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Access to Home Modification Resources for Healthy Aging in Place

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Access to Home Modification Resources for Healthy Aging in Place

Jennifer Golder, Amanda Kolodge & Timothy Muldoon

2012

**ACCESS TO HOME MODIFICATION RESOURCES FOR
HEALTHY AGING IN PLACE**

By:
Jennifer Golder, Amanda Kolodge & Timothy Muldoon

MASTER OF SCIENCE RESEARCH PROJECT

Submitted to the Occupational Therapy Program
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in partial fulfillment of the requirements for the degree of

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ABSTRACT

This qualitative study investigated how community-dwelling older adults learn about home modification resources to facilitate successful aging in place. Two focus groups were conducted to collect data on older adults' experiences with aging in place resources. A total of 11 participants attended the focus groups. The focus group data were transcribed and analyzed using framework analysis. Twelve initial codes were developed. Upon further data analysis, the codes were broken down to three main themes: Resources, personal perceptions, and residence choices. The researchers concluded that participants had a basic understanding of home modification through their membership at the senior activities center. Further research is suggested with an educational program relevant to home modifications, facilitated by an occupational therapist.

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Access to Home Modification Resources for Healthy Aging in Place

Chapter One: Introduction

Aging in place is a term used to “describe an adult living in the residence of his/her choice as he/she ages, while being able to have any services (or other support) one might need over time as his/her needs change, for as long as one is able” (Age in Place, 2012). More adults are living longer and show an increased desire to age in place in their homes. Home modifications are specific changes which facilitate aging in place. Adaptations within the home can enhance mobility, accessibility, and prevent accidents. These changes have the potential to improve quality of life by allowing residents to safely remain in familiar surroundings.

It is important to understand the different resources older adults are using to educate themselves on home modification options. Motivations behind community dwelling older adults’ choices to implement home modifications, or to not do so, are an important consideration. Knowledge of resources on home modifications and specific motivations for making those changes can be used to improve availability of, access to, and support for information resources.

Background and Context

The majority of older adults prefer to stay in their homes instead of moving to an institutionalized setting. In an American Association of Retired Persons (AARP) study involving 2,000 adults, 83 percent of adults over 45 reported the desire to stay in their current home for as long as possible (Greenwald, 2003). This pattern has been found in numerous surveys and interviews about older adults’ preferences. Conrard (2008) stated the following:

In aging in place, changing needs are resolved without moving from one's home. Interventions such as design modifications, assistive technology, caregiving and home services, or various combinations of these, are employed to adapt the home environment to create an atmosphere in which an aging homeowner can function independently as long as possible. (p. 7)

The concept of aging in place is that health services and other resources can be provided within the home and community (Lord, Despres, & Ramadier, 2011). The main points to aging in place are prevention and meeting the needs of aging persons as they arise.

Institutionalized settings such as skilled nursing facilities, assisted living centers, and palliative care centers are less favored compared to one's home. A move into a long-term care facility is often described as a very stressful and unwanted event (Mitty & Flores, 2008). There are numerous reasons older adults wish to remain in their current residences.

Many older adults value their homes based on familiarity, meaning, safety, and comfort. Americans not only value the physical home, but also the community. The majority of American adults over 45 years of age have lived in the same community for many years and are comfortable with their surroundings (Greenwald, 2003). The individuals feel at ease with their physical and social environment, which could include churches, grocery stores, activity centers, entertainment venues, restaurants, doctor offices, and neighbors (Pynoos, Nishita, Cicero, & Caraviello, 2008). The person's social identity is tied to his or her home located within the community (Lord, Despres, & Ramadier, 2011). The home contains emotional attachments, as well as physical

belongings (Pynoos et al., 2008). Its significance is often described as having meaning because it is connected to memories and pleasant times.

Problem Statement

It is unknown at this time whether older adults who reside in Ottawa County, Michigan have adequate access to home modification information, and whether they are sufficiently motivated or capable of instituting home modifications that could enable successful aging in place. There has been no study conducted in Ottawa County, Michigan pertaining to the awareness of available resources for home modification for community-dwelling older adults and the role that an occupational therapist could play in this scenario. Home modifications can be particularly beneficial to those older adults living alone.

Purpose

In this study, the investigators sought to gain a better understanding of how healthy aging adults currently receive information about home modification, which facilitates successful aging in place. The study explored the knowledge and behaviors regarding aging in place among local residents over the age of 60 living in the community. In 2008, Ottawa County, Michigan conducted a needs assessment regarding housing (Anderson Economic Group, 2008). It was found that there is a need for additional senior housing with barrier-free entryways (Anderson Economic Group, 2008). Although senior housing was addressed in the needs assessment, there were many gaps and questions that remained in regards to older adults' housing preferences. The current study examined awareness of home modification resources and attitudes on home

safety of local older adults over the age of 60 in order to gain a more comprehensive understanding of their needs.

Significance of Problem

In 2010, there were an estimated 40.3 million people age 65 and over in the United States, accounting for just over 13% of the total population (Werner, 2011). In Ottawa County, Michigan 11.8% of the population is over 65 (U.S. Census Bureau, 2010). Similar to the national trend, this is the fastest growing age group in the county. It is currently projected that the American population aged 65 and older will increase to 72 million by 2030, which is a 185 percent increase from 2008, and will represent approximately 20% of the population (Population, 2008). The 80+ age group is the fastest growing age group according to the World Health Organization, a trend that is expected to continue for at least the next 50 years (Burgess & Burgess, 2007). Of the aging population, many older adults are living alone. Forty percent of women and 19% of men above age 65 live alone in the United States (Burgess & Burgess, 2007).

Increased life expectancy and improved medical care have contributed to the longevity of older adults. Due to the increasing older adult population, healthcare providers will need to address the needs of aging clients more than in the past. It is important these health professionals guide older adults to adequate resources for home modifications when appropriate. Service providers must emphasize the relationship between injury prevention and a safe home environment. There will be fewer accidents and injuries as well as an increased quality of life if older individuals learn how to lead safer lives at home.

Research QuestionPrimary Questions:

- How do community-based adults aged 60 and over, who live independently, gain information regarding home modifications in order to successfully age in place?
- What are adults aged 60+ primary source of information? Is it a healthcare provider, family member, friend, home remodeling business, local government, federal government, neighbor, media (TV commercial, website, flyer, newspaper advertisement), community activity center, church, or others?

Secondary Questions:

- Are local, adults aged 60+ taking the necessary precautions to prevent accidents and injuries in the home? If not, is it due to a lack of knowledge pertaining to available resources?
- What motivates a relatively healthy adult above the age of 60 to modify his or her home?

Key Concepts

Aging in Place: is a term used to describe an adult living in the residence of his/her choice as he/she ages, while being able to have any services (or other support) one might need over time as his/her needs change, for as long as one is able” (Age in Place, 2012).

Home modifications: Home modifications (HM) are defined as alterations made to a home to meet the needs of people with physical limitations so they can live more independently and safely (Home Modifications, 2011). Include any change to the home aimed to increase safety and aid in healthy aging in place; includes equipment, renovations, rearrangement, organization, and other strategies.

Independence: Traditionally defined as self-reliance in activity, autonomy, self-determination, or choice (Russell et al., 2002). Self report of being able to care for one's own self for the majority of daily tasks, with little to no assistance from others. The individual can perform most Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs) with minimal difficulty. In this study, a married couple may work as a team to accomplish tasks around the home.

Information: Resources on "aging in place" strategies, techniques, behaviors, agencies, or services related to home modifications.

Information source: Family, friend, neighbor, business, media, community center, community organization, agency, or other entity that provides one with resourceful information

Motivation: The process of starting, directing, and maintaining physical and psychological activities; includes mechanisms involved in preferences for one activity over another and the vigor and persistence of responses (Gerrig & Zimbardo, 2002). The reasons why a participant considers and/or carries out home modifications.

The Person-Environment-Occupation (PEO) Model: The model encompasses the relationship between a person, his/her environment, and the occupation in which the individual needs or wants to engage (Cole & Tufano, 2008).

West Michigan healthy aging adults: Adults 60 years and over residing in Ottawa County, Michigan that have not experienced a serious illness or disability. They may experience minor declines expected with aging, such as minor vision changes, arthritis, fatigue, minor memory loss, and osteoporosis. They do not require caregivers, nor do they require placement in a long term care facility.

Summary

This study aimed to better understand older adults' awareness of aging in place resources that are available, with an emphasis on home modification. Adults who reside in Ottawa County, Michigan participated in the study. The findings identified if and how the needs of adults aging in place are being met. The study examined older adults' awareness of home modifications, community resources, and accessibility of this information. Investigators looked to understand what motivates relatively healthy aging adults above the age of 60 years to make home modifications and plan for the future. Chapter two includes a comprehensive literature review and conceptual framework of aging in place, followed by methodology in chapter three, results in chapter four, and the discussion section in chapter five.

Chapter Two: Literature Review

The literature review explored the benefits of aging in place. The Person-Environment-Occupation (PEO) model was used as a framework to structure the topic. The authors also researched the following topics: motivation, healthcare cost, resources, and home modifications in order to successfully age in place. Older adults may have concerns about remaining in their homes, but do not know who they can turn to for help. Identifying sources of information is important to the health and overall well-being of older individuals (Livingston County Senior Needs Assessment, 2008). Communities should make a point to address the needs of adults aging in place. It is important to be proactive and join together to modify or adapt current practices to improve the lives of aging adults. Empirical evidence was accessed and primarily retrieved from CINAHL Plus with Full-Text, PsycInfo, and EBSCO.

Aging in Place

Aging in place is a term used to “describe an adult living in the residence of his/her choice as he/she ages, while being able to have any services (or other support) one might need over time as his/her needs change, for as long as one is able” (Age in Place, 2012). The majority of older adults prefer to age within their homes as opposed to relocating to long term care facilities (Greenwald, 2003). Older adults want to participate in active aging despite limitations that may accompany the aging process. Spreading awareness of healthy aging resources throughout the community, health care system, local agencies, and private businesses can help older adults age in place successfully. There are many proactive steps an older adult can take to remain in the home and maintain independence (Greenwald, 2003).

Focus of movement

When the oldest baby boomers turned 65 in 2011, the demographics of the United States began to change, with a considerably higher percentage of the population made up of older adults (Kaminsky, 2010). As a result of the growing older adult population, there is an increasing awareness of the need to have older adults remain in their homes. Many programs are becoming focused on successful aging on both the local and national level (Kaminsky, 2010). For example, one of the goals of Healthy People 2010 was to “increase quality and years of healthy life” by considering healthy and active lifestyles, and increasing life expectancy (Kaminsky, 2010, p.12). An individual’s overall health is affected by many factors including a person’s setting.

Healthy engagement in occupations is largely impacted by the individual, context and setting in which it takes place. “Occupations occur within specific socioculturally defined settings but are modified by the persons enacting them” (Jackson, Carlson, Mandel, Zemke, & Clark, 1998, p. 328). Occupations are generated when individuals interact emotionally with a setting, developing meaning (Jackson et al., 1998). Even if two individuals appear to interact the same with an occupation, their occupations are actually different due to the individual engagement between the environment and the person (Lave, 1988).

PEO Model

The *Occupational Therapy Practice Framework: Domain and Process, 2nd Edition (OTPF-II)* describes occupational therapy as a profession which promotes organizations, people, and populations to actively engage in their occupations (AOTA, 2008). According to the Canadian Association of Occupational Therapists (CAOT),

occupation is defined as “the activities or tasks which engage the person’s resources of time and energy; specifically self-care, productivity and leisure” (Canadian Association of Occupational Therapists, 1995, p.140). The framework outlines the concept that active engagement, or occupational performance, occurs when there is a balance between the environment, the activity, and the person’s ability (Kaminsky, 2010). This idea is demonstrated in the Person-Environment-Occupation model of occupational therapy (OT) practice. The model encompasses the relationship between a person, his/her environment, and the occupation in which the individual needs or wants to engage (Cole & Tufano, 2008). Since OTs view a person holistically, they consider an individual’s performance skills necessary in a particular environment (AOTA, 2008). Individuals who wish to age in place need to have their abilities match the demands of their environment (Kaminsky, 2010).

A fit between environmental characteristics and individual preferences contributes to an individual’s sense of well-being (Kahana, 1982). Studies have found that people actively engage to achieve fit between the environment and themselves (Baker & Intagliata, 1982). For example, five general dimensions on the quality of life was obtained through a survey of 3,000 people of various ages, race, and backgrounds. The themes were: (a) physical and material well-being; (b) relations with other people; (c) social, community, and civic activities; (d) personal development and fulfillment; and (e) recreation (Flanagan, 1978). Therefore, a person’s overall satisfaction of his/her well-being depends upon the fit between person and environment, such as the home and community.

Disability and Environment

The Americans with Disabilities Act of 1990 was developed due to the difficulty individuals with disabilities experienced engaging within their environment. Before this act, healthcare focused on a person's immediate environment rather than entire context. As a result, a clinical model was needed to describe the interaction between person and environment.

In 1996, Law and colleagues developed the PEO model. Law was a professor and associate member of the Department of Clinical Epidemiology and Biostatistics at McMaster University. Law and her colleagues extensively researched the theoretical and clinical application of the interaction between the person and the environment and found when a person's context changes, his/her behavior changes as well (Law et al., 1996). "This model builds on the earlier work in the Occupational Therapy Guidelines for Client-Centered practice (CAOT, 1991), as well as drawing on concepts from human ecology" (Law et al., 1996, p.20).

The International Classification of Functioning, Disability, and Health (ICF) also acknowledged the role of the environment on disability around this time. The updated ICF identified multiple factors that can lead to disability, aside from disease and illness alone. The ICF stated there is a significant link between a person's environment and one's ability to participate in daily activities (Hemmingsson & Jonsson, 2005). The Americans with Disabilities Act, PEO model, and the ICF all contributed to a greater understanding of the environment and its role in health and wellness.

Person

Health and Wellness. The World Health Organization (WHO) acknowledges that health and wellness encompasses a multitude of factors. The absence of disease is only one aspect of a person's overall state of wellbeing. WHO considers health to be a "state of complete physical, mental and social well-being, and not merely the absence of disease" (WHO, 2012). The concept of wellness is relevant to older adults because they can experience well-being despite the presence of disease/disability if provided with adequate resources and support. Within the field of OT, the *Occupational Therapy Practice Framework (OTPF)* states the importance of participation to achieve well-being. According to the framework, "all people need to be able to or enabled to engage in the occupations of their need and choice, to grow through what they do, and to experience independence or interdependence, equality, participation, security, health, and well-being" (AOTA, 2008, p. 625). An aging adult can still experience overall well-being, despite physical limitations. The American Occupational Therapy Association acknowledges that a person's environment can affect one's overall state of wellbeing. If environmental and attitudinal barriers are minimized, the person can engage in meaningful activities. One must acknowledge the importance of community engagement in the health of older adults. Participation in the home and community can positively influence a person's physical and mental well-being.

Quality of life. Quality of life is a subjective state of well-being that can impact daily functioning. A person's quality of life is determined by numerous variables. Some of the factors that affect quality of life include physical and cognitive functioning, emotional support, level of independence, and social engagement (WHO, 2012). Glass,

Mendes De Leon, Bassuk, & Berkman (2006) found a direct relationship between social engagement and depression. The longitudinal study consisted of 2,812 adults aged 65 and above living in New Haven, Connecticut. The participants lived in the community, and did not reside in institutions. Data collection occurred over an eight year period. The participants who reported being actively involved in social activities (such as attending religious services, playing cards, and participating in community groups) scored lower on the depression scale compared to those individuals who reported less social engagement. This pattern was consistent at each wave of the longitudinal study. Glass et al. (2006) also found that participating in productive activities, such as preparing meals, working in the yard, and shopping correlated to increased mood. Glass and colleagues found social engagement was independently associated with wellbeing. However, reverse causation may have taken place, and persons who were depressed may have chosen not to participate in productive activities. Future studies should examine the relationship between community involvement and quality of life, while accounting for confounding variables. Despite this study's limitations, it acknowledged the significance home and community activities can have on an older adult's wellbeing.

In addition to social engagement, quality of life may be affected by home and community resources available to a person. Examples of possible needs include home repairs, transportation, personal care, and home management assistance. Tang & Lee (2010) examined home and community based service utilization in older adults living in the community. They surveyed 4,501 adults aged 50 and over from 13 rural and urban communities. The researchers found that 52% of adults above 75 reported some difficulty or much difficulty in daily work. Of that same group, 64% reported they were not

planning on relocating. This suggests that older adults could benefit from aging in place resources. Despite the significance of these findings, Tang and Lee (2010) failed to include survey questions about accessibility of the home, housing satisfaction, and awareness of home modification resources. This feedback could provide additional implications for the needs of older adults and how communities can best serve this population. Awareness and utilization of community based services has the potential to increase quality of life in older adults in need of assistance.

Locus of control. Locus of control is a psychological concept that examines how a person attributes cause to external events. Traditionally, locus of control has been identified as being internal or external (Jacobs-Lawson, Waddell, & Webb, 2011). A person with an internal locus of control perceives he or she has control over life's outcomes. In contrast, one with an external locus of control believes external factors can explain behavior. Psychological factors correlated to locus of control include introspection, anxiety, depression, religiosity, and self-esteem (Johansson et. al., 2001). The concept has been further studied in terms of one's health locus of control. Jacobs-Lawson, Waddell, & Webb (2011) examined locus of control in adults between the ages of 54 and 84. The participants were randomly selected from a voter registration database in Kentucky. The researchers phoned the adults and asked if they would like to participate in the study. 259 adults agreed to complete the mailed questionnaire regarding health and locus of control. Jacobs-Lawson and colleagues found that increased self-efficacy was correlated to higher levels of an internal health locus of control. The participants with this perspective attributed health outcomes to their own actions, whereas those with a lower locus of control looked to external factors, such as physicians or

chance. A person with an external locus of control may not feel the need to make changes that could potentially increase one's health status.

Locus of control relates to aging in place because individuals are able to plan for their future, and potentially influence their health status. If an older adult modifies his/her home and practices safe behaviors, this can decrease one's risk of home accidents, such as falls (Nikolaus & Bach, 2003). Falls and other home injuries can lead to poor health and decreased independence. If a person has an internal locus of control, they are more likely to be proactive and take preventive steps to avoid negative health consequences, such as home injuries. The older adult population is rapidly increasing in the United States. Therefore, aging in place resources can have a significant effect on the wellbeing of these individuals.

Baby Boomers. The number of older adults in the population continues to rise each year. In 2010, individuals ages 65 and above made up 13% of the population and in 2030 it is estimated they will make up 20% of the population (Warner, 2011). This noteworthy increase in individuals age 65 and above is due to the aging Baby Boomer population (Administration on Aging, 2002). The Baby Boom generation consists of all individuals who were born between the years 1946 and 1964. Following the return of soldiers from World War II many couples were married and families were started. A growing economy and social acceptance of large families were contributing factors to forming the large Baby Boom generation that consists of 76 million Americans (Morias & Goodman, 2002). Life events unique to Baby Boomers include: the cold war, the Vietnam conflict, the civil rights movement, women's rights, Elvis, hula hoops, microwaves, freezers, and minivans (Sperazza & Banerjee, 2010). These events

paralleled unique life styles, improved education levels, increased diversity, economic prosperity, steady jobs, high rate of home ownership, and generous pensions. As the Boomer generation moves towards retirement, there is no reason to expect that this generation will not continue to shatter precedents as they have done throughout their lives (Frey, 2010).

The family structure of Baby Boomers is reflected in their value system that were unlike their parent's generation. They married later, had fewer kids, have a higher divorce rate, and more women are employed in the workplace. Free choice, feeling young, being healthy, living longer, indulgence, volunteering, leisure, and self-fulfillment are of high value amongst Boomers (Sperazza & Banerjee, 2010).

As the Baby Boomers grow older they will be faced with declines in health. Although the aging process varies widely among individuals, there are developmental changes that accompany normal aging. Whether it is a result of injury, disease, or the aging process, the aging adult will almost without exception face deficits of some kind. Sensory changes are not uncommon; vision, hearing, gustation, olfaction, touch, and vestibular senses can be altered. The central and peripheral nervous system, muscles, bones, joints, the cardiovascular systems, cognition, and communication may experience decreased function (Goodmani & Bonder, 2008). Due to the changes which accompany the aging process, Baby Boomers must prepare for their future health needs which may include evaluating home environment for safety and accessibility.

Motivation. There are numerous motivating factors for individuals who want to remain in their home. For example, many people cherish their right to privacy and control within one's home. "Living under one's own rules" is a top reason for staying in

one's own home (Greenwald, 2003). Home owners feel entitled to privacy, decision-making, and freedom of choice. A person choosing to age in place maintains independence. An older adult living at home controls which daily activities to engage in, who visits, and how to manage the home. In contrast, long-term care facilities can decrease one's independence and privacy. In such settings, the older adult has less control of daily routines and choices. For example, the person has little control of roommate placements, meal choices, or community outings. Skilled nursing facilities are often described as being "medicalized" by having characteristics of hospitals due to shared rooms, lack of privacy, medical personal, medical equipment, and the occurrence of illness among residents (Mitty & Flores, 2008). The environment of nursing homes and other long term institutions can lead to feelings of irritability, depression, boredom, lack of support, and isolation (Jongenelis, Pot, Eisses, & Beekman, 2004).

Remaining at home also contributes to a sense of belonging in the community. Many older adults prefer to stay in the local area because they have family members that live nearby (Lord, Despres, & Ramadier, 2011). Spending time with children and grandchildren can play a significant role in the desire to age in place. Eight in ten older adults describe this as being a key factor in their choice to age in place (Greenwald, 2003). Connection to the community can also motivate the individuals to volunteer, join local organizations, or socialize with neighbors and friends (Vrkljan, Leuty, & Law, 2011). In a phenomenological study, Vrkljan, Leuty, & Law (2011) found that feeling connected to one's community led to positive mental and physical well being. Participation within the community motivated the people to engage in daily occupations, get out of the house, exercise, and interact with others. Having social networks can

positively impact quality of life (Lawler, 2001). Community identity can lead to better emotional and physical well-being.

Healthy aging in place is meant to meet the medical and psychological needs of older adults while still remaining at home. As a result, one's quality of life can be improved. The World Health Organization defines quality of life as "individuals' perception of their position in life in the context of the culture and the value system in which they live and in relation to their goals, expectations, standards and concerns" (WHO, 2012, p. 1). Quality of life can change depending on health, marital status, age, income, personal attitudes, social relationships, independence, self esteem, and one's place of residence (Burgess & Burgess, 2007). Past studies have found older adults who are able to do things that they enjoy, despite changes in their life, are more satisfied with their lives (Butler & Ciarrochi, 2007). An older adult who is able to age within the home is more capable of continuing to participate in activities he or she enjoys, managing internal locus of control. Additionally, depression among older adults has been found to increase with institutionalization. Jongenelis et al. (2004) found that depression rates were up to four times higher in adults who lived in nursing homes compared to those that lived at home or with family. High quality of life correlates to good physical and psychological status as well as emotional well-being (Burgess & Burgess, 2007).

Healthcare Costs. Economic factors also impact the choice to age in place.

Healthcare services and medical bills are costly and can be a financial burden to many older individuals. According to the National Association of Home Care and Hospice, Medicare charges vary greatly depending on the type of setting. On average, hospitals and skilled nursing facilities charge significantly higher than home health care (National

Association of Home Care and Hospice, 2008). Home modifications and home health care services are more affordable than moving to long-term care settings. (National Association of Home Care and Hospice, 2008).

During an inpatient hospital stay, the Medicare beneficiary is required to pay a \$1,156 deductible per benefit period. The first 60 days of stay are paid by Medicare, after which the beneficiary is required to pay \$289 for days 61-90 and \$578 per day for any additional days with a 60 day lifetime limit. A client is required to have a 3-day stay in a hospital prior to Medicare agreeing to pay for the 20 days in a skilled nursing facility, after which the resident is required to pay \$144.50 per day. After the 100th day in a skilled nursing facility, the resident is required to pay for all services. Medicare also fully covers all home health care services and 20% of the Medicare approved amount for durable medical equipment. Hospice care is fully covered by Medicare with the exception of cost of room and board at the place the beneficiary stays and 5% of inpatient respite care (“2012 Medicare”, 2012).

After Medicare services expire, individuals are required to pay the remainder of the medical bill. The older individual must often use personal financial resources, including Social Security, private insurance, pensions, and life savings to pay for nursing homes (Egyptian Area Agency on Aging, Inc., 2011). If financial resources drop to a certain point, the individual then becomes eligible for public health assistance, or Medicaid. According to the Kaiser Commission on Medicaid and the Uninsured, Medicaid accounted for 42% of long-term care spending in 2004, direct out of pocket spending was 23 %, Medicare was 20%, and private insurance was 9% (Kaiser

Commission, 2006). When looking at nursing homes alone, Medicare only covered 14% of costs (“ACP program”, 2010).

Medical bills can lead to increased stress about finances. If the person’s family agrees to help pay for services, the person receiving care may have feelings of guilt and view oneself as a burden. Due to the high number of baby boomers approaching retirement age, the issue of funding long-term care will become more important (Burgess & Burgess, 2007). Current policies and laws may change due to the changing needs of the American population.

Established through health care reform and the Patient Protection and Affordable Care Act, the community living assistance services and supports (CLASS program) provides an opportunity to Americans with functional limitations for long-term care services. It will provide financial assistance not less than \$50 a day to purchase non-medical supports to maintain community residence (Summary of new health reform law, 2010). Using this financial support, older adults can use the CLASS program to fund home modifications to effectively age in place. In addition, the Patient Protection and Affordable Care Act may cover proven preventative services. For example, these preventative services could pay for a contractor to install grab bars in a home to prevent falls and promote safer aging in place.

Healthy aging in place is described as preventing health decline and responding to decline appropriately (Mitty & Flores, 2008). The trend toward home-based and community care has been on the rise. In 1991, home-based care consisted of 14 percent of medical services, while institutionalized care consisted of 86 percent (Kaiser Commission, 2006). A decade later, home based care gained popularity. In 2005, home

based care comprised 37 percent of the total, which indicates home health services became more common, especially for older adults aging in place (Kaiser Commission, 2006). Eighty-five percent of adults over 50 believe it is very important to extremely important to have long-term care services that allow individuals to age in place (AARP Research and strategic analysis, 2011).

To successfully age in place, many older adults may need home health care services in addition to home modifications. According to Genworth (2012), the median annual rate for a home health aide in Holland/Grand Haven, MI is \$44,616. For comparison, in the same area, nursing homes had a median cost of \$81,395 annually. This is a difference of \$36,779 in cost savings annually for West Michigan older adults.

Home health care in America will be in high demand regardless of the party that pays. Research has shown that home health care is more cost effective than institutionalized care; therefore, the home health care cost provides motivation for the individuals to age in place. The increased demand for long-term care will encourage health care professionals to practice with older adults in home health care. Occupational therapists will be instrumental in facilitating aging in place as demand increases due to the combination of increased population requiring long-term care services and the reduced cost of home health care.

Role of OT with person. In 1997, Rowe and Kahn found that successful aging depended on disability, disease, cognitive and physical functioning, and involvement in meaningful activities. For each of these domains, individuals attempt to decrease the risk of adverse events and enhance resilience in their presence. “Many of these predictors of risk and of both functional and activity levels appear to be potentially modifiable, either

by individuals or by changes in their immediate environment” (Rowe & Kahn, 1997, p. 439). In 2000, occupational therapists and other team members completed a study to support their theory. The study demonstrated older adults’ engagement in IADLs, social activities, and high-demand leisure activities were correlated with positive physical health. Positive mental health was associated with engagement in low-demand leisure activities (Kaminsky, 2010). Thus, occupational therapists involvement in promoting individuals to participate in meaningful activities positively impacts individual’s overall health.

The American Occupational Therapy Association describes the practice of occupational therapy as “the therapeutic use of everyday life activities (occupations) with individuals groups, or populations to address participation and function in roles and situations in home, school, workplace, community, and other settings” (AOTA, 2008, p.3). “In fact, occupational therapy practitioners have a unique understanding of how occupational performance can be maximized and can work well in collaboration with other disciplines also providing preventative care” (Kaminsky, 2010, p. 13). Since occupational therapists have an ability to focus on a person’s abilities and environment, they are valuable practitioners to include on fall prevention (Kaminsky, 2010). The Well-Elderly study demonstrated that occupational therapy intervention had a positive effect on mental health, physical health, and quality of life because the effects were sustained six months after intervention (Jackson, Carlson, Mandel, Zemke, & Clark, 1998). Therefore, occupational therapy practitioners can help individuals remain in their communities independently when preventative intervention strategies are provided.

Environment

Resources. It is vital that older adults be informed about government, medical, and community resources as they age. Awareness of such services can promote healthy aging in place. Many adults report feeling more confident in their ability to age in place successfully when they feel they have access to resources in their environment (Human Services Collaboration Livingston County, 2008).

Access. It is important older persons are aware of home and community service options. “The lack of knowledge about availability and utility of a service to alleviate their needs is a major barrier to service utilization among community dwelling elders” (Tang & Lee, 2010, p. 151). Services are not beneficial if the adults are unaware of their existence or how to utilize them. A problem often reported by older adults is the difficulty in retrieving information about aging in place resources. This retrieval problem can result in the older adult feeling disconnected from the community (Everingham, Petriwskyj, Warburton, Cuthill, & Bartlett, 2009) One in five adults above the age of 65 report being unaware of who they should contact for information about support services (Everingham et al., 2009). A lack of knowledge about community resources may lead to decreased independence, feelings of social isolation, and worsening health status. According to the World Health Organization, “access to information remains a key challenge facing older people, which can seriously impact on their capacity to age well” (Everingham et al., 2009, p. 80). Accessing such resources in a more convenient way can allow for healthy and active aging.

Many of the aging in place resources can be found on websites. Although the Internet can be a useful tool, it can also serve as a barrier for individuals unfamiliar with

how to navigate the World Wide Web. National polls have consistently found that older adults are less familiar with technology than younger adults. A 2008 survey by the Pew Research Center found that 89% of 18 to 29 year-olds reported internet use, while 33% of adults aged 65 and above used the Internet (Olson, O'Brien, Rogers, & Charness, 2010). Older adults may miss out on valuable information about aging in place resources because of accessibility issues. Everingham et al. (2009) suggest that "information overload" can be discouraging to older adults when accessing resources. There are an abundance of websites and links related to aging in place resources. It may be overwhelming for a person to determine which sites are credible and relevant. The World Health Organization identified common issues associated with the Internet as expressed by older individuals, which included affordability concerns, lack of internet service, lack of familiarity, and lack of confidence using a computer (Everingham et al., 2009). It is important to recognize this barrier to develop additional techniques for informational retrieval.

Types of services. As a person ages, one's medical and personal needs are likely to increase. The person may require assistance with activities that previously were performed with ease. Such tasks include meal preparation, functional mobility, driving, household tasks, and community participation (Tang & Lee, 2010). There are several services available for community dwelling older adults. One's unique needs are contingent upon age, marital status, disability, health, income, environment, and support systems (NOCCOA, 2011). Services may be provided through government funding, service non-profit organizations, healthcare providers, community organizations, and family and friends (National Institute on Aging, 2010). Home and community service

programs can help older adults gain access to appropriate resources. The older adult population is growing rapidly, which implies such programs will continue to gain importance within the community.

An older adult choosing to remain in the home as he/she ages may qualify for services after meeting the eligibility requirements for the program. Government funded programs tend to be based upon income, with lower income households being more eligible for grants and loans (NOCCOA, 2011). Type of disability, health insurance, and veteran status can also be a qualifier to receive funding and services within the home. National organizations that offer grants include the U.S. Department of Housing and Urban Development, U.S. Department of Agriculture, and Department of Veterans Affairs (Fagan & Cabrera, 2011). The state of Michigan offers loans to older adults in need of renovating one's home to accommodate physical needs. Michigan funding programs include Property Improvement Program, emergency repairs, and home rehabilitation (Fagan & Cabrera, 2011). Many of the state programs consist of loans that must be paid back over time. Service non-profit agencies can also assist with aging in place services. Examples include Easter Seals, Rebuilding Together, Home Safety Council, and organizations, such as Disability Advocates, that advocate for specific disabilities including Alzheimer's and Multiple Sclerosis foundations (Fagan & Cabrera, 2011). Although there are many organizations offering assistance to community dwelling older adults, the funding is limited and the person may not qualify or be aware of services.

The policies regarding service options can be confusing and frustrating for an older person to comprehend. An expert in this area, such as a social worker, OT, or

geriatric case manager may be beneficial in this process (NOCCOA, 2011). The role of the health professional is to assist the client in determining appropriate needs, determining available resources, and creating a plan. Funding options may be discussed with the older adult. In the majority of cases, the homeowner or family is responsible for payment of aging in place services.

Community. Home and community based services include activity centers, adult day programs, housekeeping, meals on wheels, telephone help lines, home repair assistance, and transportation. (Tang & Lee, 2010). These services can provide aging adults with opportunities to be actively involved in the community and successfully age in place. The risk of nursing home placement is increased if the person has no children and lives alone (Boaz & Muller, 1994). Tang & Lee (2010) found similar results. The authors reported “older, unmarried women with functional limitations experienced a reduced risk of nursing home placement when more public home and community based programs were available and accessible” (p. 139). This implies the significant role community service providers can have on vulnerable, older adults. Activity centers can act as information centers for older adults and provide them with further resources when needed (Tang & Lee, 2010).

Opportunities for social participation are a positive aspect of a senior activity centers. Social interaction is important for psychological well-being (Tang & Lee, 2010). This can be especially beneficial to older individuals who are widowed or do not have family in the area. Activity centers for retired adults provide exercise classes, health screening clinics, art activities, games, meals, community events, and informational seminars. Direct and indirect services include telephone checkups, home repair

assistance, borrowed medical equipment, snow removal, home visitors, transportation, adult day programs, and housekeeping services (Tang & Lee, 2010). Topics may include Medicare, family, financing, prescriptions, homemaking, and safety (NOCCOA, 2011). In the activity center at NOCCOA, staff may provide direct assistance or refer the person to other local resources.

Activity centers provide information pertaining to health and wellness, which may include home modification resources. The older adult may learn about the significance of home modifications and the steps to make one's home more user-friendly. Communicating with other adults who have modified the home and utilizing the information provided by the center can optimize one's independence. The older adult may gain access to valuable information that he or she may otherwise have not known about. The community's support is a major component of the success of the program. Staff, volunteers, family, health professionals, and local service agencies can enhance the quality of an activity center's programs ("Support NOCCOA").

Family, friends, and neighbors serve as a primary resource for many aging adults. A family member may act as a caretaker when needed. According to one study, 80% of homecare to older persons is through informal caregivers (Gitlin, 2003). Neighbors can assist with needs as well such as grocery shopping or phone calls to check up on neighbors with health conditions. Support from social networks can help an older adult to continue living independently, while receiving extra help when needed. Families who live in similar geographic locations can better serve their aging family members. Less social support may increase one's chance of being placed in a long term care setting.

Family and friends can also help make an older person's home more user- friendly and safe.

Safety in the home

Home modifications and safety education. “Home modifications, a key to aging in place, can benefit older adults in many ways such as preventing falls, supporting independence, making tasks easier, facilitating participation in communities, and even reducing mortality” (Tang & Lee, 2010, p. 150). Implementing proper safety measures within the home can enhance healthy aging. The majority of older adults not only want to remain in their homes, but expect it to happen. Three in four adults over 65 reported it is likely they will be able to stay in their current homes for the rest of their lives (Greenwald, 2003). However, a much lower number of adults report they are planning for the future or taking preventive steps to promote safety in the home. A previous study on home assessments found that on average, older adults had 10 safety hazards in the home (Peel, Steinberg,& Williams, 2000). According to a nationwide AARP survey, “one in six home owners above age 50 has made home modifications that would allow them to be safe and comfortable in their home as they age” (Aging in Place, 2011). The majority of older adults have not made appropriate adjustments that could prevent disability, institutionalization, or death. Adapting the environment and educating community dwelling adults about safe behaviors has the potential to prevent falls, poisoning, malnutrition, and burns within the home (Centers for Disease Control and Prevention, 2011).

According to the National Center for Injury Prevention and Control, falls are the number one cause of injury in the home, with a significant amount due to the

environment. More than 1/3 of adults aged 65 and older fall each year, with 13,700 deaths and 1.8 million emergency room visits resulting from these falls (Stevens, Ryan, & Kresnow, 2006). Slips and falls in the home may result in an increased need for care such as hospitalization or skilled nursing home placement. Personal factors that increase one's risk of falling include balance problems, taking medications with adverse side effects, muscle weakness, arthritis, depression, memory impairments, and poor vision (Centers for Disease Control and Prevention, 2011). It is vital older adults continue to schedule regular appointments with their physicians to discuss health or prescription concerns. Common injuries associated with older adult falls include fractures of the hip, radius, ulna, ankle, and vertebrae. Cuts, lacerations, and sprains may also be a consequence of the fall (Routley & Valuri, 1993). Complications from these injuries can lead to decreased mobility, which has the potential to lead to more serious health conditions.

Environmental changes can play a significant role in maintaining an older adult's independence and safety within the home. As with other types of services, home modifications are primarily funded by private pay. It is estimated that 80% of home modifications and renovations in the United States are funded by the homeowner or the family (Fagan & Cabrera, 2011). Although it may initially appear to be a financial strain, such modifications can be more cost-effective in the long-run than skilled nursing facilities. Reducing home hazards and dangerous behaviors can reduce stress, disability, illness, financial strain, and relocation. Taking proactive steps to prevent home accidents and injuries can increase a person's likelihood of successful aging (National Institute on Aging, 2010).

Several studies have demonstrated the effectiveness of fall prevention programs among older persons. Nikolaus & Bach (2003) performed a randomized control trial with older adults who had mobility limitations. The group that received the home assessment, recommendations, and mobility-aid training had 31% fewer falls one year later compared to the control group. Similar findings were reported by Davison, Bond, Dawson, Steen, & Kenny (2005). The fall intervention consisted of a clinical examination, prescription evaluation, physical therapy evaluation of strength and endurance, home assessment by an occupational therapist, education about reducing home hazards, and referrals to medical specialists if needed, such as an optometrist. The one year follow up indicated that the intervention group's fall rate was 36% lower than the control group. The study's implications support the need for a multi-disciplinary approach to fall prevention in the older adult population. Lord, Menz, & Sherrington (2006) found that taking risks and being impulsive also contributes to falls. Examples of risk-taking behaviors are standing on a chair to reach something or walking quickly on ice. A person's behavior and attitudes must be examined in addition to environmental barriers.

As observed through the above fall studies, the home may require modification to meet the emerging needs of the older adult. Ensuring safety in the home is a priority for community dwelling older adults. There are a variety of environmental changes an older person can implement in the home. One study found that individuals who completed home repairs were 50% less likely to expect relocation than non-repair users (Tang & Lee, 2010). Home modifications and repairs range from simple and inexpensive, to more

costly and labor-intensive. The home environment can hinder one's performance or allow for greater autonomy depending on the structural design ("Making and Paying").

A home that accommodates everyone's needs incorporates universal design features. According to AARP, "a home with universal design makes it easier for residents to live in, and for guests to visit now and in the future, even as everybody's needs and abilities change" (2009). Universal design, safe behaviors, and environmental changes are essential to decreasing one's risk of home injury. In addition to making changes to existing homes, accessibility and safety features can be built in new homes, preventing the need to make future adjustments. "Universal design is an approach to creating everyday environments and products that are usable by all people to the greatest extent possible, regardless of age or ability" (Trachtman, Mace, Young, & Pace, 1999, p. 1). This contemporary approach to architecture is beneficial to older adults because the layout of the house is designed to fit changing needs. Homes created with universal design have features such as level entry doorways, larger bathrooms, movement sensor light controls, adjustable counter tops, high contrast floors, and lever type faucets. A universally designed environment comes equipped with features that are beneficial to all persons.

Home modifications have the potential to create safer home environments that are more accessible and user-friendly to older adults. Simple modifications include the addition of handrails, grab bars, shower seat, phone in the bathroom, appliances with front controls, brighter lights, and smoke detectors. Medicines and other items can be labeled with large print, timers can be used, painting can be done to increase visibility, and area rugs can be removed. Past studies have found that the compliance rate of

modifying the home is higher when the change is simple and inexpensive as opposed to complex and more expensive (Stevens, Holman, & Bennett, 2001). Nikolaus and Bach (2003) found simple additions, such as adding a shower seat and grab bars in the home had the highest compliance rates. The researchers reported the compliance rate for simple modifications was over 75%. This suggests older adults may be more willing to make easy and inexpensive changes.

Moderate home modifications include outdoor entry ramps, walk-in showers, automatic garage door openers, sensor technology, side-by-side refrigerators, slip resistant floors, and lowered counters (Aging in place, 2011). Sensory technology is beneficial for adults with mild cognitive declines, such as memory impairments. An example is a stove that automatically shuts off after a period of time. This can prevent fires and other kitchen accidents.

More expensive home modifications may be necessary for a person with additional needs, such as a physical disability that limits one's mobility. Installing stair lifts or elevators can assist the person in reaching second or third floor levels in the home. Widening doorways within the home may be beneficial to a person using a wheelchair. Such modifications are contingent upon the person's specific needs and financial resources.

Role of OT with environment. Upon referral, the occupational therapist can perform a home assessment, which usually consists of a home safety checklist and interview (Peel, Steinberg, & Williams, 2000). After the assessment, recommendations for modifications are made if necessary. Previous research shows older adults are more likely to take preventive steps to promote safety when educated by an occupational

therapist following a home assessment (Peel, Steinberg, & Williams, 2000). The occupational therapist can teach the individual preventive strategies and adapt the environment so it is safer and more accessible (Nikolaus & Bach, 2003). An occupational therapist can provide the client with adaptive equipment, such as raised toilet seats and grab bars. OTs may refer the person to home contractors or remodelers that can make more complex home renovations. The occupational therapist can also teach the client or the family safe behaviors to decrease one's fall risk. Campbell, Robertson, La Grow, Kerse, Sanderson, & Jacobs-Lawson (2005) found adults over 75 with poor vision benefited from education from an occupational therapist. The occupational therapist completed a home hazard assessment, followed by direct advice to the resident. The professional advice pertained to safe behaviors in the home and environmental modifications. The intervention group experienced 61% fewer falls and 44% fewer injuries compared to the control group. Education is a significant role of the occupational therapist working with community-dwelling older adults.

Occupation

Normal occupations. Occupation has many definitions including: "groups of self directed, functional tasks and activities in which a person engages over a lifespan" (Law, 1991) or "daily activities that can be named in the lexicon of the culture and that fill the stream of time" (Yerxa et al., 1990; Clark et al., 1991). The Canadian Association of Occupational Therapists (CAOT) defines occupations under three main categories of: self-care, productivity, and leisure (Canadian Associations of Occupational Therapists, 1995). While occupational therapists have been trying to categorize occupations for

decades based on characteristics or the complexity of each task, the meaning of the task to the individual is much more important than its category (Christiansen & Baum, 1997).

How occupations change as we age. Studies based on time use show that approximately 60% of an adult's or adolescent's time is filled with obligatory or required activities including sleeping, self-care, IADLs, and employment (Christiansen & Baum, 1997). The older an individual gets, the more time he/she spends on sleep, BADLs, IADLs, social leisure, and solitary leisure. Individuals aged 65-74 spent a mean of 29.3 hours per week on solitary leisure compared to a mean of 37.1 hours per week of leisure for individuals aged 85 years or older. On average, individuals ages 65 or older spend 13.7 hours per day (57% of time per day) on sleep, BADLs, and IADLs. This does not include paid work or volunteer work which accounts for a mean of 9.2 and 7.6 hours per week respectively (McKenna, Broome, & Liddle, 2007). This totals between 61.6% and 62.5% of a person's time falling into obligatory activities. It should be noted however, that even though the percentage of time spent on obligatory activities is similar to that of an adult or adolescent, only a mean of 9.2 or 7.2 hours are spent on employment. This is a relatively small figure compared to the typical 40 hour work week an adult usually dedicates to employment. This suggests that individuals age 65 and above spend a higher percentage of time on sleep, BADLs, and IADLs which all most likely take place in the home.

Form, function & meaning of occupation. Occupational form consists of what people do, the time and space they do it in, and how they perform. Everything that can be directly observed about an occupation is occupational form (Nelson, 1988). Jogging, for example, is an occupation that people can easily observe. The occupational form is

dependent on the environment in which the occupation is set. Snow in the winter may force a jogger to run on a treadmill or on an indoor track rather than through their neighborhood streets as they typically do in spring, summer, and fall. Other factors that can be observed with this occupation are shoes and attire worn, routines such as stretching, listening to music, or route traveled (Nelson, 1988).

When discussing occupational function, one is concerned with the way an occupation serves adaptation (Wilcock, 1993). Engaging in an occupation can help to increase skill, knowledge, health, safety, and self-care so that one can flourish in society; however, other occupations can compromise these same attributes (Clark, Wood, & Larson, n.d.). For example, jogging can help expand respiratory capacity, relieve stress, and provide alone time. These characteristics can increase skill in other occupations that the individual engages in such as stress relief improving work performance.

Occupations are important when they are meaningful within the context of an individual's life (Trombly, 1995). Occupations are the most powerful expression of cultural values and their influence should not be underestimated. They are avenues through which people are able to express themselves. The importance of jogging may increase when there is an end goal such as participating in a race or wanting to remain active and healthy. As a result, individuals make emotional connections with the occupations in which they habitually engage (Clark, Wood, & Larson, n.d.).

Role of OT with Occupation. As described earlier, older adults tend to spend more time on BADLs and IADLs than they used to. A common goal for an occupational therapist when working with older adults is to adapt or modify these tasks, compensate

for deficits to allow performance in these tasks so that the individual may allocate more time towards high value leisure activities, for example.

Adapt. If an individual is struggling to brush his/her hair due to the arthritis in the hands, an occupational therapist may want to adapt the hair brush. They can do this by building up the handle to increase the individual's ability to manipulate the brush and therefore be able to brush their own hair with greater independence and effectiveness. An additional benefit is reducing the cumulative trauma of the arthritis in the hand.

Modify. If an individual's performance cannot be modified, it may be possible to change the environment that the individual stays in. For example, the stove can have switches that automatically turn off to reduce fire hazards, label drawers with their contents, paint with contrasting colors to promote depth perception, remove slip or fall hazards such as area rugs, and add grab bars and non-slip mats in bathrooms (Goodman, & Bonder, 2008).

Compensate. A common compensatory approach for older individuals is finding available help and accepting of assistance (Goodman & Bonder, 2008). Due to the decreased performance in areas of self-care, BADLs, and IADLs, it may be advantageous to have a caretaker perform some of these tasks for the individual. The older individual can designate more time to higher valued activities.

Conclusion

Occupational therapists can play a multitude of roles in aging in place. The professionals are trained to teach clients how to adapt to injury, illness, and disability. They can work with clients in their home to promote independence through healthy behaviors and environmental modifications (Aging in Place, 2011). Occupational

therapists often make recommendations for environmental adaptations for clients with functional ability changes due to aging and disability. The OT looks at the person within his or her environment and plans treatment accordingly. Occupational therapists have the ability to keep older adults engaged in their valued occupations by assessing the needs of the community and creating programs to meet those needs. They often work with other professionals to enhance community participation for this population (Kaminsky, 2010).

Chapter Three: Methodology

In this chapter, the research methodology will be discussed. First, the study design will be introduced with the rationale and advantages of methodology selected. The study site and population will be reviewed along with the inclusion and exclusion criteria that were utilized. A brief description of the sample population will be provided. The equipment and instruments used during this study will be discussed along with the rationale for their use. Trustworthiness will be explained and the methods for achieving it will be justified. The chapter will also indicate how subjects were recruited. Finally, the data collection methods will be reviewed and limitations will be discussed.

Study Design

This study utilized a qualitative research design. Qualitative research is used to describe or explain a particular phenomenon (Luborsky & Lysack, 2006). Qualitative research is used in cases where there is a need for further understanding about a particular topic (Luborsky & Lysack, 2006). Focus groups were used to gather information from study participants by interviewing people in a group setting.

The focus groups explored the beliefs, needs, preferences, knowledge, attitudes and experiences of community-dwelling older adults aged 60 and above. The primary goal of the focus group was to ask the adults about their awareness and attitudes on aging in place resources and identify common themes based on the interview responses (Kielhofner, 2006). The questions focused on self-reported needs in the current home, opinion about home accessibility and modifications, and access to resources. Data collection took place among two focus groups, with duration of approximately 90 minutes each. The researchers obtained information about participants' life experiences

and opinions. Themes and shared experiences emerged from the focus groups. For the objective of this study, focus groups provided the variety of information desired. The questions centered on participants' reasons for living at home, if they feel safe at home, if they feel they can access aging in place information, if they have made any home modifications, who made the changes, and where they received the information about home modifications. The information collected was analyzed by sorting and categorizing the data.

Establishing trust between the participants and the researchers was important in maintaining the study's trustworthiness and credibility (Kielhofner, 2006). By making the participants feel comfortable, it is likely they were more honest with their answers and willing to share their thoughts with the group. Prior to data collection, the researchers were taught how to lead a focus group and collect data under instruction from a qualitative analysis expert. The researchers were also trained on interview skill techniques with guidance from committee members. A moderator script was developed, which included the questions that were asked and what researcher asked them. This protocol made the study more credible because the researchers based their questions from aging in place literature such as AARP surveys, occupational therapy practice guidelines for home modifications, fall prevention studies, and home safety checklists (Siebert, 2008). Basing the focus group questions on previous aging in place surveys and interview questions from scholarly sources improved construct validity, or measuring what was intended to be measured.

Study Site and Population

The focus groups were conducted at North Ottawa County Council on Aging (NOCCOA) in Grand Haven, MI. The focus groups took place in a meeting room in the activity center with tables and chairs arranged in a circle. Inclusion criteria were all adults aged 60 or above who attend the center and live in Ottawa County, MI. The participants were above age 60 because that is the minimum age to join the Grand Haven Activity Center. Flyers (Appendix A) were posted throughout the center two weeks prior to data collection to inform members about the upcoming research. The flyer indicated that participants were offered food and beverage while participating in the study for a small honorarium. The flyers instructed members to contact the NOCCOA activities coordinator if interested in participation. The activities coordinator was provided with additional information to give to members, such as the purpose of the study, researchers' contact information for potential questions or cancellations, and further details of the study design. When the members chose to sign up, the activities coordinator recorded the person's name and date he/she was available for participation.

The researchers used a convenience sample to obtain their population. Convenience sampling is the use of easily available subjects. "In a convenience sample, subjects are enrolled as they agree to enter the study, until the desired number is reached" (Dickerson, 2006, p. 521). The focus groups consisted of members who pre-registered. Each focus group contained between five to seven participants. Additional guests over age 60 that accompanied anyone were invited to join the focus group if interested.

Confidentiality of the participants' names were maintained throughout the focus groups by assigning each participant a random letter code, known as a pseudonym. The

pseudonym was used to record what the participants' said in both written records and digital tape. For example, if the participant's name was Mary, she was assigned the pseudonym "participant A". Nametags were provided in front of each chair, so participants remember how they were to be addressed. The researchers confirmed that names would not appear on any data collection forms or be audio-recorded. Participants had the opportunity to discuss any questions with the researchers and were required to sign a consent form (Appendix B) prior to the focus group starting. The researchers kept all forms, transcripts, and digital tapes throughout the research project. Audio recordings were destroyed once the transcription process is complete. All printed records will be kept in a double locked file at GVSU for three years and then will be shredded or otherwise destroyed.

Equipment and Instruments

In a focus group, researchers gather information by interviewing participants in a group setting. Therefore, the researchers are the primary instruments used in data collection. The best environment to collect information is typically in a situation where several perspectives can be heard at once. Since the researchers are able to collect data on the topic in a group setting, focus groups allow for exploration of additional information created by subjects' responses (Lysack, et al., 2006).

During the focus group, the researchers demonstrated professional behavior and showed respect towards participants. They established themselves as trustworthy by using respectful language when speaking to the participants. Refreshments were offered to show appreciation for participation. The researchers ensured privacy and use of pseudonyms in the data collection. In addition, the participants avoided interrupting the

participants as they spoke. The investigators worked to avoid expressing their personal opinions or using leading questions to elicit desired answers by having scripted questions. The tone and body language of the researchers was consistent when participants were speaking. The language used was neutral and avoided the use of jargon and technical terms. This research protocol has been approved by the Human Research Review Committee at Grand Valley State University. File No. 12-193-H Expiration: May 15, 2013.

Questions for the focus groups (Appendix C) were created by the researchers based on responses to the AARP *Fixing to Stay* survey found in the AOTA Press “Occupational Therapy Practice Guidelines for Home Modifications” (Siebert, 2005). The questions were specifically designed as open-ended, which allowed for flexibility and elaboration. This non-standardized question format probed answers from participants to gain more depth about their knowledge of aging in place. Detailed and thorough perspectives about aging in place were provided during the focus group sessions.

Trustworthiness

According to Lincoln and Guba (1985) the trustworthiness of qualitative research can be evaluated based on four main criteria: (a) credibility, (b) transferability, (c) dependability, and (d) confirmability. These four criteria will be discussed in further detail in regards to the current study’s trustworthiness.

Credibility represents how accurate and true the findings are in qualitative research (Lincoln & Guba, 1985). Credibility is the main construct of trustworthiness that attempts to find how congruent research findings are with reality (Merriam, 1998). The researchers developed a credible relationship with the participating organization by

taking a preliminary visit to the site where the focus groups were conducted prior to data collection. This was beneficial because it helped establish a prolonged engagement with the organization to adequately gain an understanding which created a relationship of trust (Lincoln & Guba, 1985). Participants were required to sign a consent form before participating in the study, which explicitly stated that participation was voluntary. In addition, the participants were verbally reminded that participation was voluntary prior to the beginning of the data collection. Participants were reminded they were free to not answer any of the questions. Furthermore, there were frequent discussions with research committee members who offered their perspective and experiences to guide the researchers throughout the research process (Shenton, 2004).

Credibility was achieved through member checking. This process “solicits participants’ views of the credibility of the findings and interpretations” (Creswell, 2013, p.252). The researchers assessed credibility by discussing our interpretations of the responses with the participants. If discrepancies existed, the participants were asked to clarify their responses in order to accurately represent their attitudes and experiences. This process was important because the responses were later organized into themes for data analysis.

Transferability is similar to external validity in quantitative research in that the findings should be applicable to other contexts (Lincoln and Guba’s Evaluative Criteria, 2008). Transferability of the study was lower overall because the sample was a convenience sample, and not a random sample. Using a convenience sample limits the generalizability of the research findings because the participants volunteered to do the focus group, rather than being chosen at random. The participants who volunteered for

the study may have qualities that are not representative of all West Michigan community dwelling older adults. In addition, research was only collected at one study site in Grand Haven, MI. The majority of NOCCOA members are Caucasian and from a middle class background, which further limits the transferability. Even though this study utilized a convenience sample, the generalizability to the general population should not be immediately dismissed (Denscombe, 1998).

Dependability is similar to reliability because it assumes “the results will be subject to change and instability” (Creswell, 2013, p.252). Dependability was improved due to a multitude of factors. In qualitative research, dependability can be established through external auditing (Lincoln & Guba, 1985). In the current study, the researchers’ external committee chair examined the research findings and evaluated the interpretations based on the data collection. In addition, dependability was affected by the chosen study site, inclusion criteria, and interview questions. The study was conducted in a natural setting. The participants were above age 60 and members of an activity center. They lived independently within the community, as opposed to residing in a skilled nursing facility. The participants were familiar with the center and visit the facility on a regular basis. The focus group interview questions inquired about aging in place resources, home modifications, and needs. The responses helped the researchers develop a comprehensive understanding of the participants’ attitudes and beliefs about aging in place. This process improved the study’s dependability.

Confirmability is defined by Lincoln and Guba as “a degree of neutrality or the extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest” (1985). Triangulation was used to maintain confirmability

during the focus groups. Triangulation contributes to the level of trustworthiness in qualitative research. This process assisted the researchers in utilizing of “multiple and different sources, methods, investigators, and theories to provide corroborating evidence” (Creswell, 2008, p. 251). Triangulation of sources consists of conducting the research with the same methodology, but at different times and with different people (Lincoln and Guba’s Evaluative Criteria, 2008). There were two focus groups, with different participants for the study. It is important to note that triangulation does not equate to identifying similar responses in all participants (Lincoln and Guba’s Evaluative Criteria, 2008). Rather, it helped the researchers develop a better understanding of the various perspectives of the aging in place phenomenon. An audit trail (Appendix E) was also used to achieve confirmability. An audit trail was used to identify the sequence of events, maintain records, and report data collection methods that occurred during the research process. Credibility, transferability, dependability, and confirmability increased the overall trustworthiness of the study.

Trustworthiness was also established during the researchers’ social interactions with the focus group participants. Prior to beginning the audio recording and reading the questions from the moderator script, the researchers developed rapport with the participants in order to create a comfortable and friendly environment. The researchers welcomed the participants as they entered the room and introduced themselves. The researchers engaged in small talk with the participants while waiting for the other members to arrive and offered refreshments. During the focus groups, the moderator maintained neutrality and did not demonstrate judgmental responses.

The researchers used the PEO model and peer reviewed journal articles to assist in the development of interview questions and data analysis. The use of existing aging in place literature improved trustworthiness because the data resulted in a greater understanding of the topic in previous research studies. The use of a theoretical framework improved trustworthiness because it provided rationale, structure, and focus. The PEO model was beneficial in data analysis because it recognized the importance of context, which led to multiple perspectives on the phenomenon. When there was inconsistency in data analysis, the investigators discussed the findings and came to an agreement. Triangulation provided a more comprehensive understanding of the topic. Lastly, the use of an audio recorder improved the study's trustworthiness because it provided direct quotes from the participants. The audio recordings from both focus groups were later transcribed by a trained undergraduate student. The transcriber was educated on the purpose of a focus group and the significance of accuracy and precision in the transcriptions. The student signed a confidentiality agreement because at times the participants mistakenly said their actual names as opposed to the pseudonyms.

Procedure

Prior to data collection, the following procedure was followed:

- Executive director of NOCCOA, Brigit Hassig, contacted via email by Susan Cleghorn on 1-19-12 to inquire about occupational therapy graduate students interested in carrying out research at NOCCOA
- Executive director replied to email on 1-20-12, and approved student research at NOCCOA

- Forwarded the email communication between Susan Cleghorn and NOCCOA , which included contact info for Brigit Hassig
 - HRRC application and acceptance of proposal
 - Researchers met with NOCCOA director to discuss specific research plans prior to focus group meetings. Established appropriate date and time to conduct research
 - Flyers were created by researchers and posted by NOCCOA staff to invite adults over age 60 to participate in focus groups, with a brief description of the study's purpose and date
 - Adults over 60 interested in participating signed up with NOCCOA staff
 - Researchers were provided with the number of participants who signed up
- During the focus group, the following steps took place:
- The researchers arrived at NOCCOA a half hour early to set up chairs in room and refreshments.
 - Researchers welcomed participants at main door and directed them to room where focus group took place
 - Refreshments were available at a table (water, tea, coffee, baked goods)
 - The focus group session began at designated time
 - Sign was posted on door for any late participants, so they knew where to go
 - Researchers introduced themselves
 - Participants went around room and introduced themselves
 - Next, the structure of the focus group and privacy was be discussed

- Demographic sheets (Appendix D) and consent forms were completed
- Participants were provided with pseudonym nametags. The researchers ensured that the tags are ‘tented’ with a pseudonym on both sides so both the participants and the researchers knew who was being asked a question
- After introductions, a sound recording device was activated
- Notes were taken by each researcher at his/her discretion (which included behaviors, possible themes, ideas for follow up or clarification)
- One researcher asked scripted questions to the group of participants
- Follow up questions were prompted when deemed appropriate
- When time is up, the participants were notified session is over, and invited to stay after if they have questions or comments for researchers
- Thank you cards were sent to participants
- Sound recording was transcribed and themes were identified for further analysis

Plan for Data Analysis

The researchers worked with an expert in qualitative data analysis to accurately interpret the data in an organized method. The data was analyzed through a process called ‘framework analysis’ which involves five interconnected stages: (a) familiarization, (b) identifying a thematic framework, (c) indexing, (d) charting, (e) mapping and interpretation. Framework analysis uses a thematic approach which allows themes to develop through the narratives of the research participants. During the familiarization stage, the researchers read the transcripts in its entirety several times (Rabiee, 2004). The purpose of this was to immerse the researchers in all of the details before splitting them into parts. During the second stage of identifying a thematic framework, short phrases,

ideas or concepts from the text were written in the margins in an attempt to begin developing categories. Throughout the third stage of indexing, common phrases, words, and ideas were highlighted throughout the transcripts. The second and third stages took place over a three day period. The fourth stage, charting, required the quotes to be lifted from the original context and re-arranged under the applicable thematic content. This stage is occasionally referred to as coding. Coding involved “reducing the data into meaningful segments and assigning names for the segments” (Creswell, 2013, p. 180). Researchers coded the data individually over a one week period, then came together to discuss the preliminary codes. The fifth stage, mapping and interpretation, involved interpreting the coded data to identify ‘big ideas’ (Rabiee, 2004). The entire coding process for the researchers took place over a three week period. Completion of the five stages required time and flexibility. Critical analyses of the data led to a comprehensive understanding of the phenomenon being studied. This process was essential for an accurate interpretation of data.

Summary

This chapter provided the methodological steps of the research study. It entailed the study design, study site and population, equipment and instrumentation, procedures, data analysis, and limitations. The researchers provide rationale for why the methods were chosen and the benefits of using a focus group to collect qualitative data. Although the researchers provided a brief introduction of data analysis, the specific process, along with the research findings, will be described in chapter four.

Chapter Four: Results

A qualitative research approach was used to gather data from two focus groups in order to answer the following research questions: How do community-based adults aged 60 and above, who live independently, gain information regarding home modification in order to successfully age in place? What are adults aged 60+ primary source of information? Is it a healthcare provider, family member, friend, home remodeling business, local government, federal government, neighbor, media, community activity center, church, or others? Are local adults ages 60+ taking the necessary precautions to prevent accidents and injuries in the home? If not, is it due to a lack of knowledge pertaining to available resources? What motivates a relatively healthy adult above the age of 60 to modify his or her home?

Techniques of Data Analysis

The qualitative data was obtained from open-ended semi-structured focus group questions. All three researchers were present for both focus groups. The first focus group consisted of five participants and the second group was comprised of six participants. All participants met inclusion criteria and provided consent prior to beginning the focus group. The focus groups lasted approximately 90 minutes each. All participants were informed of the format and purpose of the focus group prior to beginning the group interview. Both focus groups were audio recorded to ensure accuracy of participant responses during qualitative analysis. After completion of the focus groups, the audio recordings were transcribed by a trained undergraduate student who signed a confidentiality agreement. The researchers independently reviewed the data using a thematic coding approach (Creswell, 2013). Participant responses were analyzed by

sorting and categorizing the data into overarching concepts. Researchers then discussed their findings together. Discrepancies on themes were sorted out through discussion among the three researchers. Tentative themes were identified as a group. Next, the researchers corresponded with a qualitative analysis expert to finalize the themes.

Following this process, 13 initial codes were generated: (a) Place of Residence, (b) Assistance needed, (c) Preferred place of residence, (d) Behavioral changes to increase safety, (e) Payment for modification, (f) Home safety, (g) Resources for home modification, (h) Definition of home modification, (i) Reason for place of residence, (j) Payment for modification, (k) Primary cause of falls and other injuries in the home, (l) Reason for home modification, and (m) Reason for accident in the home.

These 13 codes were further analyzed into five themes. The five themes that were developed were (a) Knowledge of home modification/resources, (b) Awareness/foresight, (c) Reason for place of residence, (d) Motivation to stay in current residence, and (e) Modification/aging in place resources. In order to eliminate unnecessary or repetitive codes, the five themes were further analyzed into three major themes. The three major themes that emerged from this stage of data analysis included: (a) Resources, (b) Personal perceptions, and (c) Residence choices. Data analysis also resulted in subthemes, which correspond to one of the three main themes.

In the following section, the results of the qualitative data analysis are provided. The final themes and subsequent subthemes are described in detail. Thoughts and experiences about aging in place came directly from focus group participants. The data provide answers to the researchers primary and secondary study questions.

Themes

Theme I: Resources

Upon analysis of data, the researchers identified resources as a main theme. This theme identifies how older adults access information on aging in place, such as home modifications. The most commonly cited resources were community organizations (primarily NOCCOA), health care workers, family, and media sources. This theme provides answers to the original research question- how do community-based older adults gain information regarding home modification in order to successfully age in place and where is the information coming from? Below, each of these resources are explained in further detail.

Community organizations.

Aging agencies. Examples of aging agencies used by the participants included NOCCOA, Age Well Senior Resources, and AARP. Upon analysis of the data, the researchers found that NOCCOA was the primary aging agency utilized by the participants. The participants frequently provided examples of how they gained valuable information from the senior center. Participants shared with the researchers how the senior center provided assistance to them or someone else. Examples included helping to locate a nonprofit organization to install a ramp, loaning durable medical equipment, providing names of trusted lawn care companies, holding classes on fall prevention, and driving older adults to doctor appointments. One participant summed up the consensus of the group well. In reference to aging agencies participant D stated,

And I think because I've been around those agencies now for maybe, six to ten years, those are the first places I would go. I'd say, hey who do you have that

could come out here and take a look at what my wife or I needed and adjustment to our living space. I'm not saying somebody who works here that does that but it's the first place I would call and say where do I go? How do I handle this? Okay? To either Senior Resources or the Council on Aging, right here. They are who I regard as my number one resource information center and I'm very grateful. And I tell the people, a lot of people about this place that are not particularly mindful of about it. (A,19, 413-420).

The majority of the participants provided specific examples of how NOCCOA has helped them remain independent, actively engaged, and safe in their homes and communities.

Social stigma of senior activities center. The effect of social stigmas on membership of senior centers was an unexpected subtheme that emerged among further analysis of the data. As discussed above, one of the primary information sources named was NOCCOA, the senior activities center in Grand Haven. Participants' primary reasons for joining NOCCOA were for social engagement, leisure, education, and access to resources. Seniors gained knowledge about aging in place resources through NOCCOA, which has many community connections. The participants stated it is a wonderful information center, but not enough people know about it.

The participants said that social stigmas of senior centers and old age can deter people from joining NOCCOA. This can limit the knowledge the person has on home modifications and local aging in place resources. For example, one participant stated that, "you don't have to be old and grouchy to join the senior center"(B,23,481). In agreement, another individual said "some people think down here we're all old people [laughs] yeah [laughs] and we are, but we're young at heart"(B, 24, 511-512). Everyone present in the

focus group wanted to make the researchers aware that they were not preparing for death, but were still enjoying life to the fullest. “And so we have to make the society aware that this isn’t people waiting to go to the nursing home. This is a group of people that are, want to be active”(B,1106-1110).

Church. In addition to the senior center, participants stated that church can be a good aging resource. An individual stated,

A lot of churches have parish nurses, paraprofessionals or other professionals on staff that you can call. People can contact the parish/church for information in their newsletters and bulletins which typically have a column dedicated to health issues. So at least another avenue where people can look for information; they can even go to the church. (B,32,688-691).

Other participants discussed the social network of church and said people in church are willing to help older adults in need, such as driving them to an appointment. Special church events related to health needs was also discussed. One participant shared that his church holds blood pressure clinics throughout the year. The church community can provide informal resources as well, through word of mouth among the other church members.

Healthcare professionals. Participants identified healthcare professionals as a reliable resource for home modification information. The older adults often came in contact with a healthcare worker after a stay at the hospital due to injury or surgery. One individual stated that, “the hospital home care was where I got a lot of information on handicap accessibility” (B,21,451). Similarly, another person commented “my mother-in-law had to modify her home after falling and breaking her hip and when she was sent

home from the hospital they sent an occupational therapist out and then they set it up right through Holland Hospital” (B,26, 563-565). Participants agreed that that they trusted healthcare professionals as one of their primary sources of information.

Healthcare professionals mentioned included nurses, occupational therapists, and physical therapists. Healthcare organizations mentioned included hospitals and home healthcare.

Family. Further analysis of the data indicated that many older adults gained knowledge about home modifications through their family and friends. Participants often shared that their adult children made suggestions to them about how to make their homes safer and more accessible. One participant explained a conversation about home hazards she had with her son. She told the group her son was in her home and said, “Mom you can’t have those rugs on the floor” (B,28,615). As a response, another participant shared,

My son is a pilot and he lives in my house and he is so safety oriented. You know, if I move a shoe just a half inch into the hallway or something like that he reminds me I’m not being very safe about it. (B,34, 745-747).

Overall, the participants seemed to appreciate their family’s input and took their advice.

Media. Although forms of media were not identified as a primary information source, some participants did note its usefulness. One person stated,

And I did consider moving at one time, building a house and so there’s all sorts of information online and in books that you look at and of course every recommendation is to make sure your house will serve you- the new ones being built- will serve you today as well as tomorrow. (B, 452-454).

Some of the focus group members thought there should be more media aimed at the older adult population. “I think there should be more advertising, just for seniors”(B,23,493). The local newspaper, The Tribune, was discussed by multiple participants as a media source used to gain news and information. Overall, the media was rarely cited as being a commonly used source for aging in place information. However, the participants did value the newspaper and radio as a way to stay updated on news and community events. A few participants said they sometimes dialed 2-1-1 which is a service provided by the Federal Communications Commission. If a person dials this code, they can get referred to services and community resources.

Theme II: Personal Perceptions

The data that qualified for theme II are related to the research question- are older adults who live in the community taking the necessary precautions to prevent accidents and injuries in the home? This theme identifies older adults’ self-awareness and insight regarding aging in place. In particular, the focus groups revealed participants’ thoughts on safe behaviors and planning ahead. Additionally, participants’ discussed their self-awareness of age related changes that affect daily living, such as physical limitations. These factors can contribute to successful aging in place. Three subthemes emerged from the theme personal perceptions: fall prevention, emergency communication, and hiring outside help.

Fall Prevention. When asked about home safety and fall prevention, many participants acknowledged they have made behavioral changes to prevent injuries in their home. These examples ranged from walking slower up the stairs to taking extra time with household tasks. It was apparent many of them were taking extra caution and practicing

preventative behaviors. One participant noted, “Going to a friend’s residence that doesn’t have a railing is really hard, I mean, I hate to say ‘okay I need somebody to get each elbow because I can’t make these stairs’ without a railing of some kind”(A, 35, 776-778). Planning ahead in case of a fall was also discussed. “If I go outside and get anything up in the garage, I lift up the garage door now because if I fall someone can see me and I’m home alone, so those are the things I think about” (B,739-741).

Participants also stated that being careless can increase one’s risk for falls. One participant commented, “Unfortunately, most accidents happen because we’re not aware”. (B, 39, 864). Another participant elaborated on his comment by calling it, “carelessness” (B, 39, 865). Many participants acknowledged their limitations and adjusted their behaviors accordingly. For example, participant B stated,

Well I’m a lot more cautious going up and down on steps. Of course I was brought up on a fruit farm so being a farmer’s daughter we had to pick the top of the trees, so I’m used to going up ladders and you just flew up. But now I’m a little more cautious and I don’t go that far up [laughs] I do still get up but I’m very careful and cautious now how I do it. (A, 37, 836-839)

They also acknowledged the relationship between home hazards and fall risks. When asked what makes a home unsafe, answers included rugs, bathrooms, lack of lights, high shelves, and stairs. Without prompting, one participant announced, “The bathroom has the most falls of any other room in your house” (B,33,728). The other participants nodded and agreed. It was apparent the older adults in the focus groups had a basic understanding of the importance of home safety and fall prevention.

Emergency communication. In this context, emergency communication related to the ability to contact someone from home to receive help quickly in the event of an emergency, such as a serious fall. The majority of participants owned cell phones. One of the most cited reasons for owning a phone was in case of emergencies. Most participants said they try to keep their cell phones on them at all times. When asked where she takes her phone, a participant answered "...outside when I go for walks, when I go down to the beach or whatever- I take my cell phone in case something happens" (B, 34, 743-744). Home emergency communication systems were also identified as important. These included emergency pull cords and medical alert systems.

When referencing emergency communication, a 90 year old participant replied, "you know I think you should sell those medical alert things...If somebody falls, you would want somebody to come in with a little professionalism and know whether or not they should move them or whatever" (A,35, 786-787). A married couple who live in senior apartments shared they feel more secure having emergency pull cords in their bedroom and bathroom because it means they have "24/7" access to emergency personnel (B, 5, 86). They enthusiastically explained the pull cord to the others, "We just pull a bell and somebody will come. The fire department, the ambulance" (B, 11,218). In general, participants who lived in their own home relied on cell phones in the event of an emergency, while those that lived in senior apartments had access to emergency alert devices.

Hiring outside help. Hiring outside help was another subtheme that emerged during the group interviews. The older adults in both focus groups reported a need to receive assistance from others for tasks that are too physically demanding. Hiring outside

help allows individuals to remain in the residence of their choice, while avoiding physical overexertion, pain, and injuries. Lawn maintenance, house cleaning, and snow removal were among some of the examples provided. One participant stated,

The house and garage are becoming more and more difficult for me to maintain myself. I hired my first lawnmower this year. I'll probably be hiring someone to plow the driveway. I'm going to be doing more of those kinds of things. (B, 7, 129-131).

A participant with a two story home told us she hires someone to clean the bigger areas of her home but she still cleans the more manageable sections. The act of asking for outside help from a neighbor or hiring someone to do more demanding work is a strategy that many of the older adults utilized to age in place.

Theme III: Residence Choices

Participant responses indicated a variety of factors that impacted their decision to live where they do and make changes to the home environment. The participants lived in a variety of settings, including homes, senior apartments, and condominiums. All participants agreed they would prefer to live independently in the community for as long as possible. Most of the participants were familiar with the term "home modification" and many of the participants had personal experience with some sort of home adaptation. Two subthemes emerged from this theme: reason for place of residence and rationale for modifying the home environment. The subtheme pertaining to home modification helps to answer the research question-what motivates a relatively healthy adult above the age of 60 to modify his or her home? As a result of the responses, researchers were able to better

understand what motivated the participants to stay in their home, move elsewhere, and/or modify the home.

Reason for place of residence. Numerous factors affected the participants' choice of residence. Among the most commonly reported were: independence, familiarity, family ties, and personal space. Participants' unanimously agreed they would prefer to age in place as opposed to reside in an institutionalized setting.

Independence. All participants agreed living in the community leads to feelings of control and independence in daily life. A participant in her 90s who uses a wheelchair gave rationale for remaining in her apartment, "I like living there because I want my independence number one and I intend to stay there for as long as I can" (A, 5, 113-114). For those participants who moved to senior living communities, the factor of independence remained a priority. A married couple who moved to senior apartments wanted to make it clear to the others they were still independent. When describing the apartment complex, they explained "they're independent, but we have a lot of assistance (B,3,27)...we're really self-sufficient (B,3,45)...We're free to come and go as we choose (B,4,56). It's sort of like living at home in a little city" (B, 4, 68).

Familiarity. A sense of familiarity in the home and neighborhood was also identified as a motivator to age in place. When asked the reason for place of residence, a participant answered "I live in my own home, with my husband, it's a small house, just right for us. I bought it 30 years ago just before we got married" (A,3, 57-58). Many participants shared they have lived in the area for at least a decade and feel connected to their homes, neighbors, and churches.

Family ties. Close proximity to family was mentioned in both focus groups. Although not always explicitly stated, the importance of family was evident because participants talked about their children and grandchildren frequently. One participant said, “and I’m fortunate, all of my grown children, all of my grandchildren, live within a mile of my home” (A, 37, 841-842). After the participant shared this fact with the group, the other participants all responded with delight, shouting “wow!” and “oohhh!” (A, 37, 143). It was apparent this was an ideal set up in the eyes of the other participants in the room.

Personal space. The ability to have space for guests and leisure activities was also acknowledged by multiple participants. One participant who owns her own home shared, “There’s a queen bed there for when the kids come, the parents and kids can all camp out in one room there- it’s a very large room” (B, 8, 142-143). If the participant lived in a long- term care facility, this would not be possible.

Personal space allowed the older adults the ability to engage in hobbies. One participant remarked, “Our basement is unfinished, so it’s basically for storage and it basically holds my collection of electric trains” (A, 4, 74-75). Some participants shared they enjoy living at home because the extra land allows one to participate in yard work and gardening. An avid gardener explained “I fuss a lot in our yard. I think it is still a primary exercise for me. The bending, lifting, planting” (A, 35, 790-791).

Rationale to make home modifications. There were three patterns that emerged in regards to reasoning behind implementing home modification projects. These included safety, accessibility, and meeting an older family member or friend’s needs. Overall, participants were familiar with the topic of home modification. Although their individual

definitions varied, the basic understanding of home modification was recognized in both focus groups. The participants mentioned home repair projects, renovating rooms, remodeling, and installing safety features in their home. One participant explained his definition of home modification as “Remodeling. Especially if you have health problems. To remodel for what would make it better to make for you to stay”(B,14,279-282). In addition, the older adults discussed home safety hazards that could be removed.

Safety. Participants identified safety factors as a reason to make changes to their home. The researchers found that many of the seniors wanted to make their home more safe for functional mobility and activities of daily living. Ensuring the bathroom was safe was frequently mentioned as an area of the house that needed modifications for safety. One participants offered advice to the group and stated,

I would encourage older people, though, to put bars over at least over their tub or in the shower. That’s such a safety factor. You just feel good when you can hang on to those bars right there or especially when you have handicaps....we’ve had bars, just in case you fall or something. You never know. (B,16,326-335).

Other participants chose to make modifications after an accident due to a home hazard. After falling over her dog in a poorly lit hallway, one participant dislocated her shoulder. She recalled the event to the group.

He just plops his body down and I walked down the hall one time and it’s a good thing I was going slowly because all of a sudden I felt this fur with my toes and I realized he was there because I couldn’t see him. So, we made sure there was another light in that hallway. (B,828-831).

This participant made her home safer in order to prevent another fall like this in the future.

Accessibility. In addition to safety factors, participants were motivated to modify their home to minimize barriers that limited accessibility. Personal experience with injuries and disabilities was one of the most common reasons cited to make a home modification. One participant stated,

When we moved in, my husband and I both had to have hip replacements and frankly, so when he was back able to, he put railings on everything you can think of, you know, if there was a hallway, there was a railing and we had our kitchen remodeled and we've made a wider door and what do you call that thing you hang on to? [moderator: "Oh, the grab bars?"] "Yeah, grab bars everywhere and now my husband uses a walker, so we're very glad we did that. (A,6,131-138)

They needed to make the home more accessible due to the incidence of a disability. They modified the home to make it more accessible for functional mobility.

Older family/friends needs. In some cases, modifications were made to accommodate an older family's needs, such as an elderly parent living in the home. One participant shared with the group, "the stairway didn't have handrails and when my mother-in-law moved in with us the last two years of her life, it was difficult for her because she was terminal and she asked that we put handrails in" (B,7,136-138).

Although in these cases the modifications were initially made for someone else, many of the participants reported personal benefits.

Well I had a railing put up in my garage. I only have two steps, but I still wanted the railing. More for my elderly friends at the time we moved in than myself, but now that I'm elderly, I'm enjoying it too. (A,10, 227-229).

Home modifications may have originally been made for an elderly relative, but many participants agreed they have also found them useful.

Summary

This chapter provided the results of the qualitative research study. The researchers found three main themes upon analysis of the qualitative data. The three themes identified were resources, personal perceptions, and residence choices. The focus groups revealed a significant amount of information on the topic of aging in place from a community-dwelling older adult's perspective. The data provided answers to the original research questions as well as additional topics that developed during the focus groups. The participants were able to share their previous experiences and knowledge pertaining to aging in place and home modifications. The researchers found one quote by a participant to be especially insightful. In reference to seniors accessing community resources, like NOCCOA, the participant stated,

I think an agency like this needs to say where are seniors? Where are they? you know? Where are they? Where do they congregate, where do they gather? That's a good question for the broader community and I think we need to make sure that in those places that there are people who are deliberately responsible for senior safety and senior help and encouragement. (A, 42, 937-941)

This participant sums up the study results well. Older adults have both the desire and the capacity to safely age in place. It is the daunting process of accessing the information and

overcoming aging stereotypes that can delay this process. If people are unaware of such services and resources, they are less likely to plan ahead and make educated decisions about home and personal safety. Chapter five will include further discussion of the results and suggestions for future research.

Chapter Five: Discussion and Conclusions

The proposed study explored whether older adults who reside in Ottawa County, Michigan have access to and knowledge of aging in place resources, primarily home modification resources. The qualitative study examined whether community-dwelling older adults are sufficiently prepared, motivated, and capable of instituting home modifications. The researchers were interested in older adults' knowledge of home modification resources because this can lead to improvements of availability, support, and access to resources and community services. Through two focus groups, researchers were able to identify three common themes:

- (a) Resources, (b) Personal perceptions, and (c) Residence choices

Discussion of Findings

Question 1: How do community-based adults aged 60 and above, who live independently, gain information regarding home modifications in order to successfully age in place?

Questions 2: What are adults aged 60+ primary source of information? Is it a healthcare provider, family member, friend, home remodeling business, local government, federal government, neighbor, media (TV commercial, website, flyer, newspaper advertisement), community activity center, church, or others?

The first and second questions were fulfilled by the researchers identifying resources as one of the major themes which emerged from the focus groups. It was initially unknown the way older adults in Ottawa County received information regarding home modifications; however, a thorough analysis of the data revealed how older adults gained such information. It was discovered that overall, these older adults were aware of

aging in place resources through their membership at NOCCOA. Data revealed that older adults primarily learn about community services and aging in place resources through the senior activity center, health professionals, and family members. This implies that older adults who are not members of an aging agency may be lacking access to valuable resources pertaining to home modifications. Without awareness of these community resources, the person is less likely to successfully age in place.

Question 3: Are local, adults aged 60+ taking the necessary precautions to prevent accidents and injuries in the home? If not, is it due to a lack of knowledge pertaining to available resources?

During data analysis personal perceptions was identified as a major theme. The focus groups revealed participants' thoughts on safe behaviors, planning ahead, self-awareness of age related changes, and one's physical limitations. Three subthemes emerged from the personal perceptions theme: fall prevention, emergency communication, and hiring outside help.

Additional question addressed: What motivates a relatively healthy adult above the age of 60 to modify his or her home?

A third theme called "residence choices" emerged from the focus groups. The focus groups revealed that participants live in a variety of settings, including homes, senior apartments, and condominiums. Individuals chose to live in their place of residence for a variety of reasons including: the ability to be independent, familiarity with their home and neighborhood, living within close proximity to family, and the ability to have space for guests and leisure activities. There were three primary reasons to make home modifications; safety, accessibility, and meeting an older family member or

friend's needs. Overall, participants who made modifications to the home had done so as a reaction to a health condition or accident. Many of them stated that they were still able-bodied and healthy, therefore home modifications were unnecessary at this point in time, but something to consider for the future. Few participants acknowledged the importance of fall prevention through environmental changes.

Application to OT Practice

The current study provides valuable information about the access older adults have to home modification information to successfully age in place. The number of older adults in the U.S. population is rapidly increasing due to the baby boom generation and the increased life expectancy (Population, 2008). The baby boom generation have a strong desire to age in place (Greenwald, 2003). Therefore, the number of older adults who either need or request home modifications is expected to rapidly increase.

The results are applicable to OT practice because occupational therapists have the ability to evaluate a person's occupations to decide whether the activity demands meet the performance patterns and skills in relation to the space and characteristics of the environment. OTs are able to offer education and occupation based interventions to guarantee the person and/or caregiver can successfully integrate the modifications into performance patterns for engagement in occupations (Siebert, 2003).

Aging in place and home modifications is an emerging practice area according to the American Occupational Therapy Association (AOTA, 2011). Occupational therapists can become experts in this area by becoming Certified Aging in Place Specialists (AOTA, 2011). Occupational therapists who specialize in aging in place are able to better serve the needs of this population. Occupational therapy practitioners view the client in a

holistic lens and understand how to help him/her remain safe and independent in the home.

Relevance to Occupational Therapy

In the present study, the researchers found that most of the participants accessed aging in place resources and knowledge through NOCCOA. The majority of the participants had a general understanding of what home modification was. However, most participants made these modifications after a medical event had occurred (such as a fall or a hip surgery) or for an elderly parent. Participants perceived themselves as relatively healthy and active older adults. An occupational therapist could be extremely beneficial to the members of NOCCOA, as he/she could discuss the importance of prevention of injuries and accidents in the home. The occupational therapist could consult with NOCCOA to design an educational seminar about aging in place, fall prevention, home modifications, and safe behaviors. An OT could consult with NOCCOA to facilitate aging in place through education and recommendations.

Understanding the current level of knowledge and behaviors regarding aging in place among local residents is relevant and beneficial to occupational therapists working with the older population. For example, fall prevention was identified as one subtheme; yet, there is no definite indication that only modifying the home environment to decrease threats is effective in preventing falls (Siebert, 2003). This demonstrates the importance of considering environment and behavior, specifically a person's occupations in the home environment (Siebert, 2003).

The most common cited reasons to modify the home were accessibility, safety, and an older family/friend's needs. Participants acknowledged they may need to continue

to make home modifications to successfully age in place in their current homes. Many older adults need to make their homes more “user” friendly. For example, one participant said he purchased grab bars but was unsure how to install them properly. Certified Aging in Place Specialists can identify modifications to the home that enable participation and reduce risk. They are able to make recommendations and provide training to use modifications appropriately after they are installed (Siebert, 2007). The data provides information which can facilitate successful aging in place in the local community.

Theory

The PEO model helps to guide skilled OT intervention in the home environment. Home evaluations are used by OTs to assess the individual in his/her environment and then identify problem areas, such as home hazards. This model emphasizes strategies to maximize functional independence through adapting and modifying the environment based on the client’s abilities and desired occupations. Evaluations are most beneficial when they integrate the indoor and outdoor architectural and social environment, as well as individual functional assessments that consider safety awareness and judgment, basic mobility, community mobility, physical and sensory abilities, and problem solving abilities (Trembl, 1996). The PEO model can help the OT develop appropriate interventions to facilitate independence in the home environment. Occupational therapists use a client-centered approach to empower older adults and their families to improve occupational performance (Baum & Law, 1997). Client-centered practice supports collaborative decision-making, respect for clients and families, facilitation of client participation, person-centered communications, and individualized service delivery (Horowitz, 2002). It focuses on the individual, rather than the diagnosis, to support

individual and family values and needs which is relevant to the given diverse older population (Baum & Law, 1997). Occupational therapy practitioners are skilled at identifying older adults' physical, social, and environmental needs using the PEO model.

Limitations

There were several limitations in this study. The first limitation was the type of sample used. A convenience sample was used to obtain qualitative data about the attitudes and needs of West Michigan healthy aging adults. Collecting data from one site in Grand Haven, MI was not representative of the entire population of West Michigan older adults. Because the participants were all members of NOCCOA, they may have been more knowledgeable of aging in place resources compared to non-members. A convenience sample reduced the generalizability to the general population. In addition, the participants volunteered to be in the study, as opposed to being chosen at random. This implies there may be a selection bias because the answers may be different between volunteers and those who choose not to participate. The sample population was small in number, which also limited the generalizability of the study. The ethnicity and socioeconomic status was similar among participants as well. A more diverse sample would improve the external validity of the study.

The focus groups had limitations as well. There was a participant in focus group A who was a board member of the senior activities center and another aging agency. He was much more knowledgeable of aging in place compared to the other participants. The data from this first focus group may have been skewed due to this participant's previous exposure to the topic. Other participants may have just agreed with what he said because of his experience. In addition, some of the participants had more reserved personalities

and were short with their answers. The fact that they did not expand on some of their experiences may have limited the data.

Another limitation was the inexperience of the researchers conducting a focus group. The focus group was occasionally hard to control due to distractibility and tangential discussions. At times, the participations misinterpreted the question and discussed topics irrelevant to the research questions. A general limitation of focus groups is only a limited number of questions can be asked due to the high number of individuals answering the questions in a short period of time. This may have reduced the number of questions asked, and the depth of the response for each question. The facilitator also asked leading questions at times. The participants may have tried to provide answers they believed the researchers wanted to hear. They may have felt uncomfortable sharing personal experiences and beliefs about aging in place with young adults. Lastly, some of the adults may have experienced fatigue, resulting in disengagement from the focus group discussion.

During triangulation of data analysis, some themes may have been overlooked or misinterpreted by the researchers. An analytical discussion of the patterns observed was designed to prevent this, but mistakes are still possible. Recurring thematic discussion with the research chair and a qualitative research expert reduced this effect. Despite these limitations, the findings provided implications for aging in place patterns for Western Michigan older adults.

Suggestions for Future Research

Due to the convenience sample of the study, the researchers recommend further investigation of the topic using a more generalizable sample. This may reduce any biases

involved and reveal further information about older adult's knowledge on home modifications. Interviewing older adults who live in the community but are not a member of a senior agency is suggested. The study can be replicated in more diverse settings for future research. It is also suggested that future researchers provide older adults with information on aging in place and explore whether or not they found the information useful. For example, it would be beneficial to explore the outcomes of providing community-dwelling older adults with information about home modification funding programs. Perhaps researchers could collaborate with these funding sources to create a campaign which improves older adults' awareness of these services. This could help people remain in their homes as long as possible. Lastly it is recommended a CAPS certified occupational therapist should collaborate with NOCCOA and other community organizations to develop a regional area education program relevant to home modifications and related topics. The researchers recommend a pre/post study that would examine changes in participant knowledge following an education program led by a CAPS certified OT.

Conclusion

Although research shows that there is an increase in the aging population, studies that examine older adult's knowledge and access to home modifications are limited and continue to be an area where further research is needed. Overall, the qualitative results of the study indicated that older adults are gathering information about aging in place from community organizations and social networks. Similar to the national trend, West Michigan older adults desire to age in place.

Further research on education and consultation with older adults' needs to be conducted to allow for a more thorough investigation regarding the most effective delivery method. This process would help determine the most effective way occupational therapists can facilitate successful aging in place and promote active aging. Older adults have a right to stay in their home and age with dignity. As stated by a study participant, "And so we have to make the society aware that this isn't people waiting to go to the nursing home. This is a group of people that are, want to be active"(B,1106-1110).

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Appendix A

Example

GVSU STUDENTS NEED YOUR HELP

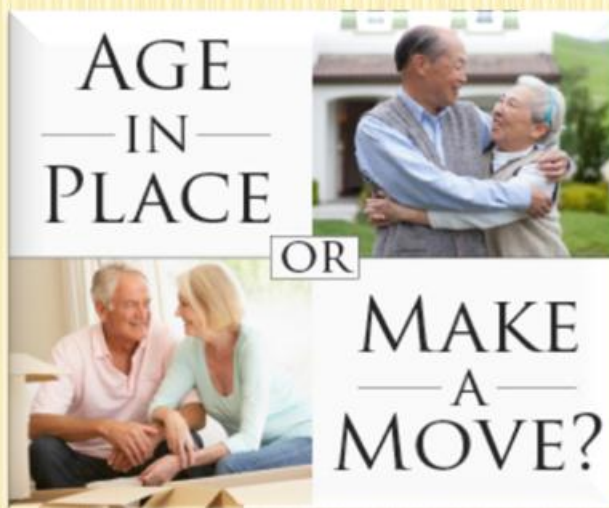
Mature perspectives needed for community research project.

One time commitment!

Where: NOCCOA

When: Monday, July 9th OR Wednesday, July 11th
3:00-5:00pm

Grand Valley State University Occupational Therapy Students are collecting information on people's perspectives on aging in place. Aging in place is "living in the residence of one's choice as he/she ages, while being able to have any services (or other support) one might need over time as his/her needs change, for as long as one is able" (Age in Place, 2012).



What is a focus group?

A form of qualitative research in which a group of 5-7 individuals are asked about their opinions, perceptions, attitudes, and beliefs about the topic of remaining in the home as long as possible.

Snacks and beverages will be provided.

Please sign up and make your opinion part of research!

Appendix B

Participant Consent Form

Researchers: Timothy Muldoon, Jennifer Golder, Amanda Kolodge

This study is being conducted by occupational therapy graduate students at Grand Valley State University. One of the components of the Grand Valley State University Occupational therapy curriculum is to carry out research.

Purpose: First, we hope to learn about what motivates older adults to age in place. We would also like to understand the perspective of older adults on home modifications and how they facilitate aging in place. Lastly, we hope to gather information on the awareness of home modifications, the resources available to them, and how they access these resources.

Participants: Persons 60 and older who currently live in a residence free of institutional control and do not intend on moving to a nursing home, skilled nursing facility, old-age home, etc.

Procedures: If you agree to participate, you will be a part of a focus group that will last for approximately 60-90 minutes. The focus group will answer questions facilitated by the researchers on the topics described in the purpose section of this form.

Confidentiality: Confidentiality is encouraged but be advised that it is limited to the degree of cooperation of the other members of the focus groups. The focus groups will be audio recorded, but the information that you provide will remain confidential to the extent permitted by the law. The researchers and research committee are

the only people allowed access to the data pertinent to this study. The information obtained in this study will not be able to identify you in any way. Your identity will be coded and will not be disclosed without written consent in any publications resulting from this research project. Records will be kept until the research study has been written and/or accepted for publication. Following, all records will be kept in a double locked cabinet for 3 years following completion. These records are only accessible by the student researchers and the research committee. Once the transcription process is complete, the audio recordings will be destroyed.

Risks/Benefits: There are no greater risks participating in this study than expected in everyday life. Depending on the identified areas of need and lack of knowledge obtained through the focus groups, a 'tool kit' will be provided by the researchers to members of the activity center containing relevant information on aging in place.

Voluntary Participation: Your participation in this study is voluntary and you may withdraw at any time without penalty. You are free to not answer any of the questions.

Questions: If you have any questions, please contact the researchers at muldoont@mail.gvsu.edu or by phone at (616)-723-1272. If you have questions regarding your basic right and welfare during the study, please contact the Human Research Review Committee at hrrc@gvsu.edu or by phone at (616)-331-3197.

Your signature below indicates that you have voluntarily agreed to participate in this research project, and that you understand the information provided above.

Participant Signature: _____

Date: _____

This research protocol has been approved by the Human Research Review Committee at Grand Valley State University. File No. 12-193-H Expiration: May 15, 2013.

Appendix C
Focus Group Format

Procedures:

- Researchers will have a practice session with the audio recorder prior to data collection
- Introduce researchers
- Describe focus group setup
- Distribute demographic information sheet, then collect it once finished
- Once everyone is prepared, begin tape recording
- Verbalize participant's code letter, date, location, time, names of researchers conducting interview

Demographic information:

- Age
- Gender
- Marital status
- Current place of residence (type)

Questions:

- Regarding home modification specifically,
 - What does home modification mean to you?
 - Have you modified your home, and if so, what motivated you to do so?
 - If you are familiar with home modifications, how did you gain information on this topic?
 - If you have modified your home, how did you fund the process? (ex: personal savings, grants, insurance, other)
- Would you like to remain in your current residence as long as possible? (Why? Or why not?)
- Where do you see yourself in 5 years? 10 years? (Any specific plans?)
- In the future, if you need assistance with your care, in what type of residence would you prefer to live in?
- What type of housing do you currently live in?
- What factors have affected your choice to reside in your current residence?
- Does your home meet your current physical needs?
 - Do you currently have any difficulties performing any activities in the home or yard? (If so, what are those activities?)
 - Do you anticipate any potential problems with your home later in life?
- Regarding safety,

- What do you think makes a home safe or unsafe for people as they age?
- Have you made any environmental changes to increase home safety?
- Have you changed how you do things or when in order to make your activities safer?
- If not, why? (did not need to, unaware of how to access services, too expensive, other?)
- In your opinion, what are the primary cause of falls and other injuries in the home or yard?
- Have you experienced an accident or injury in the home?
- In the future, if you need to access services, such as transportation or grocery delivery, who would you contact? (family/friends, community services, other)
- How do you learn about community services?
(word of mouth, organizations, newspaper, magazine, TV commercials, internet websites, other)?
- If you were 40 again, what would you do differently to get your home set-up for later in life?

Wrap-Up:

- Thank the participants
- Turn off the audio recorder

Appendix D

Demographic Information:

- 1) Age: _____
- 2) Gender: Male or Female
- 3) Marital Status:
 - a) Single, never married
 - b) Married
 - c) Divorced
 - d) Separated
 - e) Widow
 - f) Widower
- 4) Current Place of Residence:
 - a) Home
 - b) Condo
 - c) Apartment
 - d) Duplex
 - e) Townhome
 - f) Other: _____

Appendix E

Audit Trail

12 initial codes: 9/12/12

(a) Place of Residence, (b) Assistance needed, (c) Preferred place of residence, (d) Behavioral changes to increase safety, (e) Payment for modification, (f) Home safety, (g) Resources for home modification, (h) definition of home modification, (i) Reason for place of residence, (j) Payment for modification, (k) Primary cause of falls and other injuries in the home, (l) Reason for home modification, and (m) Reason for accident in the home.

Integration of codes: 9/20/12

(a) Knowledge of home modification/resources, (b) Awareness/foresight, (c) Reason for place of residence, (d) Motivation to stay in current residence, and (e) Modification/aging in place resources.

Final three themes: 9/28/12

- (a) Resources
- (b) Personal perceptions
- (c) Residence choices