Approval has been given for Miss Rachel D'Cruz, under the supervision of Ms Sue Harman, School of Health & Social Development, to continue this project as modified to 9/06/2015.

The approval given by the Deakin University Human Research Ethics Committee is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Human Research Ethics Unit immediately should any of the following occur:

- Serious or unexpected adverse effects on the participants
- Any proposed changes in the protocol, including extensions of time
- Any events which might affect the continuing ethical acceptability of the project
- The project is discontinued before the expected date of completion
- Modifications are requested by other HRECs

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

DUHREC may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research (2007).

Human Research Ethics Unit
research-ethics@deakin.edu.au
Telephone: 03 9251 7123
Appendix F: Copy of Emails of Support from Traditional Facility

From: [Redacted]
Sent: Tuesday, 15 March 2011 8:59 PM
To: [Redacted]
Subject: Re: Deakin 4th Year OT Honours

Sorry for late reply, we also enjoyed your visit & will happily participate in a reciprocal review process

[Redacted]
Director of Nursing

-----Original Message-----
From: [Redacted]
Date: Fri, 04 Mar 2011 15:24:00 +1100
Subject: Deakin 4th Year OT Honours

Hi

Thank you for your time last Monday, and also with [Redacted]. It was good to get a look at your facilities. We feel that your dementia specific unit would lend itself to a comparison study with [Redacted]. We were pleased with your enthusiasm to participate in this exciting project, and have discussed this already with Deakin, who are similarly enthusiastic about this study. Yesterday I spoke with the student’s supervisor, and she told me she has been trying to contact you. Rachel D’Cruz, the honours student has now submitted her ethics application, and [Redacted] details have been included, and they now are awaiting approval. She suggested an email to her from you indicating your support of the project may be valuable in the approval process.

Best regards,

[Redacted]
Corporate Services Manager
Appendix G: Organizational Plain Language Statement

DEAKIN UNIVERSITY
PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO: ____________________________

Plain Language Statement

Date: ____________________________

Full Project Title: The impact of the environment on occupational engagement and agitation of people with dementia

Principal Researchers: Sue Harman

Student Researcher: Rachel D’Cruz

This Plain Language Statement and Consent Forms are six pages long. Please make sure you have all the pages.

1. Your Consent

Your organisation is invited to take part in this research project.

This Plain Language Statement contains detailed information about the research project. Its purpose is to explain to you as openly and clearly as possible all the procedures involved in this project so that you can make a fully informed decision whether you are going to consent to your organisation taking part in it.

Please read this Plain Language Statement carefully. Feel free to ask questions about any information in the document. You may also wish to discuss the project with a relative or friend. Feel free to do this.

Once you understand what the project is about and if you agree for your organisation to take part in it, you will be asked to sign the Consent Form. By signing the Consent Form, you indicate that you understand the information and that you give your consent for your organisation to take part in the project.

You will be given a copy of the Plain Language Statement and Consent Form to keep as a record.

2. Purpose and Background

The purpose of this project is to investigate the impact of the environment on the activity and agitation of residents’ living in dementia-specific facilities. This study is being conducted as part of the initial evaluation of the dementia-specific facilities at Hesse Rural Health Service and Heywood Rural Health Service.

The environment influences the daily behaviour of individuals with dementia, including positive behaviours such as participation in meaningful activities or relationships, and problematic behaviours such as distress and agitation. Literature has shown that design of the environment has been recognized as important in maintaining the wellbeing of people with dementia (Chalfont & Rodiek, 2005; Day, Carreon & Stump, 2000; Morgan; Stewart, Darcy & Werezak, 2004). As a result, new living environments have been created specifically for people with dementia. This aims to compare two styles of dementia-specific facilities in terms of activity participation and agitation.

You are invited to be involved in this research project because you are the CEO of a health service which has a dementia-specific facility. The results of this research may be used to help researcher Rachel D’Cruz to obtain a Bachelor of Occupational Therapy (Honours) degree.

3. Funding

This research is funded by the School of Health and Social Development at Deakin University.

4. Procedures

To invite staff within your organisation to participate in the research project, we require your consent.

Following consent, recruitment of staff will involve researchers attending relevant staff meetings to outline the project to staff, and distribute plain language statement and consent forms. Staff members would be under no obligation to consent to participate in the study.

For resident participation, consent will be sought from the family members of residents. Recruitment of residents will involve researchers attending relevant carers’ meetings to outline the project to carers, and distribute plain language statement and consent forms. Family members would be under no obligation to consent to their resident’s participation in the study.

The research that would be conducted at your organisation would include:

Staff participation:

1) Staff involved in a 20 minute interview regarding their perceptions of the residents’ participation in activity and of their agitation behaviours. This interview will be audio recorded. The interview will be conducted at your organisation at a time which suits the staff member during their working hours. This interview will be transcribed and staff members will be given the opportunity to read and verify the copy of their interview.

2) Researchers will be observing tasks, such as mealtimes or group activities, during which staff members might be present. Staff will not be asked to do anything differently or to change their practice in any way.
Resident participation:

1) Residents present during the observation of tasks which occur during one mealtime, one period of unscheduled activity and one scheduled activity. In particular researchers will be looking at interactions between residents and other residents, staff members, the environment and the objects within it. At no time will the information recorded by researchers individually identify residents, as the object of this task observation is to gather general information rather than target individual residents.

2) Instances of agitation will be noted directly from each resident’s file and different types of agitation behaviours will be counted. Researchers require consent from you to access and read resident files. Staff members will not be required to change their documentation practices in any way. At no time will the information recorded by researchers individually identify residents.

5. Possible Benefits

We cannot guarantee or promise that you will directly receive any benefits from this project. Possible benefits for the wider community include: contribution to knowledge about dementia-specific environments and cutting-edge dementia care, which may influence health services’ modification or construction of dementia-specific units.

6. Possible Risks

It is not expected that any discomfort or harm will come to the participants from either participation or non-participation.

7. Privacy, Confidentiality and Disclosure of Information

All copies of assessment forms and interview transcripts will not contain any personal identifying information. Paper copies and audio recordings will be stored in a locked filing cabinet of which only the researchers have a key. All computer files will be password protected.

Information will be stored for six years, in line with the procedures at Deakin University. After this time the information will be destroyed. After the research project the data is stored in archives at Deakin University until it is destroyed.

Any information obtained in connection with this project and that can identify participants will remain confidential. If you give us your permission by signing the Consent Form, we plan to publish the results with peer reviewed journals. In any publication, information will be provided in such a way that you cannot be identified.

8. Results of Project

Results will be presented in a thesis by Rachel D'Cruz which will be held at Deakin University, and may be published in peer reviewed journals and presented at conferences.

9. Participation is Voluntary

Participation in any research project is voluntary. If you do not wish your organisation to take part you are not obliged to provide consent. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. There are no consequences from withdrawal from the research. In this situation any information obtained from you up to that date will not be used and will be destroyed.

Your decision whether or not to provide consent for your organisation to be involved in this study, will not affect your status with your workplace or with Deakin University.

Before you make your decision, a member of the research team will be available to answer any questions you have about the research project. You can ask for any information you want. Sign the Consent Form only after you have had a chance to ask your questions and have received satisfactory answers.

If you decide to withdraw from this project, please notify a member of the research team or complete and return the Revocation of Consent Form attached. This notice will allow the research team to inform you if there are any health risks or special requirements linked to withdrawing.

10. Ethical Guidelines

This project will be carried out according to the National Statement on Ethical Conduct in Human Research (2007) produced by the National Health and Medical Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate in human research studies.

The ethics aspects of this research project have been approved by the Human Research Ethics Committee of Deakin University.

11. Complaints

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact:

The Manager
Office of Research Integrity
Deakin University
221 Burwood Highway
Burwood, Victoria 3125

Telephone: 9251 7129
Facsimile: 9244 6581
Email research-integrity@deakin.edu.au.

Please quote project number EC 2011-056
12. Reimbursement for your costs

Your organisation will not be paid for your participation in this project.

13. Further Information, Queries or Any Problems

If you require further information, wish to withdraw your participation or if you have any problems concerning this project, you can contact the principal researcher Sue Harman at Deakin University.

The researchers responsible for this project are:

Sue Harman and Rachel D'Cruz

School of Health and Social Development
Occupational Therapy
Deakin University Waterfront Campus
Geelong, Victoria 3220

Telephone: 03 5227 8205
Email: sue.harman@deakin.edu.au/ rjdc@deakin.edu.au
Appendix H: Organisational consent form

DEAKIN UNIVERSITY
PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO:

Organisational Consent Form

(To be used by organizational Heads providing consent for staff members to be involved in research)

Date:

Full Project Title: The impact of the environment on occupational engagement and agitation of people with dementia.

I have read and I understand the attached Plain Language Statement.

I give my permission for staff members to participate in this project according to the conditions in the Plain Language Statement.

I give my permission for researchers to access resident files for the purpose outlined in the Plain Language Statement.

I have been given a copy of Plain Language Statement and Consent Form to keep.

The researcher has agreed not to reveal the participants’ identities and personal details if information about this project is published or presented in any public form.

I agree that

1. The organisation MAY MAY NOT be named in research publications or other publicity without prior agreement.

2. / We DO / DO NOT require an opportunity to check the factual accuracy of the research findings related to the institution/organisation.

3. / We EXPECT / DO NOT EXPECT to receive a copy of the research findings or publications.

Name of person giving consent (printed) ........................................

Signature ........................ Date

The researchers responsible for this project are:

Sue Harman and Rachel D’ Cruz

School of Health and Social Development
Occupational Therapy
Deakin University Waterfront Campus
Geelong, Victoria 3220

Telephone: 03 5227 8205
Email: sue.harman@deakin.edu.au/ rjdc@deakin.edu.au
Appendix 1: Plain Language Statement for family members

DEAKIN UNIVERSITY
PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO: Family members of Residents.

Plain language Statement

Date:

Full Project Title: The impact of the environment on occupational engagement and agitation of people with dementia

Principal Researcher: Sue Harman

Student Researcher: Rachel D'Cruz

This Plain language Statement and Consent Forms are six pages long. Please make sure you have all the pages.

1. Your Consent

Your family member is invited to take part in this research project.

This Plain Language Statement contains detailed information about the research project. Its purpose is to explain to you as openly and clearly as possible all the procedures involved in this project so that you can make a fully informed decision whether you are going to provide consent for your resident to participate.

Please read this Plain Language Statement carefully. Feel free to ask questions about any information in the document. You may also wish to discuss the project with a relative or friend. Feel free to do this.

Once you understand what the project is about and if you agree for your family member to take part in it, you will be asked to sign the Consent Form. By signing the Consent Form, you indicate that you understand the information and that you give your consent for your family member to participate in the research project.

You will be given a copy of the Plain Language Statement and Consent Form to keep as a record.

2. Purpose and Background

The purpose of this project is to investigate how the environment impacts on activity participation and the agitation of residents' living in dementia-specific facilities. This study is being conducted as part of the initial evaluation of the dementia-specific facilities at Hesse Rural Health Service and Heywood Rural Health Service.

The environment influences the daily behaviour of individuals with dementia, including positive behaviours such as participation in meaningful activities or relationships, and challenging behaviours such as distress and agitation. The environment in which a person lives has been recognised as important in maintaining the well-being of people with dementia (Chalfont & Rodiek, 2005; Day, Carreon & Stump, 2000; Morgan; Stewart, Darcy & Werezak, 2004). As a result, new living environments have been created specifically for people with dementia. This project aims to compare two styles of dementia-specific facilities in terms of activity participation and agitation.

Your consent is required for this research project because you are the family member of a resident living in a dementia-specific facility.

The results of this research may be used to help researcher Rachel D'Cruz to obtain a Bachelor of Occupational Therapy (Honours) degree.

3. Funding

This research is funded by the school of Health and Social Development at Deakin University.

4. Procedures

Participation in this project will involve:

1) Residents present during the observation of tasks which occur during one mealtime, one period of unscheduled activity and one scheduled activity. In particular researchers will be looking at interactions between residents and other residents, staff members, the environment and the objects within it. At no time will the information recorded by researchers individually identify your resident as the object of this task observation is to gather general information rather target individual residents. As a result your consent is not sought for this aspect of the project.

2) Instances of agitation will be noted directly from each resident's file. No action is required from residents themselves, but consent is sought from you to access files.

5. Possible Benefits

We cannot guarantee that your family member will directly receive any individual benefits from this project. Possible benefits for the wider community include contribution to knowledge about dementia-specific environments and dementia care, which may influence health services' construction or modification of future dementia-specific units.
6. Possible Risks
It is not expected that any discomfort or harm will come to your family member from either participation or non-participation. Residents’ will not be observed during private personal care such as showering, dressing or toileting.

7. Privacy, Confidentiality and Disclosure of Information
All copies of assessment forms will not contain any identifying information of your family member. All paper-based information will be stored in a locked filing cabinet of which only the researchers have a key. All computer files will be password protected.

Information will be stored for six years, in line with the procedures at Deakin University. After this time the information will be destroyed. After the research project the data is stored in archives at Deakin University until it is destroyed.

Any that can identify your family member will remain confidential. If you give us your permission by signing the Consent Form, we plan to publish the results with peer reviewed journals. In any publication, information will be provided in such a way that your resident cannot be identified.

8. Results of Project
Results will be presented in a thesis by Rachel D’Cruz which will be held at Deakin University, and may be published in peer reviewed journals and presented at conferences.

9. Participation is Voluntary
Participation in any research project is voluntary. If you do not wish your resident to take part you are not obliged to provide consent. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage prior to the analysis of information. There are no consequences from you withdrawing your resident from the research. Participation in any research project is voluntary.

Your decision whether to provide consent or not for your family member, or to provide consent and later withdraw consent, will not affect your status with your health service or with Deakin University.

Before you make your decision, a member of the research team will be available to answer any questions you have about the research project. You can ask for any information you want. Sign the Consent Form only after you have had a chance to ask your questions and have received satisfactory answers.

If you decide to withdraw your family member from this project, please notify a member of the research team or complete and return the Revocation of Consent Form attached. This notice will allow the research team to inform you if there are any health risks or special requirements linked to withdrawing.

10. Ethical Guidelines
This project will be carried out according to the National Statement on Ethical Conduct in Human Research (2007) produced by the National Health and Medical Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate in human research studies.

The ethics aspects of this research project have been approved by the Human Research Ethics Committee of Deakin University.

11. Complaints
If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact:

The Manager
Office of Research Integrity
Deakin University
221 Burwood Highway
Burwood, Victoria 3125

Telephone: 9251 7129
Facsimile: 9251 6581
Email: research-ethics@deakin.edu.au.

Please quote project number EC 2011-056

12. Reimbursement for your costs
You will not be paid for your family member’s participation in this project.

13. Further Information, Queries or Any Problems
If you require further information, wish to withdraw your participation or if you have any problems concerning this project, you can contact the principal researcher Sue Harman at Deakin University.

The researchers responsible for this project are:
Sue Harman and Rachel D’Cruz
School of Health and Social Development
Occupational Therapy
Deakin University Waterfront Campus
Geelong, Victoria 3220

Telephone- 03 5227 8205
Email- sue.harman@deakin.edu.au/rjdc@deakin.edu.au
Appendix J: Consent form for family members

DEAKIN UNIVERSITY
PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO: Family members of Residents.

Third Party Consent Form

(To be used by guardians consenting on behalf of adult participants who do not have the capacity to give informed consent)

Date:

Full Project Title: The impact of the environment on the occupational engagement and agitation of people with dementia.

I have read and I understand the attached Plain Language Statement.

I give my permission for ...(name of participant) to participate in this project according to the conditions in the Plain Language Statement.

I have been given a copy of Plain Language Statement and Consent Form to keep.

The researcher has agreed not to reveal my or my resident's identity and personal details, including where information about this project is published, or presented in any public form.

Participant's Name (printed) ........

Name of Person giving Consent (printed) .............

Relationship to Participant:

Signature ... Date

The researchers responsible for this project are:

Sue Harman and Rachel D'Cruz
School of Health and Social Development
Occupational Therapy
Deakin University Waterfront Campus
Geelong, Victoria 3220

Telephone: 03 5227 8205
Email: sue.harman@deakin.edu.au/rjdc@deakin.edu.au
Appendix K: Plain Language Statement for staff members

DEAKIN UNIVERSITY
PLAIN LANGUAGE STATEMENT AND CONSENT FORM
TO: Staff

Plain Language Statement

Date:

Full Project Title: The impact of the environment on occupational engagement and agitation of people with dementia

Principal Researcher: Sue Harman

Student Researcher: Rachel D'Cruz

This Plain language Statement and Consent Forms are six pages long. Please make sure you have all the pages.

1. Your Consent
   You are invited to take part in this research project.
   This Plain language Statement contains detailed information about the research project. Its purpose is to explain to you as openly and clearly as possible all the procedures involved in this project so that you can make a fully informed decision whether you are going to participate.
   Please read this Plain language Statement carefully. Feel free to ask questions about any information in the document. You may also wish to discuss the project with a relative or friend or your local health worker. Feel free to do this.
   Once you understand what the project is about and if you agree to take part in it, you will be asked to sign the Consent Form. By signing the Consent Form, you indicate that you understand the information and that you give your consent to participate in the research project. You will be given a copy of the Plain language Statement and Consent Form to keep as a record.

2. Purpose and Background
   The purpose of this project is to investigate the impact of the environment on the activity and agitation of residents living in dementia-specific facilities. This study is being conducted as part of the initial evaluation of the dementia-specific facilities at Hesse Rural Health Service and Heywood Rural Health Service.
   The environment influences the daily behaviour of individuals with dementia, including positive behaviours such as participation in meaningful activities or relationships, and problematic behaviours such as distress and agitation. Literature has shown that design of the environment has been recognized as important in maintaining the wellbeing of people with dementia (Chalfont & Rodiek, 2005; Day, Carreon & Stump, 2000; Morgan, Stewart, Darcy & Werezak, 2004). As a result, new living environments have been created specifically for people with dementia. This aims to compare two styles of dementia-specific facilities in terms of activity participation and agitation.
   You are invited to participate in this research project because you are a staff member working within a dementia-specific facility.
   The results of this research may be used to help researcher Rachel D'Cruz to obtain a Bachelor of Occupational Therapy (Honours) degree.

3. Funding
   This research is funded by the school of Health and Social Development at Deakin University.

4. Procedures
   Participation in this project will involve:
   1) Be involved in a 20 minute interview regarding your perceptions of the residents' participation in activity and of their agitation behaviours. This interview will be audio recorded. The interview will be conducted at your workplace at a time which suits you during your working hours. This interview will be transcribed and you will be given the opportunity to read and verify the copy of your interview.
   2) Researchers will be observing tasks, such as meal times or group activities, during which you might be present. You will not be asked to do anything differently or to change your practice in any way.
   3) Staff notes in residents' files will be read and instances of agitation will be counted. No additional paperwork will be required from you. This is not a component of your participation.

5. Possible Benefits
   We cannot guarantee or promise that you will directly receive any individual benefits from this project. Possible benefits for the wider community include contribution to knowledge about dementia-specific environments and cutting-edge dementia care, which may influence health services' modification or construction of dementia-specific units.
6. Possible Risks

It is not expected that any discomfort or harm will come to the participants from either participation or non-participation.

7. Privacy, Confidentiality and Disclosure of Information

All copies of assessment forms and interview transcripts will not contain any personal identifying information. Paper copies and audio recordings will be stored in a locked filing cabinet of which only the researchers have a key. All computer files will be password protected.

Information will be stored for six years in line with the procedures at Deakin University. After this time the information will be destroyed. After the research project the data is stored in archives at Deakin University until it is destroyed.

Any information obtained in connection with this project and that can identify you will remain confidential. If you give us your permission by signing the Consent Form, we plan to publish the results with peer reviewed journals. In any publication, information will be provided in such a way that you cannot be identified.

8. Results of Project

Results will be presented in a thesis by Rachel D'Cruz which will be held at Deakin University, and may be published in peer reviewed journals and presented at conferences.

9. Participation Is Voluntary

Participation in any research project is voluntary. If you do not wish to take part you are not obliged to. If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. There are no consequences from withdrawal from the research. In this situation any information obtained from you up to that date will not be used and will be destroyed.

Your decision whether to take part or not to take part, or to take part and then withdraw will not affect your status in your workplace or with Deakin University.

Before you make your decision, a member of the research team will be available to answer any questions you have about the research project. You can ask for any information you want. Sign the Consent Form only after you have had a chance to ask your questions and have received satisfactory answers.

If you decide to withdraw from this project, please notify a member of the research team or complete and return the Revocation of Consent Form attached. This notice will allow the research team to inform you if there are any health risks or special requirements linked to withdrawing.

10. Ethical Guidelines

This project will be carried out according to the National Statement on Ethical Conduct in Human Research (2007) produced by the National Health and Medical Research Council of Australia. This statement has been developed to protect the interests of people who agree to participate in human research studies.

The ethics aspects of this research project have been approved by the Human Research Ethics Committee of Deakin University.

11. Complaints

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact:

The Manager
Office of Research Integrity
Deakin University
221 Burwood Highway
Burwood, Victoria 3125
Telephone: 9251 7129
Facsimile: 9244 6581
Email: research-ethics@deakin.edu.au.

Please quote project number EC 2011-056

12. Reimbursement for your costs

You will not be paid for your participation in this project.

13. Further Information, Queries or Any Problems

If you require further information, wish to withdraw your participation or if you have any problems concerning this project, you can contact the principal researcher Sue Harman at Deakin University.

The researchers responsible for this project are:

Sue Harman and Rachel D'Cruz
School of Health and Social Development
Occupational Therapy
Deakin University Waterfront Campus
Geelong, Victoria 3220
Telephone: 03 5227 8205
Email: sue.harman@deakin.edu.au/rjdic@deakin.edu.au
Appendix L: Consent form for staff members

DEAKIN UNIVERSITY
PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO: Staff Members.

Consent Form

Date:

Full Project Title: The impact of the environment on the occupational engagement and agitation of people with dementia.

I have read and I understand the attached Plain Language Statement.

I freely agree to participate in this project according to the conditions in the Plain Language Statement.

I have been given a copy of the Plain Language Statement and Consent Form to keep.

I consent to my interview with researchers being audio recorded.

The researcher has agreed not to reveal my identity and personal details, including where information about this project is published, or presented in any public form.

Participant’s Name (printed) ………………………………

…………………………….. Signature ……………………

………………………………………. Date

The researchers responsible for this project are:

Sue Harman and Rachel D’Cruz

School of Health and Social Development
Occupational Therapy
Deakin University Waterfront Campus
Geelong, Victoria 3220

Telephone: 03 5227 8205
Email: sue.harman@deakin.edu.au/rjdc@deakin.edu.au
Appendix M: CMAI tally sheet

CMAI-Audit of behaviours
Participant Code: 

<table>
<thead>
<tr>
<th>WEEK:</th>
<th>Facility:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Mon</td>
</tr>
<tr>
<td>1. Pacing and aimless wandering</td>
<td></td>
</tr>
<tr>
<td>2. Inappropriate dressing or disrobing</td>
<td></td>
</tr>
<tr>
<td>3. Spitting</td>
<td></td>
</tr>
<tr>
<td>4. Cursing or verbal aggression</td>
<td></td>
</tr>
<tr>
<td>5. Constant unwarranted requests for attention</td>
<td></td>
</tr>
<tr>
<td>6. Repetitive sentences/questions</td>
<td></td>
</tr>
<tr>
<td>7. Hitting</td>
<td></td>
</tr>
<tr>
<td>8. Kicking</td>
<td></td>
</tr>
<tr>
<td>9. Grabbing people/things inappropriately</td>
<td></td>
</tr>
<tr>
<td>10. Pushing</td>
<td></td>
</tr>
<tr>
<td>11. Throwing things</td>
<td></td>
</tr>
<tr>
<td>12. Making strange noises</td>
<td></td>
</tr>
<tr>
<td>13. Screaming</td>
<td></td>
</tr>
<tr>
<td>14. Biting</td>
<td></td>
</tr>
<tr>
<td>15. Scratching</td>
<td></td>
</tr>
<tr>
<td>16. Trying to get to a different place</td>
<td></td>
</tr>
<tr>
<td>17. Intentional falling</td>
<td></td>
</tr>
<tr>
<td>18. Complaining</td>
<td></td>
</tr>
<tr>
<td>19. Negativism</td>
<td></td>
</tr>
<tr>
<td>20. Eating/Drinking inappropriate substances</td>
<td></td>
</tr>
<tr>
<td>21. Hurting self or other</td>
<td></td>
</tr>
<tr>
<td>22. Handling things inappropriately</td>
<td></td>
</tr>
<tr>
<td>23. Hiding things</td>
<td></td>
</tr>
<tr>
<td>24. Hoarding things</td>
<td></td>
</tr>
<tr>
<td>25. Tearing things or destroying property</td>
<td></td>
</tr>
<tr>
<td>26. Performing repetitious mannerisms</td>
<td></td>
</tr>
<tr>
<td>27. Making verbal sexual advances</td>
<td></td>
</tr>
<tr>
<td>28. Making physical sexual advances or exposing genitals</td>
<td></td>
</tr>
<tr>
<td>29. General restlessness</td>
<td></td>
</tr>
</tbody>
</table>
Appendix N: CMAI Long form

THE COHEN-MANSFIELD AGITATION INVENTORY - Long Form

Please read each of the 29 agitated behaviors, and circle how often (from 1-7) each was manifested by the resident during the last 2 weeks:

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Never 1</th>
<th>Less than once a week 2</th>
<th>Once or twice a week 3</th>
<th>Several times a week 4</th>
<th>Once or twice a day 5</th>
<th>Several times a day 6</th>
<th>Several times an hour 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Face, aimless wandering</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. Inappropriate dress or disrobing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3. Spitting (include at meals)</td>
<td>1</td>
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<td>4. Cursing or verbal aggression</td>
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<td>5. Constant unwarranted request for attention or help</td>
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<td>6. Repetitive sentences or questions</td>
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<td>7. Hitting (including self)</td>
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<td>8. Kicking</td>
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<td>9. Grabbing onto people</td>
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<td>10. Pushing</td>
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<td>11. Throwing things</td>
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<td>12. Strange noises (weird laughter or crying)</td>
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<td>13. Screaming</td>
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<td>14. Biting</td>
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<td>15. Scratching</td>
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(Cohen-Mansfield, 1991)
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<th>Never</th>
<th>Less than once a week</th>
<th>Once or twice a week</th>
<th>Several times a week</th>
<th>Once or twice a day</th>
<th>Several times a day</th>
<th>Several times an hour</th>
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<td>16. Trying to get to a different place (e.g., out of the room, building)</td>
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<td>18. Complaining</td>
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<td>19. Negativism</td>
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<td>20. Eating/drink inappropriate substances</td>
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<td>21. Hurt self or other (cigarette, hot water, etc.)</td>
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<td>22. Handling things inappropriately</td>
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<td>23. Hiding things</td>
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<td>24. Hoarding things</td>
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<td>25. Tearing things or destroying property</td>
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<td>26. Performing repetitious mannerisms</td>
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<td>27. Making verbal sexual advances</td>
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<td>28. Making physical sexual advances</td>
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<td>29. General restlessness</td>
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REFERENCE LIST


