

2015

The effect on building elements on direct dementia-care staff job satisfaction

Margaret E. Byal

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The Effect of Building Elements on Direct Dementia-Care Staff Job Satisfaction

by

Margaret E. Byal

Thesis

Submitted to the School of Visual and Built Environments

College of Technology

Eastern Michigan University

In partial fulfillment of the requirements

for the degree of

MASTER OF SCIENCE

in

Interior Design

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June 24, 2015

Ypsilanti, MI

Dedication

I would like to dedicate this thesis document to my grandparents, Joseph and Yvonne Wargo, who would have been very proud of this accomplishment. Yvonne was an aspiring architect who could not afford to attend college and loved anything related to design. I'd also like to dedicate this study to my parents, Mark and Lynne Byal, who have been supportive of my educational endeavors for over almost three decades. Lastly, I dedicate this study to all people with dementia and their care partners – both domestic and professional. It is my intention to inspire improved living and working environments and contribute to the field of dementia care for these individuals.

Acknowledgments

Many thanks and love to my husband, Paul Winter, for all of his support: financially, emotionally, and physically. He has taken on the burden of the primary bread-winner while giving me constant encouragement and even taking over household tasks while I've been busy wrapped up in my coursework. I'd also like to extend sincere gratitude toward all of my committee members – Dr. Deb de Laski-Smith, Dr. Shinming Shyu, and Jean Barnas-Haratsaris – for their guidance, time, and encouragement throughout this entire process. In addition, many thanks are needed for the senior care organization that agreed to take part in this study, along with all of the administration, staff members, and participants so giving of their time and resources. Lastly, I could not have conducted the research and written this thesis document without all of the studies that have been conducted by researchers before me. I appreciate and have benefitted from all of these important contributions to academia. I hope I have been able to add value to the research community with the following thesis document.

Abstract

This interior design research study explores the experience of direct dementia-care staff member tasks in relation to the physical environment. The study asked the following questions: 1) Do building elements in dementia-specific long-term care units interact with staff job satisfaction? 2) What building elements of patient direct-care are identified by staff as being helpful on the job and what are identified as a hindrance? 3) What, if any, environmental elements demand more dementia-specific modification? Physical environment assessments were collected, and surveys assessing job satisfaction and tasks relating to the physical environment were administered. Focus groups captured more detailed responses. Results positively support the first research question and also indicate that furniture, floor plan layout, semi-private rooms, break rooms, and bathrooms are themes associated with the second and third research questions. More research in the field is necessary.

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Chapter 1: Introduction

As the population of older adults grows, so does the population of older adults with dementia (Alzheimer's Association, 2014). One in three older adults dies with dementia in the United States (Alzheimer's Association, 2015a). Dementia is a symptom that can be caused by many diseases, such as Parkinson's disease, Lewy Body disease, Vascular Cognitive Impairment, and, most commonly, Alzheimer's disease (Alzheimer's Association, 2015b). Dementia presents in the form of memory loss and decline in cognitive function (Alzheimer's Association, 2015b). Family members care for their aging loved ones in different ways; however, it can become increasingly difficult when that loved one has dementia and is experiencing both emotional issues from the frustrations of the disease and physical decline. Almost 60 percent of caregivers rate their emotional stress related to caregiving as high or very high, and approximately 40 percent suffer from depression (Alzheimer's Association, 2015a).

As family members struggle to deal with this issue on an individual level, so does the United States as a country. This year alone, dementia will cost the nation \$226 billion (Alzheimer's Association, 2015a). The United States also struggles with high staff turnover rates in healthcare facilities focusing on elder care (Alzheimer's Association, 2014). Frustratingly, this industry service is also in high demand. It is needed to support the person with dementia and their family members who struggle to deal with the emotions of losing their loved one to this decline in functioning, while also juggling their other life responsibilities. Therefore, the occupation of direct dementia-care worker is extremely important. In addition, classical management theory has identified work environment as a key component influencing job satisfaction and dissatisfaction in the workplace (Herzberg, 1966).

There are a plethora of research articles published on environmental factors in long-term care dementia environments and its impact on residents. The general consensus identifies environmental elements associated with person-centered care (PCC) as being beneficial (Edvardsson, Fetherstonhaugh, McAuliffe, Nay, & Chenco, 2011; Edvardsson, Sandman, & Borell, 2014; McCormack et al., 2010). However, very little research exists on specific environmental factors that benefit direct dementia-care staff as it relates to caring for this unique population of people. Is the environment really person-centered in regards to staff? The following research addressed this issue and worked toward a better understanding of how staff members interact with the dementia care environment in the hopes of improving the industry. The research questions were posed as the following: 1) Do building elements in dementia-specific long-term care units interact with staff job satisfaction? 2) What building elements of patient direct-care are identified by staff as being helpful on the job and what are identified as a hindrance? 3) What, if any, environmental elements demand more dementia-specific modification?

Chapter 2: Literature Review

Person-Centered Care

As persons with dementia and their families navigate the healthcare environment searching for safe and comfortable living conditions, the senior living market must step up to meet the demand. Research studies have been conducted on optimal environments for this growing population of people, from size and amount of noise in the environment, to effects of light levels in the environment and many other factors (Brush & Calkins, 2008; Fleming & Purandare, 2010; Sloane et al., 2007). As a result of these research findings, newer dementia care buildings and renovations are focusing on elements that support these research findings and elements related to person-centered care (PCC). On the Alzheimer's Society website, PCC is identified as "...tailoring a person's care to their interests, abilities, history and personality" (Alzheimer's Society, 2014). The idea seems simple, but dementia care has come a long way over the years. The idea of PCC can equally be applied to staff members, family members, and other care partners. In essence, being person-centered involves getting to know that individual or group of people and responding in a way that incorporates that individual or group of people.

Direct Dementia-Care Workers

Researchers in the field recognize that direct dementia-care workers have high occupational stress and high burnout (Edvardsson, Sandman, Nay, & Karlsson, 2009; Jeon et al., 2012; Vernooij-Dassen et al., 2009; Zimmerman et al., 2005). The American Health Care Association (AHCA) 2012 Staffing Report found that long-term direct care workers had a median turnover of 51.5 percent (American Health Care Association, 2012). Consequently, there have been studies conducted with the aim of determining job satisfaction in this occupation; these studies cover factors such as the nature of the care being provided, the physicality of the

occupation itself, staff sense of competence, and information technology available to staff (Edvardsson, Fetherstonhaugh, McAuliffe, Nay, & Chenco, 2011; Edvardsson, Sandman, & Borell, 2014; Engström, Ljunggren, Lindqvist, & Carlsson, 2005; Robison & Pillemer, 2007; Schepers, Orrell, Shanahan, & Spector, 2012; Wallin, Jakobsson, & Edberg, 2012). On the other hand, occupational stress does not necessarily implicate job satisfaction. While Zimmerman et al. (2005) found higher levels of stress with employees in dementia-specific special care units in relation to long-term care units not specified for dementia, Robison and Pillemer (2007) found that staff working in special care units report higher job satisfaction and are less likely to quit than staff in a traditional-unit facility. This is an interesting finding that demands further study.

While the field has made strides in studying people with dementia and their experiences, many studies still mention the lack of research being done on the experiences of staff in dementia care settings (Dilley & Geboy, 2010; Schepers et al., 2012; Stockwell-Smith, Jones, & Moyle, 2011). Being such a specialized sector of healthcare, it is apparent that the field of dementia care be studied further, paying special attention to elements that improve working conditions for staff in dementia-specific units. Consequently, studies have focused on topics such as PCC practices, staff feelings of competency, and organizational dynamics in relation to staff experiences (Dilley & Geboy, 2010; Jeon et al., 2012; Schepers et al., 2012; Stockwell-Smith et al., 2011). Research tends to support PCC as not only benefiting the residents with dementia, but the staff as well (Calkins, 2011; Dilley & Geboy, 2010; Edvardsson, Sandman, & Borell, 2014; Jeon et al., 2012; McCormack et al., 2010). One study found that employees reporting more satisfaction are more likely to have person-centered attitudes about dementia care (Zimmerman et al., 2005). Additionally, Jeon et al. (2012) found decreases in staff burnout with the introduction of PCC. In her literature review, Calkins (2011) concluded that residents in dementia care settings benefit

from PCC, and, as a result, employees benefit from the decrease in resident symptoms associated with dementia, such as agitation and anxiety. These findings seem to encourage the usage of PCC, staff training, and support from the organization; however, limited research has been conducted on building elements and the physical environment as they are associated with direct dementia-care staff job satisfaction.

Person-Environment Fit

The interaction between the person and his/her environment is exemplified by a theoretical framework known as person-environment fit. The theory of person-environment fit is one that has been studied for many decades and across many different disciplines (Kreiner, 2006; Lewin, 1931; Nielsen & Moos, 1978; Sherry, 1991). This framework helps us understand the multidimensional relationship that exists when people interact with their environments (Edwards & Billsberry, 2010). However, this relationship is difficult to tease apart from the intervening variables that exist as natural byproducts of complex human-beings and complex environments (Edwards & Billsberry, 2010). For example, the environment is comprised of many different components, such as the physical, social, and cultural. Human beings are also influenced by the environment in different ways, due to their inherent internal differences (Yu, 2009). In addition, there are changes that occur within each person with dementia as the dementia-causing illness progresses (Alzheimer's Association, 2015b). Therefore, it is necessary to treat both people and their environments as multidimensional and to account for multiple intervening variables when studying person-environment fit. The methods section of this proposal will discuss my intent to hold environmental variables constant.

In regards to the physical work environment, research has shown that the physical environment influences worker job satisfaction in healthcare settings (Sadatsafavi & Walewski,

2013). Elements such as improved lighting, ergonomic design, and better ventilation all have been shown to interact with job satisfaction for healthcare employees (Sadatsafavi & Walewski, 2013). Other elements of the physical environment have been studied in healthcare settings as it relates to its employees. The topic will be addressed in more detail in the following section.

The Physical Environment

In North America and also in some European and Scandinavian countries, studies relating to architecture and design in healthcare have increased in the last 10 years and even more so in the last five years (Connellan et al., 2013). Connellan et al. (2013) used a systematic literature review to analyze healthcare environments and architecture. In psychiatric settings, Connellan et al. (2013) reported that staff member job satisfaction is found to be connected to the presence of lounges and garden spaces. Research conducted in PCC mental health settings found that although clients appreciated the noninstitutionalized setting of the environment, staff members did not have enough areas to do confidential work (Connellan et al., 2013). In addition, a lack of sight lines was identified as a problem for staff members (Connellan et al., 2013). However, lack of sight lines could be eliminated as a barrier to the environment with the research done by Engström, Ljunggren, Lindqvist, and Carlsson (2005). The Swedish study found that staff job satisfaction increased with increased information technology (IT) available in a dementia care facility (Engström, Ljunggren, Lindqvist, & Carlsson, 2005). The IT included a wireless alert system for staff, light sensors that illuminated when a resident went into the bathroom, and electronic entry of charting, which reportedly allowed staff documentation while remaining with residents, rather than being sequestered away in a nurse's station or office (Engström, Ljunggren, Lindqvist, & Carlsson, 2005). In a Kentucky-based study investigating work stressors among Certified Nurse Assistants (CNAs), the researcher identified that a break room or place to get

away from residents was important (Kilbourn-Huey, 2008). However, the long-term care facilities in which the study was conducted were not detailed regarding the environment; therefore, individual aspects of that break room cannot be identified (Kilbourn-Huey, 2008). On the other hand, Torrington (2006) reported no association between areas allocated for staff and job satisfaction. The literature review conducted by Connellan et al. (2013) concluded that there is a need for more research related to evidence-based design in healthcare settings; indeed, some topics covered in their literature review only reference several research articles, while in some sections of the review, only one source is referenced. In addition, the review generally covers healthcare environments as a whole; therefore, the findings from studies of mental health settings, for example, do not necessarily implicate similar findings in dementia care environments.

Upon further examination of research articles specifically relating to dementia care building environments, research is once again limited. Elements of the physical building design affecting staff members can be found in part as one finding in research studies, not typically as the main topic. In their research, Stockwell-Smith et al. (2011) interviewed dementia care staff on the pressures of working with residents with dementia. They found that both increasing sight lines to the residents and decreasing clutter in the space were elements of the physical environment that benefit the staff (Stockwell-Smith et al., 2011). Zimmerman et al. (2005) found that older facilities (over 10 years old) were associated with negative views on dementia, and Zimmerman et al. (2005) also found that the smaller units were associated with less employee stress. Although the research is limited, these elements seem to support person-centered building elements cited in Calkins' (2011) literature review. Elements of the physical environment associated with PCC that Calkins (2011) reviewed include: 1) unit or "household"

population and household size, 2) residential/home-like environment, 3) elements affecting wayfinding, 4) private rooms, 5) light levels that benefit sleep patterns, 6) ample time outdoors, 7) and elements increasing safety. Although Calkins' (2011) analysis of the physical environment does not provide its readers with quantitative criteria for categorizing a building as "person-centered," analysis of other PCC tools concluded them inadequate for specific analysis of the physical environment. For example, the Person-centered Care Assessment Tool (P-CAT) was used in a Swedish study in order to assess elements of PCC that related to job satisfaction among long-term care staff (Edvardsson, Fetherstonhaugh, McAuliffe, Nay, & Chenco, 2011). Edvardsson et al. (2011) found that elements on the P-CAT relating to environmental accessibility were aligned with, but not statistically significant to job satisfaction. However, upon further research of the P-CAT, the 13-question scale included only three questions on the environment, vaguely asking if the environment feels chaotic, about the importance of a homelike environment, and ease of wayfinding for residents (Edvardsson, Fetherstonhaugh, Nay, & Gibson, 2010). In comparison with Calkins' (2011) environmental analysis, the P-CAT was much less specific when assigning person-centered attributes to the physical environment (Edvardsson, Fetherstonhaugh, Nay, & Gibson, 2010).

While there are research studies touching on elements of the physical environment that affect dementia care staff, very limited research exists that solely focuses on the physical environment and dementia care staff and, more specifically, direct care staff. It is important that research continues to focus on the front lines of the healthcare industry – the direct care workers – in order to develop environments that not only support the residents, but also those taking care of them.

Chapter 3: Methodology

This study was conducted using case study, qualitative research methods at one senior living facility. Direct dementia-care staff from both person-centered and traditional units comprised the study participants. The units were categorized as either person-centered or traditional in nature based upon the physical environment. Research questions were posed as the following: 1) Do building elements in dementia-specific long-term care units interact with staff job satisfaction? 2) What building elements of patient direct-care are identified by staff as being helpful on the job and what are identified as a hindrance? 3) What, if any, environmental elements demand more dementia-specific modification?

Variables

The independent variables were the following person-centered building elements: 1) small unit or “household” population size, 2) residential/home-like environment, 3) household layout geared at increasing wayfinding, 4) private rooms, 5) building layout that maximizes natural light and garden views from the windows, 6) secured, easily accessible gardens that provide ample time outdoors 7) and technological monitoring elements that increase safety. The independent variables for traditional-unit facilities were the following building elements: 1) one, larger unit population, 2) institutional-like environment (food is not cooked on the unit, non-specific rooms, such as multi-function spaces for dining, lounging, watching TV, etc.), 3) unit layout is institutional and does not provide cues to help with wayfinding, 4) mostly semi-private rooms, 5) limited views to the outdoors, either due to limited windows or unit being on a higher floor of the building, 6) gardens/outside spaces are not easily accessible, and 7) limited technological monitoring elements for safety. Additional independent variables included general

aspects of the physical environment, which were collected using the Therapeutic Environment Screening Scale for Nursing Homes (TESS-NH) (Sloane et al., 2000) (see Appendix G).

Dependent variables included direct dementia-care employee attitudes towards the seven aforementioned person-centered building elements, whether they were positive, negative, or neutral. In addition, employee attitudes toward general building elements in relation to employee tasks were collected. And finally, employee job satisfaction served as a dependent variable, measured with survey questions adapted from the Measure of Job Satisfaction (MJS) (Traynor & Wade, 2014). Non-pertinent questions were omitted from the survey in order to accommodate staff time constraints. The MJS has been tested as both a reliable and valid measure for residential nursing care staff (Chou, Boldy, & Lee, 2002). Given these variables, which of the independent variables are associated with positive attitudes and negative attitudes? Which independent variables, if any, related to levels of job satisfaction? There are also possible intervening variables, such as the employee's interest in the job and the residents with dementia, an employee's level of motivation on the job, and the type and level of training conducted at the start of the job, as well as training over the duration of employment at the organization. These variables were addressed in the direct dementia-care staff survey (see Appendix C). In the research study, the physical aspect of the environment is the focus. In an attempt to hold other environmental variables constant, I examined different units within the same organization with the hopes of keeping other variables, such as pay, organizational culture, staff training, and organizational management as constant as possible. With the variables identified, it must now be explained how these variables were identified and used in the study.

Methods

The following description outlines the methods that I used in the research study. I conducted a case study, surveying direct dementia-care workers at one senior living organization in Midwestern United States. Both surveys and focus group sessions were used for a multi-dimensional research approach. I administered the research methods in a long-term skilled nursing facility that contains both a memory care unit and long-term skilled nursing care units not specifically tailored for dementia; however, the vast majority of residents throughout the units have dementia. The third unit I studied was an Adult Foster Care-licensed facility housed in a different building. The Adult Foster Care-licensed facility did not respond to my request to collect data within the building in a timely fashion; therefore, current organization employees from the long-term skilled nursing unit who previously worked in the Adult Foster Care-licensed facility took the survey and were individually interviewed by me using the same research tools. Although a smaller sample size was collected for this facility, the current Associate Executive Director of the long-term skilled nursing facility previously worked in the Adult Foster Care-licensed facility and was able to provide specialized insight and knowledge with regards to the physical environment and direct care worker tasks.

Before conducting the research study, I submitted an application to the Eastern Michigan University Human Subjects Review Committee (UHSRC). The research study was approved by the UHSRC prior to collecting the data. Upon approval, all participant employees were required to sign an Informed Consent Form (Eastern Michigan University, 2014) (see Appendix B). Twenty-one eligible participants represented the traditional units and two participants represented the person-centered unit. A volunteer staff member asked direct dementia-care staff to participate in the study during the shift change between day and afternoon shifts.

Environmental assessment.

Upon selecting the units for study, I conducted an observation of each unit, using the Building Type Categorization survey, determining whether the units had the seven previously mentioned building elements to classify it as a traditional unit or person-centered unit (see Appendix A). I analyzed the Adult Foster Care-licensed unit using previous staff experiences from the unit. Person-centered elements of the physical environment included those that are listed in Calkins' (2011) literature review, and elements that did not meet the criteria were considered traditional unit elements. In order to qualify in either the person-centered or traditional unit building category, the units that I studied were required to display five out of the seven building elements for that building type. The long-term care unit specializing in memory care and the long-term care unit unspecified for memory care were both identified as being traditional building units, while the Adult Foster Care licensed unit was identified as a person-centered building. I also administered the Therapeutic Environment Screening Scale for Nursing Homes (TESS-NH), which was used to analyze physical elements of the units (see Appendix G). The TESS-NH was approved for investigator use by its developers (Sloane et al., 2000). I walked around the traditional building units and observed the environment while administering the TESS-NH. The person-centered building unit was assessed and the TESS-NH was administered using previous employee participant commentary.

Sample selection.

The sample was a nondiscriminatory, convenience sampling and included any direct dementia-care worker who has been employed at the facility for at least three months and identified him/herself at least 18 years of age. I hoped to gather data from employees working two shifts – day and afternoon. The qualification of three months intended to give employees

enough time to get acquainted with the residents and the environment, and it aimed to encompass employees who had gone through all facility-mandated employee orientation training. I did not specifically recruit midnight shift employees to participate because less personal care tasks take place during normal sleeping hours. In future studies, it is recommended to include midnight shift participants for comparison purposes. I approached facility administration to discuss the study, and announcements were posted throughout the facility staff areas (see Appendix F). In order to increase the chances of maximum participation, all participants who completed the study were eligible to enter in a drawing to win a 50 dollar gift certificate to a business of interest, as determined by facility administration.

A maximum of 30 employees was the target sample size in the research study. A total of 18 people participated in the survey from the two long-term skilled nursing units. I removed two participant responses from the study because their job descriptions did not meet the qualifications of a direct care worker, which totaled 16 survey participants from the long-term skilled nursing units. Two staff members at the long-term skilled nursing facility, previously employed at the Adult Foster Care-licensed facility, completed surveys based on their experiences working in the Adult Foster Care-licensed facility. In addition, I questioned these two participants one-on-one rather than in a focus group session. Five long-term skilled nursing facility staff members participated in the focus group sessions. In total, 23 qualified participants contributed to the research study

Survey.

I created a comprehensive survey questionnaire including questions regarding job satisfaction, aforementioned PCC elements, and task-related elements of the physical environment (see Appendix C). The Measure of Job Satisfaction (MJS) was referenced for the

survey which was shared publically by its creators (Traynor & Wade, 2014). I administered the Informed Consent Agreement and survey before and following afternoon shift change, after employees got off of their shifts and before others had begun. Several participants completed the documents in the Life Enrichment Room that was not in use by residents or other staff members, while many of the participants chose to complete both the agreement and survey on the unit while filling out other paperwork at the end of their shifts. The participants were made aware that I was available for questions in the Life Enrichment Room for the duration of the survey administration. All completed forms were returned directly to me by a volunteer staff member. I did not leave the facility until all forms were returned to me. All forms were then promptly removed from the facility and stored in a locked office so as to maximize confidentiality for the participants.

Focus group.

On two separate dates, I worked with a volunteer staff member responsible for training employees to assist with recruiting participants for the focus group sessions. The staff member approached the nursing staff at the beginning of each shift to encourage direct care workers to participate later that day, again, overlapping shift change in order to maximize participation. It was my goal to gather five participants from each unit for a focus group session. The focus group for the long-term skilled nursing units consisted of three participants in the first session; therefore, the staff member volunteer and I scheduled another focus group session for the same time and place the following week. Two direct care workers participated in the second focus group session, totaling five direct care workers who participated in focus groups from the two traditional unit long-term care environments. As mentioned previously, the Adult Foster Care unit did not respond to me or to the facility administrator of the long-term skilled nursing facility

with enough time to conduct the study on-site; therefore, I did not conduct focus group sessions for the Adult Foster Care unit. Instead, staff members currently working at the long-term skilled nursing facility who had worked at the Adult Foster Care unit were interviewed using the same questions.

All focus group participants signed the Focus Group Ground Rules form before the group commenced (see Appendix E). This agreement aided in protecting confidentiality and bred a culture of respect among the group. The focus group sessions captured the workers' attitudes toward Calkins' (2011) aforementioned person-centered building elements, as well as usage of building elements during direct care of the residents with dementia (see Appendix D). Focus groups have been used in qualitative studies to elicit the participant-led introduction of broad themes (Silver, Pang, & Williams, 2015). In fact, the focus group is a widely used and accepted method in healthcare research (Curtis & Redmond, 2007). Focus groups are criticized for being subject to groupthink, a psychological phenomenon that polarizes responses to the opinions of the majority; this multi-dimensional approach to data collection intends to counteract groupthink (Boateng, 2012). Focus group sessions were conducted in a private training room that was identified and reserved by the facility administrator. I took notes on content during the focus group session, avoiding using personal identification. Participants had expressed objections to the use of audio recording during the sessions; therefore, the only notes I took were written. The focus group sessions lasted approximately one hour. After conducting the sessions, I kept paper data confidential and immediately removed the data from the research site and locked them in a designated office. All electronic data was stored on a password-protected computer. Although results may be shared in professional journals and/or conferences, all information shared will be

general in nature (i.e., no specific names or quotations) and will protect the identity of both the research site and the individual participants.

Chapter 4: Analysis of Data

I performed data analysis on the Building Type Categorization survey, the TESS-NH results, the Likert survey responses, the focus groups, and general demographic information. The Building Type Categorization survey was administered, and the generic long-term skilled nursing unit and the long-term skilled nursing unit specified for memory care were both determined to meet the criteria for a traditional unit (see Table 1 and Appendix A). The Adult Foster Care unit met the criteria for a PCC facility (see Table 1 and Appendix A). I collected the TESS-NH and survey data for each of the three units, and I entered all data into an Excel spreadsheet. Next, the data were analyzed and compared among the three unit types.

Table 1			
<i>Building Type Categorization (Refer to Appendix A)</i>			
Question	Unit		
	1	2	3
1) Unit Size	B) Traditional	B) Traditional	A) Person-Centered
2) Environment	B) Traditional	A) Person Centered	A) Person-Centered
3) Layout	B) Traditional	A) Person Centered	A) Person-Centered
4) Rooms	B) Traditional	B) Traditional	A) Person-Centered
5) Natural Light	B) Traditional	B) Traditional	A) Person-Centered
6) Outdoors	B) Traditional	B) Traditional	A) Person-Centered
7) IT	B) Traditional	B) Traditional	A) Person-Centered
<i>Note. Unit 1 denotes long-term skilled nursing, unit 2 denotes long-term skilled nursing specified for memory care, and unit 3 denotes Adult Foster Care unit.</i>			

Differences in the traditional skilled nursing units and the PCC unit were noted as being variables relating to the following question numbers: 1, 4, 15, 16, 18, 19, 22, 23, 25, 28, and 31 (see Table 2). The content of these questions related to elements that made the unit feel institutional or homelike: the nurse station, nature of space for lounging, dining, and socializing,

layout of the unit in a linear fashion of resident rooms versus more centralized around public spaces, nature of furniture, resident physical appearance, and nature of safety measures. These environmental observations are similar to the environmental qualifications stated in Calkins’ (2011) environmental elements in PCC buildings. The nature and possible implications of many of these differences are reoccurring themes throughout the study, and I will address these themes in Chapter Five. After having analyzed the environmental components of the three units, it was necessary to address the three research questions and its relation to the data.

TABLE 2
 TESS-NH Results
 (Refer to Appendix G)

Unit	Question Number																		
	1	2	3	4a	4b	4c	5a	5b	6a	6b	6c	6d	6e	6f	6g	6h	6i	6j	
1	0	1	0	3	2	3	0	0	1	0	1	0	1	0	1	0	1	0	
2	0	1	0	1	1	3	0	0	2	0	1	0	1	0	1	0	1	0	
3	2	1	0	2	2	2	0	0	1	0	1	0	1	0	1	0	1	0	
	7a	7b	7c	7d	8a	8b	8c	8d	9a	9b	10a	10b	10c	10d	11a	11b	12a	12b	
1	2	2	2	2	1	2	2	1	2	1	2	2	2	2	2	2	2	2	
2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	2	2	
3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
	12c	13a	13b	13c	14a	14b	14c	15	16a	16b	16c	16d	16e	16f	17a	17b	18	19	
1	1	2	2	2	2	2	1	0	1	0	1	0	0	1	0	0	0	2	
2	2	2	2	2	2	2	1	1	1	0	0	0	0	0	0	0	0	1	
3	2	2	2	2	2	2	1	3	1	0	1	1	1	1	0	0	1	3	
	20	21	22	23	24a	24b	25a	25b	26	27a	27b	28-1a	28-1b	28-1c	28-1d	28-1e	28-1f	28-1g	
1	2	3	1	1	3	3	1	1	2	3	3	1	1	0	0	0	1	0	
2	0	3	1	1	3	3	1	1	2	3	3	1	1	0	0	0	1	0	
3	2	3	0	2	3	3	2	3	2	3	3	1	1	1	1	1	1	0	
	28-2a	28-2b	28-2c	28-3a	28-3b	28-3c	29	30	31a	31b	31c	31d	31e	31f					
1	0	1	0	0	0	0	1	2	1	1	1	2	2	2					
2	0	1	0	0	0	0	1	0	1	1	1	2	1	2					
3	1	1	0	0	0	0	1	1	2	2	1	2	2	2					

Note. Unit 1 denotes long-term skilled nursing, unit 2 denotes long-term skilled nursing specified for memory care, and unit 3 denotes Adult Foster Care unit.

Research Question One

The first research question was stated as: do building elements in dementia-specific long-term care units interact with staff job satisfaction? In order to address this question, I compiled

survey data into an Excel spreadsheet and analyzed data for indicators of employee job satisfaction and attitudes toward person-centered building elements and other building elements involved with direct care. These survey responses were categorized by both type of response (positive, negative, or neutral/not applicable) by question and type of response (positive, negative, or neutral/not applicable) by participant (see Tables 3 and 4). General participant information was also noted (see Table 5).

Table 3			
<i>Likert Survey Responses by Question</i> (Refer to Appendix C)			
Question Number	Coded Response		
	Positive	Negative	Neutral or N/A
5) Resident Number	11	2	3
5a) Quality of Care	11	2	3
6) Workload	9	3	4
7) Colors on Unit	9	2	5
8) Furniture on Unit	4	6	6
9) Navigation on Unit	6	6	4
10) Semi-Private Rooms	6	7	3
11) Private Rooms	13	0	3
12) Light Levels	8	3	5
13) Views to Outdoors	7	4	5
14) Time Outdoors	12	1	3
15) Outdoor Spaces	13	0	3
16) Technology	11	3	2
17) Space for Breaks	7	7	2
18) Bathrooms	5	11	0
19) Shower Rooms	10	2	4
20) Resident Transport	11	3	2
21) Space for Meals	9	2	5
22) Resident Transfer	10	3	3
TOTAL	172	67	65

When assessing response type by participant, 10 of 16 participants responded positively to more than 50 percent of the 19 Likert survey questions, while only one participant responded negatively to more than 50 percent of the Likert survey questions (see Table 4). The second and third highest number of responses by a participant were eight and seven negative responses out

of 19 (at least 36 percent of all responses). All three of these participants were employed by the long-term skilled nursing facility and two stated that they moved from unit to unit rather than working with the same residents, while the third worked in the same unit on a regular basis. The self-reported number of residents for whom they cared ranged from eight to 30. Number of years employed ranged from .25 (3 months) to eight years (see Table 5). I will address these variable relationships and possible implications in detail in Chapter Five.

Table 4			
<i>Likert Survey Responses by Participant</i>			
<i>(Refer to Appendix C)</i>			
Participant Number	Type of Response		
	Positive	Negative	Neutral or N/A
1	8	5	6
2	14	3	2
3	16	3	0
4	6	7	6
5	3	11	5
6	9	3	7
7	11	2	6
8	11	2	6
9	3	8	8
10	12	5	2
11	12	5	2
12	17	1	1
13	14	1	4
14	5	5	9
15	18	0	1
16	13	6	0

Table 5

Survey Responses: Participant Information
(Refer to Appendix C)

Participant Number	Question Number			
	1) Years of Employment	2) Primary Shift	3) Unit Assignment	4) Number of Residents
1	26	AM	Move	
2	3.5	AM	Same	8-10
3	7	AM	Move	8-10
4	8	AM	Same	8+
5	2.5	AM	Move	28-30
6	3	AM	Same	28-30
7	2	AM	Same	28
8	1	AM	Same	28
9	0.25	PM	Move	8
10	2	PM	Same	
11	0.5	PM	Same	11
12	2.5	PM	Same	8
13	13	PM	Same	8
14	2.5	PM	Same	10
15	4	AM	Same	4
16	4	AM	Same	11-13

Notes. Question 1 refers to employment in years. AM denotes day shift and PM denotes afternoon shift. Blank cells denote non-numerical response by the participant.

Research Question Two

The second research question was stated as: what building elements of patient direct-care are identified by staff as being helpful on the job and what are identified as a hindrance? I found that questions regarding the following themes (question numbers 5, 5a, 6, 7, 11, 14, 15, 16, 19, 20, 21 and 22) elicited the most number of positive attitudes: resident number, quality of care provided, workload, colors on the unit, working in private rooms, time spent outdoors, outdoor spaces, technology on the unit, shower rooms, resident transport, space for resident meals, and resident transfer. More than 50 percent of participants commented positively on these measures (see Table 3).

On the other hand, the most number of negative responses were generated by questions relating to the following topics: furniture on the unit, navigation around the unit, working in semi-private rooms, space provided for breaks, and space provided for resident bathrooms (question numbers 8, 9, 10, 17, and 18, respectively). However, the only question that elicited a negative response by more than 50 percent of the participants related to space provided for resident bathrooms (question 18). The other four questions yielded a negative response by at least 37 percent of participants. I explored these questions due to the study's small sample size and their congruence with either focus group topics or TESS-NH analysis. I have addressed correlations and possible implications in detail in Chapter Five.

Research Question Three

The third research question was stated as: what, if any, environmental elements demand more dementia-specific modification? Throughout the focus group sessions and one-on-one discussions, I recorded main points and topics with handwritten notes. Later, I analyzed the notes to check for themes and topics that were also addressed in the survey questions. The following topics reoccurred throughout the focus group sessions and discussions and were also consistent with survey results. Participants noted that the furniture on the unit was less than satisfactory, dissatisfaction with moving around the unit, dissatisfaction with performing tasks in semi-private rooms, and dissatisfaction provided for breaks throughout the workday. Lack of space while transferring a resident in his or her room and assisting a resident in the bathroom were also major themes that participants addressed in the focus group sessions.

In the traditional units, the focus groups revealed that the furniture was not adequately cleanable in some cases. In addition, certain chairs were identified as being too difficult for residents to transfer into and out of (lacking appropriate arm rests and seat height, for example).

Hoyer lifts in the resident rooms were seen as cumbersome and in some cases required three staff members to operate safely. Sub-acute units in the facility had tracks for ceiling lifts installed in the ceilings of resident rooms, and these devices were viewed much more favorably. Participants explained that the lifts on tracks required fewer staff members and took up less space. In discussions with participants representing the Adult Foster Care unit, durability and not being cleanable were also identified as issues with the furniture. Certain recliners in common areas were in need of repair or replacement.

In focus group sessions, areas being further apart from one another (such as the dining room and shower room) was presented as an issue. Participants expressed their concern that the shower rooms were down the hall from resident rooms in the traditional units, and participants felt that this was sometimes distressing and unfamiliar for residents with dementia. Focus group participants felt that semi-private rooms were too small for transferring residents in need of a hooyer lift. In addition, roommates weren't always getting along, which further complicated caring for residents in semi-private rooms. When I addressed the topic of a break area, several participants expressed their concern that they were not able to take breaks during their shift. The physical environment allocated for breaks was not so much of a concern as the lack of time when we discussed break rooms in the focus group sessions.

The majority of both survey and focus group participants identified space in the bathrooms as a major issue. Space for transfer to the toilet, lack of space to place and store resident personal belongings, and lack of space for belongings in the shower rooms were all specific issues that we discussed. Several participants mentioned the lack of space and privacy in the dining areas. Participants commented that some residents became too over-stimulated and distracted by both visual and auditory stimuli during mealtimes.

Based on the study results, I was able to address the three research questions posed at the onset of the study: 1) Do building elements in dementia-specific long-term care units interact with staff job satisfaction? 2) What building elements of patient direct-care are identified by staff as being helpful on the job and what are identified as a hindrance? 3) What, if any, environmental elements demand more dementia-specific modification? The following chapter gives detailed responses to the research questions.

Chapter 5: Summary, Conclusions, and Recommendations for Further Research

Research Question One

It was encouraging for me to find that more than 50 percent of participants responded positively to survey questions relating to job satisfaction. Although there were parts of the work that participants found to be less than satisfactory, it did not coincide with the same instances of job dissatisfaction among participants. In addition, all survey participants noted many more positive responses than negative responses (see Table 3). The three survey participants who tallied the greatest number of negative responses answered questions relating to resident number, quality of care provided, and workload (question numbers 5, 5a, and 6, respectively) with a negative response, with the exception of one neutral response to quality of care provided. These three questions were derived from the MJS, and more than 50 percent of participants responded positively to these questions. Responses from this research study produced a greater incidence of recorded job dissatisfaction when participant attitudes toward job duties in the environment had the highest instances of negative responses. This finding implied that job satisfaction may be connected to the physical environment, addressing the first research question.

Research Questions Two and Three

Although the sample size for participants representing the PCC unit was too small to observe any relationship based on survey responses, there were notable differences between the two traditional units and the PCC unit when I analyzed the TESS-NH (see Table 2). I found several of these variables present in the traditional units, and these same variables also aligned with the survey questions that yielded the highest number of negative responses. Additionally, participants in the focus group sessions and one-on-one discussions addressed many of these topics as being problematic. These topics included the elements that appeared to elicit the most

negative responses: furniture, floor plan layout, semi-private rooms, break times, and bathrooms. Identifying these elements addressed the second and third research question, recognizing physical building elements that either help or hinder direct dementia-care tasks and identifying elements of the environment that staff felt required more modification to improve dementia care.

Furniture ergonomics and materials.

Results to question 22 on the TESS-NH, which asked whether furniture was institutional in appearance, scored the furniture on the traditional units as institutional in nature. This also related to results from the survey, asking about satisfaction about furniture (see Table 3, question 8). This question was ranked the fourth highest, along with the question relating to navigation on the unit, in terms of negative responses; 37 percent of the participants responded negatively to this survey question (see Table 3, question 9). The focus group sessions also addressed the issue of furniture being inappropriate for a safe transfer: lacking armrests and appropriate seat height in some cases. Additionally, participants perceived most of the upholstered furniture as difficult to clean. Feedback given on furniture implies that it has an influence on the safety of the residents and can either make direct care staff member jobs more or less difficult in terms of promoting resident safety and staff time spent cleaning the furniture. Additional studies on furniture ergonomics for the geriatric and dementia care population as well as upholstery material durability and cleanability are needed.

Floor plan layout.

Second, question 18 of the TESS-NH asked about the presence of long hallways versus resident rooms opening into a centralized common area. The TESS-NH identified the traditional units as having long corridors and a decentralized layout (see Table 2). In addition, question nine of the survey resulted in fourth highest, along with question eight, in terms of negative

responses. This question asked about satisfaction in moving around the unit (see Table 3). Focus group sessions revealed that participants felt corridors were sometimes congested with people and medication carts. Participants also discussed the inconvenience in having the shower rooms down the hall from resident rooms, both for staff members assisting residents and remembering resident personal items, in addition to resident comfort. Conversely, this issue was not addressed by participants representing the Adult Foster Care unit; these resident rooms each have a private shower rather than a shared shower room. Results seem to favor a more centralized, person-centered layout.

Semi-private versus private rooms.

Third, the traditional units have all resident rooms set up as semi-private residences, while the majority of rooms in the Adult Foster Care unit are private (see Table 2). The survey responses yielded 44 percent negative responses regarding satisfaction caring for a resident in a semi-private room (see Table 3, question 10). Focus group sessions and discussions revealed that participants found space to be an issue with hooyer lift transfers in semi-private rooms; they stated that sometimes three staff members are needed to safely operate the hooyer lift. In addition, issues with roommates would make staff members' jobs more difficult when trying to address and solve roommate dynamics.

Break rooms.

Also receiving 44 percent negative survey responses related to satisfaction of space provided for breaks (see Table 3, question 17). Interestingly, I found break room provisions in all three units to be similar and feedback from participants representing all three units was generally negative. However, when discussing break rooms in the focus group sessions, participants did not focus on the physical environment of the break rooms so much as the lack of

time available for taking breaks. It is possible that by improving other aspects of the physical environment, staff member tasks would become more efficient and potentially lessen the physical burden for staff members. This would be an interesting topic for future research studies.

Bathrooms.

Finally, the survey that yielded the highest number of negative responses (69 percent) related to space provided for assisting a resident in the bathroom (see Table 3, question 19). Focus group discussions also addressed the small size and inconvenience of the bathrooms. Participants perceived bathrooms in the traditional units as being too small for convenient transfer onto the toilet and unequipped with accessories that were perceived to help with this experience. For example, focus group participants felt that grab bars were lacking, as well as adequate space for the residents' personal items. Focus group participants also found it difficult to use the hand held shower head while assisting a resident to apply shower products, such as soap and shampoo. Participants suggested multiple shower heads at different heights, or the ability to adjust and attach the shower head at different heights and locations. It is possible that the ability to attach a shower head to multiple grab bars in the shower area would be more convenient. In this case, more study on the topic is necessary.

Conclusions

This research study acknowledges that assumptions and limitations exist. Conclusions drawn from this study aim to gain general insight into direct dementia-care workers' interactions with the environment and foster continual research on the topic. Continual research is important for many reasons. Due to the decades of research on the theory of person-environment fit, we know that there is a complex and important interaction between people and their physical

environment (Kreiner, 2006; Lewin, 1931; Nielsen & Moos, 1978; Sherry, 1991). Many research studies have been dedicated to determining ideal long-term care living environments for the growing number of individuals with dementia (Brush & Calkins, 2008; Edvardsson, Fetherstonhaugh, McAuliffe, Nay, & Chenco, 2011; Edvardsson, Sandman, & Borell, 2014; Fleming & Purandare, 2010; McCormack et al., 2010; Sloane et al., 2007). On the other hand, direct dementia-care workers share the same environment with the long-term care residents, and it has been identified that more research must be conducted on their experiences (Dilley & Geboy, 2010; Elliott et al., 2012; Schepers et al., 2012; Stockwell-Smith et al., 2011). With a high turnover rate for direct dementia-care workers, it is apparent that our society must do more to improve upon this occupation as the population of people with dementia continues to increase (Alzheimer's Association, 2014).

In conducting this study, I have made the assumption that the direct dementia-care worker participants want what is best for the residents in their care. In other words, I have also assumed that the participants desire the residents to be contented and comfortable. In addition, I have made the assumption that the PCC-identified units have adequately trained employees in the PCC model, meaning that the concept of person-centered care has been effectively communicated and is understood and expressed by the employees. Consequently, the research study assumes that, based on the aforementioned previous research, PCC is a good model of care for people with dementia and the identified person-centered building elements are in turn a good representation of this model of care. Conversely, the traditional units are under the same organizational umbrella as the identified PCC unit; therefore, it may be more likely that training is the same or similar for all employees and held constant. However, this is an assumption, and

it is unclear whether or not a difference in training interferes with staff attitudes of building elements and levels of job satisfaction.

The research study is limited in its findings to this specific population of direct dementia-care workers within the three units researched. In addition, the small number of participants representing the Adult Foster Care unit is so limited that it is not possible to generate significant results. However, I am hoping that the findings generated from this study will spur larger research studies that may be able to gather a representative sample of the population of direct dementia-care workers in the United States. Additionally, I developed this study to examine relationships between physical building elements and employee job satisfaction; causation cannot be determined from this study. There may be many factors affecting job satisfaction among direct dementia-care workers. Further studies should focus on physical building elements that may affect job satisfaction among this population.

Further Research

Additional areas of interest that this research study touched on are environmental factors that would allow the staff members to take their allotted breaks, in addition to the physical environment of the break room itself. It would be interesting to further study the break area, its manifestations in different dementia care settings, and the effect it has on direct dementia-care workers. In addition, participants identified the bathroom areas as spaces in need of improvement, full-sized mock-ups or time-unit studies on the bathroom and shower experience and environment would be important contributions to the field. Based on the issues brought up with furniture ergonomics and safety and material cleanability, I recommend that additional research be conducted on safe, comfortable, and cleanable seating for individuals with dementia.

It is apparent in the literature sources that more studies must be conducted on direct dementia-care workers and their physical working environments. Being a profession that is not well paid, direct dementia care-workers must truly enjoy their work in order to last in the industry. Compounded with that, it is also a high stress profession and in high demand as the population of older adults in the United States grows. Consequently, research in this area is becoming increasingly important. The aforementioned research study adds to the growing amount of research in the field and points to areas that demand future study for the betterment of direct dementia-care workers and individuals with dementia.

Design Recommendations

Based on the conclusions drawn from this research study, I recommend the following environmental adaptations in long-term memory care environments. Seating must include appropriate seat height, arm height, and overall dimensions outlined by the Americans with Disabilities Act (ADA) Standards for Accessible Design (Department of Justice, 2010). Upholstered furniture should be water and stain resistant. There are a wide range of fabrics on the market that embody these properties, as well as having antibacterial and antimicrobial properties. It is highly recommended to consult with a qualified interior designer or another industry professional regarding the latest technology and products. I would also recommend a centralized floor plan layout for a long-term memory care unit, with centralized public spaces and resident rooms around the perimeter. Not only is wayfinding easier for residents, but staff can navigate between public spaces and resident rooms more easily when performing tasks. Private rooms with private bathrooms and showering facilities are also recommended over the use of semi-private rooms. Conflicts among residents may be lessened, freeing up more time for direct dementia-care staff members. In addition, the use of a ceiling lift rather than a hooyer lift in

resident rooms can free up staff member time and resources, while providing an efficient and private transfer from the bed or chair to the toilet or shower area. Please note, these recommendations are not comprehensive; it is recommended that healthcare administration and other stakeholders consult the advice of a qualified professional before making modifications to and/or constructing new long-term memory care environments.

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APPENDIX

Appendix A: Building Type Categorization

(Select A or B for each question, giving detailed narratives of each facility unit element in order to justify the choice.)

1) Unit Population

- a. Less than or equal to 15
- b. Greater than 15

2) Environment

- a. Homelike, as in having an environment with designated rooms with definitive functions, as in a typical household. Separate areas are designated as the living room, dining room, kitchen, and bedrooms and are easily identifiable as such. Meals can be cooked on the unit, in a traditional, accessible kitchen. Furniture and finishes are residential in nature. For example, there are armchairs and sofas, accent tables, multiple types of lighting, specific chairs for dining, art on the walls, windows with views to the outside, separate private areas such as bedrooms, and bathrooms, etc. Residents can navigate freely throughout all areas of the aforementioned spaces.
- b. Institutional-like, as in having multi-purpose common areas with minimal delineation among spaces. Furniture is similar in all areas and a specific function is difficult to determine. Meals are brought to the unit, and the space lacks a traditional looking, accessible kitchen. Little or no furniture is provided for lounging, such as armchairs and sofas (in relation to the number of residents on the unit). Little or no accent lighting is provided. Rooms are mostly semi-private and bathrooms/shower area is shared.

3) Layout and Wayfinding

- a. Areas are easily accessible to residents via ambulation and/or wheelchair. Rooms serve specific functions and are easy to identify with cues. The unit is small enough to be navigated for a resident operating his/her own wheelchair. Hallways that separate areas are easily identified and public areas are open to the hallway enough to be easily found from the hallway (more of an open floor plan). In the event of a person getting lost, the unit is small enough and provides enough cues from the senses (sight, sounds, smell, etc.) that will appropriately identify the area.
- b. Areas are too large to be accessible to residents via ambulation and/or wheelchair. Hallways are separated from adjoining rooms enough such that function of public rooms cannot easily be determined from the hallway (a delineated, not an open floor plan). There are many dead ends/corridors that look similar to one another and cannot be easily distinguished from one another. Cues from the senses are not present (sight, sounds, smell, etc.).

4) Rooms

- a. Primarily private, with a private toilet and shower.
- b. Primarily semi-private, with shared toilets and showers.

5) Natural light

- a. Many views to the outdoors from different areas on the unit.
- b. Limited views to the outdoors – not available in the majority of areas on the unit.

6) Time outdoors

- a. The unit is easily accessible to the outdoors, with safeguards allowing residents to be outdoors while either being observed from the indoors or minimally supervised, similar to indoor supervision. The outdoor space provides activities for the residents, such as gardens, places to sit, places to bird watch, etc.
 - b. The unit is not easily accessible to the outdoors. Staff members are not able to see residents outdoors from the indoors. The outdoor space has minimal safeguards and does not provide places to sit or opportunities for activity/stimulation.
- 7) Technological monitoring
- a. Monitoring is wireless and provides staff with the opportunity to be alerted to what residents are doing while not in sight, while not compromising privacy. Technology is such that it aides in prevention of falls and other at-risk behavior, such as movement sensors.
 - b. Technological monitoring is minimal or does not exist. Monitoring may include chair alarms or help buttons, which do not account for prevention measures.

Appendix B: Informed Consent Form

Informed Consent Form

The person in charge of this study is Margaret E. Byal. Margaret is a student at Eastern Michigan University. Her faculty adviser is Dr. Shinming Shyu. Throughout this form, this person will be referred to as the “investigator.”

Purpose of the study

The purpose of this research study is to better understand the relationships between dementia care staff and the environment.

What will happen if I participate in this study?

Participation in this study involves

- A 15 minute survey, to be completed in a staff break room or otherwise private space, directly after you sign this form. Please return both documents to the investigator.
- Optional participation in a one hour focus group session. This will take place in a private office/conference room space at times listed on the sign-up sheet.

We would like to audio record you for the focus group portion of this study. If you are audio recorded, it will be possible to identify you through your voice; however, only the investigator and her faculty advisors will have access. Your employees and supervisors will **not** have access. If you agree to be audio recorded, sign the appropriate line at the bottom of this form.

What are the anticipated risks for participation?

There are no anticipated physical or psychological risks to participation.

The primary risk of participation in this study is a potential loss of confidentiality.

Some of the survey and focus group questions are personal in nature and may make you feel uncomfortable. You do not have to answer any questions that make you uncomfortable or that you do not want to answer.

Are there any benefits to participating?

You will not directly benefit from participating in this research.

Results generated by this study may contribute to the betterment of dementia care worker experiences and their work environment.

What are the alternatives to participation?

The alternative is not to participate. Participation in this study is voluntary. If at any point in time you choose not to participate, you may withdraw from this study without negative consequences.

How will my information be kept confidential?

We will keep your information confidential by assigning you a code number to identify your survey and focus group responses. The results will be stored separately from this consent form, which will have your name and other identifying information. All materials with identifying information will be secured in the office of the investigator's faculty advisor. Electronic data will be stored on a password-protected computer. We will make every effort to keep your information confidential; however, we cannot guarantee confidentiality. There may be instances where federal or state law requires disclosure of your records.

If, during your participation in this study, we have reason to believe that elder abuse or child abuse is occurring, or if we have reason to believe that you are at risk for being suicidal or otherwise harming yourself, we must report this to authorities as required by law. We will make every effort to keep your research information confidential. However, it may be possible that we have to release your research information. If this were to occur, we would not be able to protect your confidentiality.

The investigators will ask you and the other people in the group to use only first names during the focus group session. The investigators will also ask you not to tell anyone outside of the group about anything that was said during the group session. However, we cannot guarantee that everyone will keep the discussions private.

Other groups may have access to your research information for quality control or safety purposes. These groups include the University Human Subjects Review Committee, the Office of Research Development, the sponsor of the research, or federal and state agencies that oversee the review of research. The University Human Subjects Review Committee is responsible for the safety and protection of people who participate in research studies.

We may share your information with other researchers outside of Eastern Michigan University. If we share your information, we will remove any and all identifiable information so that you cannot reasonably be identified.

The results of this research may be published or used for teaching or at professional conferences. Identifiable information will not be used for these purposes. Only general information will be shared. Direct quotations will not be used and access to individual survey responses and transcribed data will not be permitted.

Storing study information for future use

We would like to store your information from this study for future use related to dementia care environments. Your information will be labeled with a code and not your name. Your information will be stored in a password-protected or locked file. Your de-identified information may also be shared with researchers outside of Eastern Michigan University. Please initial below whether or not you allow us to store your information:

_____ Yes

_____ No

Are there any costs to participation?

Participation will not cost you anything.

Will I be paid for participation?

You will be entered in a raffle for a \$50.00 gift card upon participation in this study.

Study contact information

If you have any questions about the research, you can contact the Principal Investigator, Margaret E. Byal, at mbyal@emich.edu or by phone at 248-613-5950. You can also contact Margaret's adviser, Dr. Shinming Shyu, at sshyu@emich.edu or by phone at 734-487-6419.

For questions about your rights as a research subject, contact the Eastern Michigan University Human Subjects Review Committee at human.subjects@emich.edu or by phone at 734-487-3090.

Voluntary participation

Participation in this research study is your choice. You may refuse to participate at any time, even after signing this form, with no penalty or loss of benefits to which you are otherwise entitled. You may choose to leave the study at any time with no loss of benefits to which you are otherwise entitled. If you leave the study, the information you provided will be kept confidential. You may request, in writing, that your identifiable information be destroyed. However, we cannot destroy any information that has already been published.

Statement of Consent

I have read this form. I have had an opportunity to ask questions and am satisfied with the answers I received. I give my consent to participate in this research study.

Signatures

Name of Subject

Signature of Subject

Date

If the investigator has further questions regarding your responses to either the survey questions or focus group discussion, she may contact me in the future (optional).

Email and/or Phone number

I agree to be audio recorded for this study.

Signature of Subject

Date

I have explained the research to the subject and answered all his/her questions. I will give a copy of the signed consent form to the subject.

Name of Person Obtaining Consent

Signature of Person Obtaining Consent

Date

Appendix C: Survey Questions

Please answer questions to the best of your ability.

1. How long have you worked at this facility? _____

2. On what shift do you usually work? _____

3. Do you mostly work in the same unit, with the same residents or do you move around?

4. How many residents are you responsible for on your shift? _____

Please circle the response that best describes your personal experiences and attitudes to the following statements:

5. I am satisfied with number of residents in my care.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

5. I am satisfied with the quality of care I can provide to residents.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

6. I am satisfied with my workload.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

7. I am satisfied with the colors used on the unit.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

8. I am satisfied with the furniture on the unit.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

9. It is easy to move around the unit while performing my job.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

10. I like performing tasks in semi-private rooms.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

11. I like performing tasks in private rooms.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

12. I feel comfortable with the light levels on the unit.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

13. I feel satisfied with the amount of views to the outdoors on the unit.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

14. I enjoy time spent outdoors with the residents.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

15. I like the outdoor space(s).

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

16. I am satisfied with the technology used to monitor residents on the unit (i.e., alarms, room sensors, etc.).

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

17. I am satisfied with the space provided for my breaks.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

18. It is easy to assist residents in the bathrooms that are provided.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

Please give specific examples that explain your response:

19. It is easy to assist residents in the bath/shower in the bathrooms that are provided.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

Please give specific examples that explain your response:

20. It is easy to move residents throughout the facility, to and from events, meals, etc.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

Please give specific examples that explain your response:

21. Serving/helping to feed residents runs well in the space provided.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

Please give specific examples that explain your response:

22. Transferring a resident (one-person assist, two-person assist, or hoyer lift) is manageable.

Strongly Agree Agree Neutral Disagree Strongly Disagree Does Not Apply

Please give specific examples that explain your response:

Appendix D: Focus Group Questions

The following questions can be applied to this facility; however, if you can compare your experiences here with other facilities in which you've worked, please feel free to explain your experiences and whether they were better or worse.

Describe the process of assisting a resident with dementia in the bathroom.

- Difficult Aspects:
- Environmental Barriers to be improved:

Describe the process of assisting a resident with dementia in the bath/shower.

- Difficult Aspects:
- Environmental Barriers to be improved:

Describe the process of assisting a resident with dementia dress.

- Difficult Aspects:
- Environmental Barriers to be improved:

Describe the process of serving meals/helping a resident with dementia eat.

- Difficult Aspects:
- Environmental Barriers to be improved:

Describe the process of transferring a resident with dementia.

- Difficult Aspects:
- Environmental Barriers to be improved:

Describe the process of transporting a resident with dementia from place to place (via assisting to walk, wheelchair, etc.).

- Difficult Aspects:
- Environmental Barriers to be improved:

Do you feel you need a break from your job during your shift? If so, where do you go?

If so, how often are you in need of a break? Multiple times a shift, once a shift, once in a while?

What is the reason for needing a break – personal reasons, residents, family members, etc.?

Appendix E: Focus Group Ground Rules

Be open and honest. This is a safe environment created for the purpose of allowing conversation to occur.

Allow everyone in the group to contribute to the conversation. Each person's ideas and opinions are important. There are no bad ideas or stupid questions!

Stay on topic. The facilitator reserves the right to respectfully bring the group back to the topic at hand if necessary.

No side conversations; please be present in the group.

Disagreeing with others is ok, but make sure to disagree **respectfully**.

Respect one another and understand that everyone has different opinions and experiences that only enrich the focus group experience.

Keep it **confidential**. What is said in the focus group stays in the focus group. This creates a safe environment for discussion without worry that something a person says will be used against them in the future.

And finally, we will respect the time of everyone in the group and will end the conversation after one hour. Please feel free to approach the facilitator afterward if you have additional comments or questions.

I agree to adhere to the Focus Group Ground Rules stated above.

Signature

Date

Appendix F: Sample Recruitment Flyer

Attention Direct Care Staff:

What does Interior Design have to do with your job?

Help contribute to important research aimed at improving dementia care staff jobs

Tell us what's working for you and what isn't!

Please join us and take a 15 minute survey. We are also looking for focus group participants.

Participation in either will qualify you to enter in a drawing to win a gift card.

Survey Location:

Survey Date:

Appendix G: TESS-NH

See following pages for the Therapeutic Environment Screening Scale for Nursing Homes

TESS-NH
THERAPEUTIC ENVIRONMENT SCREENING SURVEY FOR NURSING HOMES
UNIT OBSERVATION CHECKLIST

DATE _____ / _____ / _____ (date) TIME _____ : _____ (time) AM PM (ampm)

FACILITY ID _____ (facilid) OBSERVER INITIALS _____ (observer)

UNIT _____ (unit) of _____ Total # of Units (units)

UNIT DESCRIPTION

Complete the following descriptive information before beginning the unit walk-through.

- A1. Type of unit:
- Dementia Special Care Unit (segregated)..... 1
 - Special Care Unit (cluster)..... 2
 - Non Special Care Dementia Unit..... 3
 - Other Unit..... 4 (typeunit)
- æ
Describe: _____

A2. Resident Rooms On Unit:

	<u># of Rooms</u>	<u># of Beds</u>	
		Occupied	Unoccupied
a. Private Rooms	_____ (singroom)	_____ (sinbeds1)	_____ (sinbeds2)
b. Semiprivate Rooms	_____ (doubroom)	_____ (dblbeds1)	_____ (dblbeds2)
c. Rooms with 3+ Beds	_____ (moreroom)	_____ (morbeds1)	_____ (morbeds2)

- A3.
- a. Total rooms for unit _____ (totroom)
 - b. Resident capacity _____ (capacity)
 - c. Number of residents sleeping on unit today _____ (totalres)

WALK-THROUGH DIRECTIONS: After identifying the geographical limits of the unit, spend approximately 15-45 minutes slowly walking throughout the unit, noting environmental features. Complete the checklist below by circling the numbers next to the appropriate responses or filling in the blanks. For some questions, if a condition is not directly observable, you may need to ask staff.

SCORING: For information on scoring, please refer to the manual for the Therapeutic Environment Screening Survey-for Nursing Homes (TESS-NH).

STANDARDIZED OBSERVATIONS: All observations should be standardized. If you are looking at different units within different nursing homes, you should conduct your observations within the same timeframe. All observations should occur between 9:00am and 5:00pm on weekdays, excluding mealtimes.

UNIT AUTONOMY

1. Which of the following statements best describes the relationship between the unit and the nursing station?

- The unit has its own nursing station which..... 2
does not serve other units.
- The unit’s nursing station also serves..... 1
other units.
- No nursing station serves this unit..... 0 (NH1)

2. What provision is made for caregiving staff to do paperwork?

	<u>Yes</u>	<u>No</u>	
a. Nursing station	1	0	(NH2a)
b. Separate desk in public area/alcove	1	0	(NH2b)
c. Counter/work area (other than nursing station) combined with other area (e.g. activity room)	1	0	(NH2c)
d. Enclosed work room not meeting the definition of a nursing station	1	0	(NH2d)

3. Does the unit serve as a pathway from one part of the facility to another?

Yes.....1

No.....0 (NH3)

4. Where do residents.....

	a.	b.	c.
	Eat	Engage in Formal Activities	Shower or Bathe
ALL 100% on this unit	3	3	3
MOST 99-51% on this unit	2	2	2
SOME 50-1% on this unit	1	1	1
NONE 0% on this unit	0	0	0
	(NH4a)	(NH4b)	(NH4c)

EXIT CONTROL

5. Does the physical layout or the decoration of the exits of this unit disguise the presence of a door from residents?

Yes: Exit doors disguised so they are not clearly visible to residents from most areas of the unit.

To some extent: Exit doors are partially hidden or disguised.

No: No disguise.

N/A

	a.	b.
	Doors to the rest of facility	Doors to the outside
Yes	2	2
To some extent	1	1
No	0	0
N/A	9	9
	(NH5a)	(NH5b)

6. How is unauthorized resident exit from this unit controlled? (Exclude doors that lead to enclosed courtyards. Think about all other doors that exit the unit when answering this question. Circle all that apply.)

- a. Number of exits off of the unit (exclude doors that lead to an enclosed courtyard) _____ (NH6a)
- b. Number of elevators that can be used to exit the unit. _____ (NH6b)

If there are no exit doors from the unit, proceed to Question 7.

LOCKS:

- c. Are doors locked to monitor resident exit? Yes No
1 0 If no, go to Question 6g. (NH6c)
- If yes, answer questions 6d-6f.

	<u>Yes</u>	<u>No</u>	
d. Doors with a locking device that is triggered by resident approach (NH Resident wears an electronic trigger).	1	0	(NH6d)
e. Doors routinely locked which can be unlocked by using a keypad or switch.	1	0	(NH6e)
f. Doors are locked at night and unlocked during the day, except doors that lead to the outside which may also be locked during bad weather.	1	0	(NH6f)

ALARMS:

- g. Are doors alarmed to monitor resident exit? Yes No
1 0 If no, go to Question 7. (NH6g)
- If yes, answer questions 6h-6j.

	<u>Yes</u>	<u>No</u>	
h. Alarm sounds that is triggered by device worn by a resident.	1	0	(NH6h)
i. The alarm sounds unless disengaged using a keypad, card, or switch.	1	0	(NH6i)
j. Alarm which sounds with all entries and exits.	1	0	(NH6j)

MAINTENANCE

7. Rate the general maintenance of each of the following areas.

	a.	b.	c.	d.
	Shared Social Spaces	Halls	Residents' Rooms	Residents' Bathrooms
Well maintained	2	2	2	2
In need of some repairs	1	1	1	1
In need of extensive repairs	0	0	0	0
	(NH7a)	(NH7b)	(NH7c)	(NH7d)

CLEANLINESS

8. Rate the general cleanliness of each of the following areas.

	a.	b.	c.	d.
	Shared Social Spaces	Halls	Residents' Rooms	Residents' Bathrooms
Very clean	2	2	2	2
Moderately clean	1	1	1	1
Poor level of cleanliness	0	0	0	0
	(NH8a)	(NH8b)	(NH8c)	(NH8d)

9. To what extent are odors of bodily excretions (urine and feces) present in public areas and in residents' bedrooms?

	a.	b.
	Public Areas	Residents' Rooms
Rarely or not at all	2	2
Noticeable in some areas	1	1
Noticeable throughout much or all of the unit	0	0
	(NH9a)	(NH9b)

SAFETY

10. Rate the floor surface of each of the following areas.

	a.	b.	c.	d.
	Shared Social Spaces	Halls	Residents' Rooms	Residents' Bathrooms
No slippery and/ or uneven surfaces	2	2	2	2
Mostly free of slippery and/or uneven surfaces	1	1	1	1
Slippery and/or uneven surfaces	0	0	0	0
	(NH10a)	(NH10a)	(NH10a)	(NH10a)

11. To what extent are handrails present on the unit?

	a.	b.
	Hallways	Bathrooms
Extensively	2	2
Somewhat	1	1
Little or None	0	0
	(NH11a)	(NH11b)

LIGHTING

12. Rate the light intensity (present during the time of the rating) in hallways, activity areas, and residents' rooms.

	a.	b.	c.
	Hallways	Activity Areas	Residents' Rooms
Ample	2	2	2
Good	1	1	1
Barely Adequate/Inadequate	0	0	0
	(NH12a)	(NH12b)	(NH12c)

13. To what extent is glare present in hallways, activity areas, and residents' rooms.

	a. Hallways	b. Activity Areas	c. Residents' Rooms
A little or none	2	2	2
In a few areas	1	1	1
In many areas	0	0	0
	(NH13a)	(NH13b)	(NH13c)

14. Is lighting even in the hallways, activity areas and in residents' rooms?

	a. Hallways	b. Activity Areas	c. Residents' Rooms
Even throughout the area	2	2	2
Mostly even throughout the area	1	1	1
Uneven; many shadows throughout the area	0	0	0
	(NH14a)	(NH14b)	(NH14c)

SPACE/SEATING

15. What percentage of the rooms have a chair per person (the chair may provided by the facility or it may be the resident's personal chair)?

- 75% or more..... 3
- 50-74%..... 2
- 25-49%..... 1
- Less than 25%..... 0 (NH15)

16. Inventory of the indoor public rooms and areas that are on the unit. Do not include hallways as “other”.

Type of Area	1. Exclusively for Unit		2. Seating Capacity	3. Square Footage	4. Adjacent Toilet		
	<u>Yes</u>	<u>No</u>			<u>Yes</u>	<u>No</u>	
a. Multi-purpose room	1	0	_____	_____	1	0	(NH16a1-NH16a4)
b. Activity room	1	0	_____	_____	1	0	(NH16b1-NH16b4)
c. Dining room	1	0	_____	_____	1	0	(NH16c1-NH16c4)
d. Lounge	1	0	_____	_____	1	0	(NH16d1-NH16d4)
e. Alcove	1	0	_____	_____	1	0	(NH16e1-NH16e4)
f. Other _____	1	0	_____	_____	1	0	(NH16f1-NH16f4)
g. Other _____	1	0	_____	_____	1	0	(NH16g1-NH16g4)
h. Other _____	1	0	_____	_____	1	0	(NH16h1-NH16h4)
i. Other _____	1	0	_____	_____	1	0	(NH16i1-NH16i4)

17. To what extent does the unit facilitate wandering behavior (by absence of dead ends and provision of places to sit along corridors?)

a. Dead Ends:

Path with no dead ends..... 1

Path that leads to dead ends or
alarmed/secured doors..... 0

(NH17a)

b. Places to Sit:

Path with places to sit..... 1
(along or adjacent to corridor including alcoves)

Path with no places to sit..... 0

(NH17b)

18. Which of the following describes the configuration of most of the rooms/spaces on the unit?

- No hallways; rooms open into living (common) area..... 2
- Short hallways; common areas easily visible from resident room doorways..... 1
- Long hallway; public spaces not visible from doorways..... 0 (NH18)

FAMILIARITY/HOMELIKENESS

19. To what extent do the public areas contain furniture, decorations, and other features that give them a homelike (residential as opposed to institutional) atmosphere?

- Very homelike:
(75% or more of public areas are “residential”)..... 3
- Moderately homelike:
(50-74% of the public areas are “residential”)..... 2
- Somewhat homelike:
(25-49% of public areas are “residential”)..... 1
- Not homelike:
(less than 25% of the public areas are “residential”)..... 0 (NH19)

20. Is there a kitchen located on the unit available for activities and resident and/or family use?

- Kitchen facility available for use..... 2
- Selected kitchen appliances available for use..... 1
- No access to kitchen appliances..... 0 (NH20)

21. To what extent are pictures and mementos present in the residents' rooms?

- 75% or more of the residents have at least three personal pictures and/or mementos in their rooms..... 3
- 50-74% of the residents have at least three personal pictures and/or mementos in their room..... 2
- 25-49% of the residents have at least three personal pictures and/or mementos in their room..... 1
- Less than 25% of the residents have at least three personal pictures and/or mementos in their rooms..... 0

(NH21)

22. To what extent is non-institutional furniture present in the resident's rooms?

- 75% or more have non-institutional furniture..... 3
- 50-74% have non-institutional furniture..... 2
- 25-49% have non-institutional furniture..... 1
- Less than 25% have non-institutional furniture..... 0

(NH22)

23. To what extent does the appearance of residents in public areas reflect attention to individual identity and add to the physical environment of the unit?

- Extensively (75% or more of the residents are well groomed)..... 2
- Quite a bit (25-75% of the residents are well groomed)..... 1
- Little (less than 25% of the residents are well groomed)..... 0

(NH23)

VISUAL/TACTILE STIMULATION

24. What percent of the rooms have access to a view of a courtyard/open vista, etc.?

	a. Bedrooms	b. Public Areas
75% or more have view	3	3
50-74% have view	2	2
25-49% have view	1	1
24% or less have view	0	0

(NH24a) (NH24b)

25. Are opportunities for stimulation easily available for residents?

	a. Tactile	b. Visual
Extensively in several program areas and in hallways	3	3
Quite a bit at least in one program area and in hallways	2	2
Somewhat only in a specific program area	1	1
None no source of stimulation	0	0

(NH25a) (NH25b)

ACCESS TO OUTDOORS

26. Is there an enclosed outdoor courtyard and/or an enclosed outdoor wandering area that is directly accessible to residents?

Enclosed outdoor area adjacent to unit;
residents may go out on their own..... 3

Enclosed outdoor area adjacent to unit; staff must
unsecure door and accompany all residents..... 2

Enclosed outdoor area present but is
away from unit..... 1

No enclosed outdoor area present at this facility..... 0

(NH26)

27. Overall, how attractive and functional is/are the courtyard(s)?

	a.	b.
	Attractive	Functional
Very	3	3
Somewhat	2	2
Not at all	1	1
No courtyard	0	0
	(NH27a)	(NH27b)

ORIENTATION/CUEING

28. Which of the following cues are available for the following areas?

	<u>Yes</u>	<u>No</u>	
1)Resident Rooms:			
a) doors routinely left open	1	0	(NH28a1)
b) resident names on/near door (2'')	1	0	(NH28b1)
c) current picture of resident on/near door	1	0	(NH28c1)
d) old picture of resident on/near door	1	0	(NH28d1)
e) objects of personal significance on/near door	1	0	(NH28e1)
f) room numbers on/near door (2'')	1	0	(NH28f1)
g) identifying colors: color coding	1	0	(NH28g1)
2)Resident Bathrooms:			
a) door open and toilet visible from resident bed	1	0	(NH28a2)
b) door open, but toilet not visible from bed	1	0	(NH28b2)
c) door closed; picture, graphic or sign to indicate bathroom	1	0	(NH28c2)
3)Activity Area			
a) visible (can view area) from doorway of 50%+ of resident rooms	1	0	(NH28a3)
b) a visual indicator such as an awning, statue, flag, etc. that is visible from doorway of 50%+ of resident rooms	1	0	(NH28b3)
c) directional, identification sign that is visible from doorway of at least 50% of resident rooms	1	0	(NH28c3)

PRIVACY

29. In shared rooms (NH rooms shared by two or more residents) how is privacy accommodated? If there are no shared rooms circle "9".

	<u>Yes</u>	<u>No</u>	<u>All private rooms</u>	
Privacy Curtain	1	0	9	(NH29a)
Other*	1	0	9	(NH29b)

*If "other", describe _____.

30. During the observation interval what was the status of the television in the main public area?

- The television was off all of the time..... 2
- The television was on some of the time..... 1
- The television was on all of the time..... 0
- The television was on all of the time for an activity..... 6
- No television present..... 9 (NH30)

31. During the observation interval, to what extent do you hear any of the following noises?

	a.	b.	c.	d.	e.	f.
	Resident Screaming or Calling Out	Staff Screaming or Calling Out	TV/ Radio Noise	Loud Speaker or Intercom	Alarm or Call Bells	Other Machines (ice, buffer)
Not at all	2	2	2	2	2	2
Sometimes	1	1	1	1	1	1
Constantly or high intensity	0	0	0	0	0	0
	(NH31a)	(NH31b)	(NH31c)	(NH31d)	(NH31e)	(NH31f)

OVERALL PHYSICAL ENVIRONMENT

32. On a scale of 1 to 10, provide your global assessment of the physical environment of the unit as it appeared during your observation.

Low	Moderate								High
1	2	3	4	5	6	7	8	9	10
Distinctly unpleasant negative, and non-functional.									Quite pleasant, positive, and functional.
									(NH32)