AN EXAMINATION OF AN INTERGENERATIONAL PROGRAM AMONG OLDER ADULTS WITH COGNITIVE IMPAIRMENT

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ABSTRACT

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In 2014, there was an approximate 46.2 million older adults in the United States. As the population in the U.S. continues to age, issues of age-related cognitive impairment, multiple types of dementia, and the caregiving that accompanies cognitive loss will consequently increase as well. Programs and services have been developed to work with individuals with cognitive impairment and their caregivers, but one area that can be expanded is the use of intergenerational programs. Intergenerational programs have the ability to offer older adults with dementia and children several benefits, such as mental health, socio-emotional, and physical health benefits. Caregivers of individuals with dementia also receive benefits from intergenerational programs, such as opportunities for respite. A 6 week intergenerational program, entitled Finding Your P.L.A.C.E., was implemented through the Wood County Committee on Aging and the Bowling Green Montessori School of Bowling Green to provide an intergenerational program aimed at educating students about dementia, offering socio-educational programs of interaction to persons with dementia, and provide an opportunity for respite for caregivers. Secondary data analysis of data collected by the Finding Your P.L.A.C.E. offers insight into the impact of the program and the effectiveness of the intergenerational program. The impact of the program on middle school aged students, persons with dementia, and caregivers are presented. In addition, the results are compared to the previous literature on intergenerational programs and recommendations for the continuation of the program are included in the discussion.
This systematic review is dedicated to family, friends, and colleagues that have helped guide me through my educational career.
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INTRODUCTION

As the number of older adults in the United States population continues to increase, there will be a corresponding increase in the need for dementia care due to the relationship between advanced age and dementia. Not only will there be an increased need for this care, but also in the implementation of programs to alleviate the stressors of being a caregiver to an older adult with dementia. In particular, intergenerational programs demonstrate benefits for older adults with dementia. Intergenerational programs are designed to offer younger and older generations the opportunity to interact. This interaction encourages the sharing of experiences as well as the exchange of skills and knowledge. Intergenerational programs have proven to be extremely beneficial with several positive impacts for both older adults and younger populations.

Aging of the Population

In 2013, older adults accounted for approximately 14.1 percent of the United States population (U.S. Department of Health and Human Services, 2016). This equates to roughly one in every seven Americans. This is already an especially large number and it will continue to increase as the Baby Boomer cohort continues to move into older adulthood. It is expected that by the year 2040, the older adult population in the United States will grow to approximately 22 percent of the total population (U.S. Department of Health and Human Services, 2016). As these numbers continue to increase, there will be far greater instances of older adults receiving a diagnosis of chronic diseases, including various forms of dementia.

Dementia

Dementia is a syndrome in which there is a noteworthy deterioration in thinking, memory, behavior, and the ability to perform everyday tasks (World Health Organization, 2016). In 2014, there were slightly over 47 million older adults with a dementia diagnosis worldwide, and there continue to be 7.7 million newly diagnosed cases every year (World Health
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Organization, 2016). This is equivalent to one in nine individuals over the age of 65, about one-third of individuals age 75 and older, and the vast majority of individuals age 85 and older (Alzheimer’s Association, 2015). Although dementia affects nearly 7 percent of the United States population, even more subtle cognitive changes associated with aging are experienced by a wider segment of the older population.

Types of dementia. There are several causes of dementia which affect the diagnosis per individual. One major cause of dementia is the damage of nerve cells in an individual’s cerebral cortex. Dementia may also be caused by a variety of diseases and injuries that affect the brain, such as a stroke (World Health Organization, 2016). An individual’s chances of receiving a diagnosis of dementia also increase depending on familial history of dementia. Not only are there several causes of dementia, but there are also several different types of dementia. These types, in order of prevalence, include Alzheimer’s disease, vascular dementia, mixed dementia, dementia with Lewy bodies, frontotemporal dementia, Parkinson’s disease, Creutzfeldt-Jakob disease, and normal pressure hydrocephalus (World Health Organization, 2016).

Alzheimer’s disease. Alzheimer’s disease is the most common type of dementia, accounting for between 60 to 80 percent of all dementia cases in the United States (World Health Organization, 2016). The presumed causes of Alzheimer’s disease can be traced to deposits of protein plaques (beta-amyloid protein) that are caused by a buildup of protein tangles (interlocking strands of tau protein) (Alzheimer's Association, 2013). It may also be caused by nerve cell damage to the brain. However, it remains unclear if these plaques and tangles are the basis for, or the physical results from, the impairment seen with Alzheimer’s disease. Difficulty remembering recent conversations, depression, and apathy are early symptoms (Alzheimer's Association, 2013). Later symptoms include impaired communication, disorientation, confusion, and behavior changes (Alzheimer's Association, 2013). Early onset Alzheimer’s disease occurs
in individuals age 65 and younger and can even affect individuals who are in their 40s and 50s. Approximately five percent of the five million individuals who have Alzheimer’s disease have early onset (Alzheimer’s Association, 2016). The cause of early onset Alzheimer’s disease includes a series of rare genes that individuals inherit across multiple generations (Alzheimer’s Association, 2016). Symptoms of early onset Alzheimer’s disease include memory problems and stress.

**Vascular dementia.** Vascular dementia is the second most common cause of dementia after Alzheimer’s disease, accounting for 20 to 30 percent of cases (World Health Organization, 2016). It is also known as post stroke dementia and presents deficits in cognition depending on the area of the brain damaged by a lack of blood flow that deprives brain cells of oxygen. It is caused by blood vessel blockage in the brain, strokes, or bleeding in the brain (World Health Organization, 2016). Early symptoms include impaired judgment, inability to make decisions, and the inability to plan and organize. In contrast to Alzheimer’s disease, vascular dementia presents symptoms in a step-wise decline as the damage of multiple infarcts cause damage to the structures of the brain. In addition, vascular dementia may be treated by treating the underlying blockages or reductions in blood flow to the brain (World Health Organization, 2016).

**Mixed dementia.** Mixed dementia is a condition in which individuals have more than one type of dementia occur simultaneously (Alzheimer’s Association, 2016). Mixed dementia is normally caused by the abnormal protein deposits from Alzheimer’s disease coexisting with blood vessel problems associated with vascular dementia. It is suggested that mixed dementia is more common than previously documented, with about half of individuals with dementia having evidence of more than one cause of dementia. Since individuals are able to have a diagnosis of multiple types of dementia, this is the reason why the total prevalence rates exceed 100 percent.
**Dementia with Lewy bodies.** Dementia with Lewy bodies is the third most common cause of dementia, accounting for 10 to 25 percent of cases (Alzheimer’s Association, 2016). Dementia with Lewy bodies is a type of dementia that leads to a significant decline in thinking and independent function. This type of dementia is caused by abnormal protein deposits that damage the brain (Alzheimer’s Association, 2016). There are several symptoms of dementia with Lewy bodies that individuals should be aware of. These include abrupt changes in thinking, delusions, confusion, rigid muscles, and hallucinations (Alzheimer’s Association, 2016).

**Frontotemporal dementia.** Frontotemporal dementia refers to a group of brain disorders caused by nerve cell loss in the frontal or temporal lobes (Alzheimer’s Association, 2016). The proteins that cause frontotemporal dementia include tau and TDP43 (Alzheimer’s Association, 2016). The nerve cell loss leads to deterioration in behavior, personality, language, and motor functions. The early stages of frontotemporal dementia include significant memory loss, which is typically the opposite of Alzheimer’s disease with the amount of memory loss in the early stages.

**Parkinson’s disease.** Parkinson’s disease is also a common neurological disorder in older adults, affecting about two percent of adults age 65 and older. It is estimated that 50 to 80 percent of individuals with Parkinson’s disease will experience Parkinson’s disease dementia (Alzheimer's Association, 2016). Parkinson’s disease dementia is a spread of abnormal deposits composed of alpha-synuclein that affect mental functions. The most common symptoms include problems with movement, including slowness, tremors, and changes in gait (Alzheimer's Association, 2016).

**Creutzfeldt-Jakob disease.** Creutzfeldt-Jakob disease is a rare and fatal disorder that impairs memory and coordination and causes behavior changes (Alzheimer’s Association, 2016). It is believed that Creutzfeldt-Jakob disease only affects about one in 1 million people annually. The main cause of the disease is the result of a protein that has misfolded (prion) and causes
other proteins in the brain to misfold (Alzheimer’s Association, 2016). Creutzfeldt-Jakob may also be hereditary, sporadic, or caused by a prion infection. Another commonly heard cause of the disease is the result of eating beef from cattle affected by mad cow disease. The symptoms differ from Alzheimer’s disease in which they are a rapid decline in thinking and reasoning (Alzheimer’s Association, 2016).

**Normal pressure hydrocephalus.** Normal pressure hydrocephalus is an accumulation of cerebrospinal fluid in the brain ventricles. As the brain ventricles enlarge from the cerebrospinal fluid, they can damage the near brain tissue which causes difficulty in walking, thinking, and reasoning problems (Alzheimer's Association, 2016). Scientists are unsure of the prevalence of this disease because the symptoms of normal pressure hydrocephalus are common in other brain disorders. However, normal pressure hydrocephalus can sometimes be corrected through a surgical procedure that installs a shunt in the brain to drain excess fluid (Alzheimer's Association, 2016). Symptoms include difficulty walking, memory loss, and incontinence.

**Risk factors.** Statistics reveal that age and race play a significant role in the development of dementia. The greatest risk factor for Alzheimer’s disease is age (Alzheimer’s Association, 2015). Most individuals diagnosed with Alzheimer’s disease are 65 or older, but individuals younger than 65 are still able to develop the disease. While age is the greatest risk factor, it should be well known that dementia is not a normal part of aging. It has also been demonstrated that race is a significant risk factor, with African Americans being two times more likely to develop dementia than Caucasians (Manly & Mayeux, 2004). A more recent study established the existence of a gene in African Americans that may increase their chances of developing dementia (Alzheimer's Association, 2013). Hispanics over the age of 65 are about one and one-half times more likely to develop dementia when compared to Caucasians. Among Native
Americans, there are lower rates of dementia when compared to Caucasians (Manly & Mayeux, 2004).

**Functioning and care needs.** Of the estimated 5.2 million individuals in the United States with a diagnosis of dementia (particularly Alzheimer’s disease), the care needs increase as limitations increase with progressive diseases like Alzheimer’s disease (Monin, Schulz, & Feeney, 2015). Approximately 18 billion hours of unpaid care to individuals with dementia was provided by Americans in 2014 (Alzheimer’s Association, 2015). The role of a caregiver includes providing assistance to individuals with activities of daily living (eating, bathing, dressing, toileting, transferring, and continence) and instrumental activities of daily living (housework, meal preparation, driving, tracking finances, and managing medications). Due to the increased needs of individuals with dementia, familial caregivers, specifically spouses, normally take on the caregiving role (Brodaty & Donkin, 2009). The increased needs of the individuals with dementia may lead to an experience in increased burden for caregivers and this could have a potentially negative impact on either their physical or emotional health (Truzzi, Valente, Ulstein, Engelhardt, Laks, & Engedal, 2012). In one particular study, 36 percent of spousal caregivers of individuals with mild cognitive impairment showed an increase in burden compared to the control group of non-caregivers (Paradise, McCade, Hickie, Diamond, Lewis & Naismith, 2015). Caregiver’s experience of burden included an increase in depression and a decrease in physical health.

Spousal caregiving may also impact the marriage through financial burden. Costs of dementia are extremely high, with worldwide expenses being 600 billion in 2010 (Alzheimer’s Association, 2010). The direct costs include medical consultations, investigations, medications, nursing care, and residential care (Brodaty & Donkin, 2009). These costs may lead to a financial
strain on a family, and thus cause resent between the spousal caregiver and spouse with dementia.

Though caregiving can take an emotional and physical toll on someone’s body, there are also positive aspects documented of caregiving. One of the most common positive aspects reported by familial caregivers was the ability to give back to someone who has cared for them in the past, specifically with adult child caregivers (Harmell, Chattillion, Roepke, & Mausbach, 2011). It is reported that once spousal caregivers are used to the caregiving role, burden begins to decrease and stability increases (Tremont, 2011). Other benefits include feeling a sense of accomplishment and experiencing satisfaction for being able to fulfill caregiving tasks (Toseland & Smith, 2001).

Although there are positive and negative aspects reported of being a spousal caregiver, many of these caregivers experience both simultaneously (Beach, Schulz, Yee, & Jackson, 2000; Harmell et al., 2011). A particular program that may demonstrates benefits for older adults with dementia and rest from caregiving is intergenerational programs.

**History of Intergenerational Programs**

Intergenerational programs offer younger and older generations the opportunity to interact in many different ways. The first official intergenerational program in the United States was created in 1963, known as the Foster Grandparent Program and is still in effect today (Generations United, 2007). The Foster Grandparent Program provides older adults an opportunity to continue an important role in the community by actively serving children and youth. Volunteers in this program can provide wide ranging services such as one-on-one tutoring for children, mentoring troubled teens, caring for children with disabilities, and helping children who have been abused or neglected (National and Community Service, 2016).
In 1986, the National Council on Aging and the Child Welfare League of America founded Generations United (Short-DeGraff & Diamond, 1996). The purpose of Generations United was to enhance public awareness of the concerns and issues shared by individuals from all generations and to endorse programs that increase intergenerational programming. The result of this implementation was an increase in services to individuals of all generations and communities (Short-DeGraff & Diamond, 1996).

Since the initial development of the Foster Grandparent Program and Generations United, intergenerational programs have continued to evolve and now include individuals of all ages, cultures, and conditions. There are several intergenerational programs that have been implemented through nursing homes, senior centers, schools, and adult day centers. In some instances, there are daycare or school settings that have been attached to a nursing home, making for an easily operated intergenerational setting.

Benefits for older adults with cognitive impairment. Although there have been several intergenerational programs implemented for older adults, there is a limited research base that has targeted older adults with dementia (Camp, Judge, Bye, Fox, Bowden, Bell, Valencic, & Mattern, 1997). Given that there are several benefits, such as mental health, socio-emotional health, and physical health, associated with intergenerational programs for older adults with dementia, expanding the availability of these programs is an important goal.

Mental health benefits. Overall enhancement of mental health is a benefit of intergenerational programs for older adults with dementia (George, 2011). George (2011) found that older adults who establish relationships with children through intergenerational programs experience an increase in mental stimulation and therefore, an increase in cognitive ability. With many older adults experiencing a consistent deterioration of physical capabilities, mental health becomes an even more important component in old age than at any other time of life due to their
increased risk of developing mental disorders (World Health Organization, 2016). Intergenerational programs allow older adults to stimulate their mental capabilities through cognitive enhancement. This is completed through the introduction to new innovations and technologies from the participating children. Also, the older adults may want to further enhance and utilize their newly acquired skills along with the skills they had previously acquired throughout their lifetime (Generations United, 2007).

Individuals who have dementia may be unable to recall possibly both short and long term memories, and this can be particularly frustrating while trying to maintain a conversation. Being able to communicate with the children about current events and situations may be easier than recalling recent past activities. For example, the freshness of a current event or activity may be easily recalled and discussed rather than talking about something that may have happened even just three weeks ago. Intergenerational programs help reduce or potentially offset the decline in executive planning and even the ability to plan and carry out daily activities (Population Reference Bureau, 2011).

It has also been found that individuals with dementia experience more positive emotional responses during interactions with children than they did during non-intergenerational programming (Fay, 2016). Fay (2016) presents that during intergenerational interaction with older adults with dementia and school age children, emotions of the older adults had become positively affected during their interactions. Positive non-verbal communication and behaviors have also been found to occur, such as eye contact, smiling, and attentiveness (Newman & Ward, 1993). Participation in activities has the potential to effectively increase mental stimulation. While this can be done through several methods, benefits have been seen through prompting classroom activities (Newman & Ward, 1993).
Depression is a common mental health co-morbidity along with the cognitive deficits experienced by persons with dementia (Potter & Steffens, 2007). Hernandez and Gonzalez (2008) conducted a study utilizing three groups of older adults in order to see the effects of intergenerational programs on their condition of depression. Group one had the intergenerational interaction with children, group two had interaction with professionals, and group three was the control group with no interaction at all. After the treatment, depression scores had significantly changed. For group one, the depression scores decreased significantly by 3.53 points, group two’s depression scores decreased by 1.11 points, and group three’s depression scores increased by 2.72 points. The program with the children had the larger impact on the older adults with a decrease in depression. Although the intergenerational interaction with the children posed the greater impact, the interaction with the professionals was also shown to be beneficial.

Similarly, a 12-session intergenerational program for persons with dementia was implemented to assess depression (Chung, 2008). This program had a sample of 49 persons with dementia and 117 youth volunteers. Each person with dementia was assigned two youth volunteers and was asked to share and discuss past events and experiences. The persons with dementia took the Geriatric Depression Scale before and after the intergenerational program. It was found that depression scores in the intervention group decreased significantly. These findings demonstrated that the older participants with cognitive impairments experienced improvements in psychological functioning after participating in the program (Chung, 2008).

However, in a study by Skropeta, Colvin, and Sladen (2014), depression scores between pre and post intervention resulted in no significant change. An intergenerational playgroup program was created among an aged care facility that occurred between different generations with the goal of addressing depression within long term care. Intergenerational playgroups are designed for children and older adults to engage in meaningful engagement through activities.
Depression was assessed by the Geriatric Depression Scale. Results indicated a non-significant decline in depression. This may have been due to the condensed duration of the intervention (six months). The authors suggested that a longer intervention span would have seen more significant influence on lowering symptoms of depression.

Another mental health benefit found in research with persons with dementia participating in intergenerational activities is a decrease in stress. In a study by George (2011), older adults with dementia participated in volunteer sessions with both kindergarten children and an older elementary class. The volunteer sessions consisted of singing groups, reading groups, and writing activities. The sessions occurred every other week for a 5 month period. At the conclusion of the study, it was determined that stress levels decreased significantly in the intervention group, while there was an increase in stress in the control group (George, 2011).

**Socio-emotional benefits.** The second type of benefit that intergenerational programs provide for persons with dementia is socio-emotional benefits. Examples of these benefits include positive social interactions (Short-DeGraff & Diamond, 1996), building meaningful relationships (Gigliotti, Morris, Smock, Jarrott, and Graham, 2005), increased pleasure during activities (Orsulic-Jeras, Judge, and Camp, 2000), an increase in sense of purpose (Brownell, 2008), and an increase in verbal interactions (O’Rourke, 1999). Social and emotional characteristics are important for older adults because it is believed to offer positive impacts on overall well-being. Older adults, in general, who are socially active, may see an increase in both executive function and episodic memory (Skropeta, Colvin, & Sladen, 2014). It is considered possible that social and emotional development interaction could also decrease the distress and outward behavioral problems, such as verbal disruptions, associated with dementia.

In a study on social responses of adult day center members participating in an intergenerational program, it was found that the programs provided positive social interactions
(Short-DeGraff & Diamond, 1996). The program provided the older adults with a 25 percent increase in social interaction over that of day to day interactions of individuals not participating in the intergenerational study. The older adults were directly engaged in conversation with the children and engaged in activity participation. It was also observed that when there was a pause or break in an activity with a child, the older adult stayed engaged through nonverbal cues, such as smiling, laughing, and nodding. While the intergenerational program was not taking place, the older adults engaged in lower levels of social interaction and increased solitary productive behavior. During the program, there was an increase in social interaction and a decrease in solitary productive behavior (Short-DeGraff & Diamond, 1996).

Another socio-emotional benefit is the meaningful friendships that are built through intergenerational programs. Gigliotti et al. (2005) describes an intergenerational program for persons with dementia and preschool children that was designed with the intent of building community connections. In this study, the intergenerational program took place four times a week for 10 weeks at a child development school, which provides a regular education curriculum and behavior intervention for children. Though continuity of newly formed friendships was limited because of the closure of the school over the summer, the older adults formed strong bonds and special relationships with the children (Gigliotti et al., 2005). These relationships were able to be formed because of the regular contact provided through the intergenerational program.

An increase in pleasure during activities was also seen throughout intergenerational programs. As compared to regular activities, Orsulic-Jeras, Judge, and Camp (2000) found evidence that participants experienced increased pleasure during intergenerational activities. This was thought to occur because the children made the activities more enjoyable for the older adult participants. Older adult participants also demonstrated a renewed sense of youthfulness. One explanation is that the interaction with children may trigger emotions in older adults that make
them feel young again. The youthful enthusiasm of the children may have actually elicited a recovery of those feelings in the older adult participants.

It was also demonstrated that intergenerational programs can increase a participant’s sense of purpose and usefulness (Brownell, 2008). Older adults with dementia were excited to see that they could help the children with activities. Typically, older adults with dementia may need help with a lot of their activities of daily living. Since they are accustomed to receiving daily help, being able to help someone else increased their sense of purpose and usefulness.

Lastly, O’Rourke (1999) found that intergenerational programs prompted an increase in the verbal interactions by the older adults with dementia. O’Rourke (1999) examined ten intergenerational art activities among older adults, children, and peer adults. Five of the ten art activities were done with the older adults and children, while the other five art activities were done with the older adults and peer adults. Some older adults with dementia are not fully verbal, but the interactions with the children stimulated cognition and they began to speak with the children. The older adults verbally expressed their enjoyment with the children.

**Physical health benefits.** According to Fay (2016), both children and older adults have a lot to gain from each other, but there are several specific physical benefits that are prominent. Older adults who attended intergenerational programs can burn up to 20 percent more calories per week (Fay, 2016). This is due to the significantly increased participant activity levels that commonly accompany these programs. This dramatic increase in the amount of calories burned by older adults allows their bodies to gradually become more adaptable to an increase in overall physical activity.

An increase in physical activity is also associated with increased mobility (Galbraith, Larkin, Moorhouse, & Oomen, 2015). These programs offer several tasks that require increased participant movements, such as playing games with the children. This increase in mobility also
has the tendency to reduce the number of falls an older adult may experience (Currie, 2008). The positive potential impact of this benefit is apparent since up to 32 percent of community dwelling older adults fall each year (Currie, 2008). Increasing mobility will not only strengthen the muscles in the participant’s body and reduce the amount of falls, but it may also lead to an overall reduction in the use of assistive devices.

Lastly, intergenerational programs may lead to an increase in participant self-reported health. This was determined by Skropeta, Colvin, and Sladen (2014), who found increased self-reported health over the course of their intergenerational playgroup program involving children and persons with dementia. At post test, self-reported health was one of the significant changes made by individuals with dementia. The participating older adults reported an increase in overall health after the six month intervention was complete.

**Benefits for children.** Not only do intergenerational programs benefit older adults, but they have been found to benefit children and caregivers as well. Children are able to form special interactions and relationships with older adults and that has the potential to eliminate stereotypes (Hernandez & Gonzalez, 2008; Kaplan, 2001; Lokon, Kinney, & Kunkel, 2012; Newman & Ward, 1993; Yamashita, Kinney, & Lokon, 2011). Young individuals tend to improve their interaction with older adults through intergenerational programs, but this is dependent on the frequency of interaction. An increase in the frequency of intergenerational interaction may allow children to learn more about the older adults’ lives and thus easing the potential stereotypes. Children may have these stereotypes due to the lack of knowledge associated with older adults, particularly older adults with dementia (Yamashita, Kinney, & Lokon, 2011). Several studies have demonstrated how intergenerational programs promote more positive attitudes towards older adults and aging. In one particular study, middle school aged children participated in intergenerational socialization with older adults and increased the children’s level of awareness.
of aging (Kaplan, 2001). Children who participated in the study were also more likely to willingly interact with older adults outside of the classroom.

It has also been shown that children’s academic skills and performance may also improve as they participate in intergenerational programs (Kaplan, 2001; Marx, Pannell, Parpura-Gill, & Cohen-Mansfield, 2004). Improvement in academic performance and skills attributed to intergenerational programs include articulating personal experience through verbal and written form and learning to work in a group (Kaplan, 2001; Marx et al., 2004). There is also the opportunity for improvement in a child’s social skills through participation in these programs (Kaplan, 2001; Marx et al., 2004). In one particular study, social skill development was examined for young children during a 12 week intergenerational program that met twice a week for 30 minutes. The social skills of the children were compared to children in a control group. It was found that the children participating in the intergenerational program improved in areas such as cooperation, communication, tolerance, and respect for others (Kaplan, 2001).

**Benefits for caregivers.** Intergenerational programs have also demonstrated benefits for caregivers including the opportunity for respite, which is a period of rest from caregiving. For example, caregivers may drop their loved one off at an Adult Day Center for an intergenerational program. This could allow caregivers time for themselves, receiving a necessary break from the daily challenges of caregiving. Respite also enables caregivers to mitigate the stress related to the demands of caring for a person with dementia (Neville, Beattie, Fielding, & MacAndrew, 2015). Respite may allow caregivers to take time for themselves and focus on self-care. Self-care may include maintaining social relationships and maintaining one’s own health (Neville et al., 2015). Another benefit of respite services for caregivers is the relief from the caring role, which decreases the burden caregivers may be facing (Neville et al., 2015). An increased burden may lead to increased stress, depression, and several other health complications (Brodaty &
Donkin, 2009). The utilization of intergenerational programs will allow the necessary steps needed for respite care and can possibly improve mood, reduce stress and depression, and even delay the possibility of nursing home placement for older adult caregivers (Brodaty & Donkin, 2009). Intergenerational programs also offer the opportunity for education for caregivers, whether it is through social support or information provided through the program. The benefits of education include the mitigation of stress and health issues associated with caregiving (Toseland, 2004). Education and/or support programs are recommended for caregivers in order to alleviate the potential health problems that could be related to caregiving. Intergenerational programs are also able to offer social support for caregivers through speaking with other caregivers. Being able to speak with someone in the same situation allows for the necessary coping that may be needed.
METHODS

Given the findings on intergenerational activities with persons with dementia (PWD), the purpose of this study was to investigate the outcomes of an intergenerational program in an educational setting for PWD, middle school age students who worked with the participants, and the perspective of the caregivers of the participants. In addition, the purpose of the study was to examine the overall response of PWD to the intergenerational program as assessed by undergraduate and graduate students in gerontology and by middle school age students in the classroom. The second area of inquiry was the response by the middle school age students to what dementia is and their reaction to the activities within the intergenerational program. Lastly, the research was interested in the evaluation of the program by the caregivers to the participants with cognitive impairment.

Research Questions

The following research questions were developed to address the purpose of the study.

1. What is the observed level of overall satisfaction of PWD who engaged in intergenerational activities as assessed by the middle school aged students and the BGSU students? Is there a difference between the BGSU students’ rank of satisfaction versus the middle school aged students rank of satisfaction?

2. Do the feelings of middle school aged students regarding dementia and working with PWD change as a result of the intergenerational program? If so, in what ways?

3. How did the middle school aged students assess the intergenerational program?

4. How did the caregivers of PWD assess the value of the intergenerational program?

Finding Your P.L.A.C.E.

This study utilized secondary data gathered through a local collaborative service learning project titled Finding Your P.L.A.C.E. (Partnered Learning Activities and Connected Experiences). The Finding Your P.L.A.C.E. program was designed as an intergenerational
program for PWD and middle school age Montessori students that offered physical exercise to PWD and an intergenerational socio-educational activity between the PWD and students. The Finding Your P.L.A.C.E. program was also designed as a mechanism for caregiver respite for the caregivers of PWD. The Finding Your P.L.A.C.E. program connected multiple generations in a Montessori school environment through socialization during classroom activities. The program was designed for older adults with mild to moderate memory loss. The program introduces PWD to the benefits of cognitive stimulation games, general fitness, and social interaction. While both physical exercise and socialization were included in the Finding Your P.L.A.C.E. program, because of a small sample and data limitations, this study will focus on the intergenerational portion of the program.

Participants. The participants of the study included PWD who were regular attendees of the Wood County Committee on Aging (WCCOA) (http://www.wccoa.net/), located in Northwest Ohio. WCCOA provides seniors throughout Wood County with the resources needed to maintain their independence. Participants were recruited through the monthly newsletter and advertising within the senior center. Four caregivers and/or PWD expressed an interest in participating in the program. Informed consent and risk management documents were distributed to each participant and their primary caregiver (all primary caregivers were spouses) to ensure that participants were informed about the goals of the program, a description of the program activities, the collection of data, and their rights as participants in the program. In addition, a pre-activity screening questionnaire to determine physical limitations was also completed prior to participation in the program.

All four participants were community dwelling older adults who were diagnosed with a form of cognitive impairment. The participants were all Caucasian males and ranged in age from 59 to 83. Participant one was 79, participant two was 59, participant three was 83, and participant
four was 81. Each participant was married and their spouse served as their primary caregiver. Their diagnosed cognitive impairments include Alzheimer’s disease, early onset Alzheimer’s disease, and normal pressure hydrocephalus.

The program took place at the Montessori School of Bowling Green. In addition to the four participants with dementia, 24 middle school aged Montessori students (ages 9-12) participated in the intergenerational activities. Intergenerational socio-educational sessions were held bi-monthly for three months for a total of six sessions. The total of six sessions allowed each student to participate in at least one interactive socio-educational activity over the course of the entire program. Four students were chosen per session to share their daily lessons and activities with older participants. Four Bowling Green State University (BGSU) student volunteers were also associated with this project. These graduate (two) and undergraduate (two) students in gerontology acted as research assistants for the program and as ‘guides’ to the PWD throughout the program. Each college student assisted their PWD throughout the entirety of the program, beginning with exercises and progressing to observation of the student and PWD interaction.

**Procedures of the Finding Your P.L.A.C.E. program.** At the initiation of the Finding Your P.L.A.C.E. program, a training meeting, conducted by the program director of WCCOA, was held at the Montessori School of Bowling Green. At this meeting, caregivers and guides received training related to various aspects of dementia. The training consisted of sensitivity training related to sensory impairment and cognitive impairment. The training focused on creating understanding and empathy around what it is like to complete everyday tasks when experiencing limitations. A simple task involved drawing a picture using only a mirror to see the paper being drawn on. The purpose was to show the caregivers and guides the impact of possible skewed visual perceptions older adults with cognitive impairment may encounter. Another task
was to write their name using their non-dominant hand while wearing gloves. This was completed to demonstrate how touch and fine motor control become less precise, thus making it more difficult to write. An additional activity was designed to help the caregivers and guides understand the difference between short and long term memory and the impact that memory impairment has on individuals and a focus on remaining active and experience of loss. Each caregiver and guide was provided four post-it notes and were asked to write a memory on each post-it-note and asked to place them into a square shape. The left side notes were designated to represent long term memory. Participants were asked to identify their favorite vacation on one note and their favorite sport on the other. The right side post-it notes represented short term memory. Participants were asked to write what they had eaten for breakfast on one and what clothing they had worn the previous day on the other. After all of the notes were completed, participants were then asked to take the two notes on the right hand side (representing short term memory) and throw them away. This action symbolized how individuals with dementia may be unable to recall short term information. The impact was to help the caregivers and guides achieve a greater understanding of the experience of dementia and the memory problems that it presents.

A second training session was conducted for the Montessori students by the program director of WCCOA. The goal of this session was to provide education about dementia and provide an opportunity for students to understand what living with dementia may be like. The training began with a presentation about dementia that included examples of what individuals with dementia may experience on a daily basis. The presentation included both open-ended questions and true/false statements regarding both aging and cognitive impairment. For example, students were asked “What are your first thoughts when you hear the word “old”?” in order to assess general attitudes toward aging. The presentation also included true/false questions such as “the majority of older adults are confused and forgetful” and “most older adults end up in a
nursing home” in order to further discuss the students’ attitudes and beliefs regarding aging and cognitive impairment.

The students then completed the same long and short term memory exercise as the caregivers and guides. Finally, sensitivity training was included for the students which allowed them to have an insight into sensory difficulties older adults might experience with sight, hearing, and touch. For sight, the students wore scientific goggles that were covered with Vaseline and were asked to walk around the room. For hearing, students were asked to wear ear plugs and try to have a steady conversation with another student. For touch, students were asked to wear disposable gloves and a button up shirt and try to button the shirt. The goal of the sensory training was to show the students what it may be like living as an older adult with these sensory deprivation issues.

**Activity sessions of the Finding Your P.L.A.C.E. program.** The activity sessions began three weeks after the preliminary training was completed. Initially, the PWD engaged in a 45-minute movement exercise class with goals of improving balance, strength, and gait speed. The safety and well-being of participants was ensured through the utilization of a Physical Therapist from the community to lead the sessions and the use of the guides for extra assistance. Although the exercise portion was an important part of the program, the focus of this analysis was the intergenerational socio-educational component of the Finding Your P.L.A.C.E. program.

After the group movement exercises, each guide accompanied their assigned PWD to the student’s classroom. In the classroom, one student was paired with each PWD. To begin each activity, the students were provided information regarding the PWD’s life as well as specific questions the students could ask their partner. This information was provided by the caregivers of the PWD. Questions included background information of the PWD’s life, such as childhood memories, past job experience, and past vacations. This provided a context from which the
students could more easily engage in conversation with the PWD and learn even more about their life.

Once they had completed asking their partners questions, the students sought out a classroom activity that they could engage in with their partner. Each day, a list of classroom work that needed to be completed before the end of the day was provided to the students. Students chose an activity from their list and presented it to their partner. Unfortunately, the PWD did not have input or choice in whether they would like to participate in the activity or not. Once selected, directions for the chosen activity were reviewed, and the students essentially taught their partner the subject matter. Students were directed to have their partner participate as much as possible in these activities. To that end, they continuously asked them for their input on how they believe the activity should be completed. Examples of the applicable classroom activity topics included geography, biology, math, grammar, reading, writing, and history. The guides helped pick the activities that were best suitable for their partner.

The students engaged in these classroom activities with their matched partner for approximately one hour and 15 minutes. Upon completion, the guides and students completed a report based on their observations of the PWD during the session.

After the sessions were completed, the PWD were given a personal bag with brain stimulating activities to be completed before the next session. This enabled them to stay active in between sessions.

Measures

The Finding Your P.L.A.C.E. program utilized three measures to gather information about the program. The measures included observation reports completed after each session, an evaluation of the entire program from the perspective of the students about their experience with the program, and an overall assessment of the program by the caregiver. All observation reports
and evaluations were continuously collected throughout the program by WCCOA and the data was provided to the researcher with all identifying information removed.

**Observation reports.** The observation reports were completed after each intergenerational session by both the student and guide who participated in the activity with their partner. The observation report, which can be found as Appendix A: Participant Observation Report, had both the students’ and guides’ evaluation of the session of the PWD. The evaluation section was based on the students’ observations of their partner and their emotional demeanor, behavior, listening comprehension, communication, and motor skills during the activity. The emotional response question asked, “During the activities did the participant seem: happy, sad, angry, aggressive, frustrated, or confused?” The behavioral response question asked, “During the activities did the participant: begin the activity without help, need help getting started, seem distracted / have difficulty staying on task, seem engaged with activity, or correctly complete the activity without help?” The listening comprehension question asked, “During the activities did the participant: understand directions, correctly follow directions, need directions repeated, or seem confused about what they are supposed to do?” The communication question asked, “During the activities did the participant: have problems expressing thoughts or ideas, have problems speaking clearly, have problems forming correct sentence structure, correctly expressed thoughts and ideas, or correctly communicate questions?” Lastly, the motor skills question asked, “During the activities did the participant: correctly copy design, correctly trace or draw within lines, correctly use activity utensils and supplies, have trouble holding / using writing or cutting utensils, have trouble writing or forming letters / numbers, or have trouble drawing recognizable objects?” The last section addressed the participants’ overall satisfaction with the activity, using a Likert scale of very dissatisfied to very satisfied (1-5). There were also
two open-ended questions at the end of the observation report that addressed the students’ perception on the experience/interaction and their thoughts on aging and dementia.

Responses were not restricted to a single answer; rather, observers were encouraged to identify all significant occurrences that were displayed by the PWD. For example, on the behavior section of the observation report, there were six emotional demeanors to choose from in which the student or guide felt best represented their PWD. Options include happy, sad, angry, aggressive, frustrated, and confused. The response rate by students and guides to the post-observation assessments, taking into consideration that participation by PWD was not complete across all six weeks, was 91.6 percent (n = 44).

**Student evaluations.** Upon completion of the entire six session program, the students were provided with evaluation forms, which can be found as Appendix B: Student Evaluation. The evaluation consisted of open-ended questions addressing how they would describe dementia, their first feelings when they heard about participating in the program, if their feelings changed after meeting their partner, their favorite part about the program, their least favorite part about the program, and if they would participate in the program again. This qualitative data was collected as a means to evaluate the potential for intergenerational programs to decrease stereotypes of older individuals with dementia through the use of intergenerational programs. The response rate by students to the post-program evaluation was 96 percent (n = 23).

**Caregiver evaluations.** Upon completion of the entire six session program, evaluation forms were also distributed to the caregivers of the PWD, which can be found as Appendix C: Caregiver Evaluation. The evaluation addressed the caregivers’ observations on whether they saw a difference in emotions, behaviors, and communication across the study. Open ended questions asked about participant emotional response, behavioral response, and communication throughout the program. The emotional response question asked, “Throughout the duration of the
program, the participant seemed: happy, sad, angry, aggressive, frustrated, confused, or content.” The behavioral response question asked, “Throughout the duration of the program, the participant engaged in: positive behavior or negative behavior.” The communication response question asked, “Throughout the duration of the program, the participant: had problems expressing thoughts or ideas, had problems speaking clearly, had problems forming correct sentence structure, correctly expressed thoughts and ideas, or correctly communicated questions.” In addition, open-ended questions were asked regarding the opportunity for caregiver respite, changes they would make to the program, and if the caregivers would recommend the program to other caregivers. All four caregivers (100%) completed the evaluation and the results of this analysis will be presented in the following section.

**Data Analysis**

SPSS and ATLAS.ti were used for the analysis of the data with SPSS being used for the analysis of quantitative measures and ATLAS.ti being used for the analysis of qualitative responses. Relevant quantitative measures include the guide and student satisfaction value ratings of the PWD. Open-ended questions in the observation report include guide and student thoughts about the experience and interaction and their thoughts on aging and dementia. Open-ended questions on the student’s evaluation included the students’ responses on how they would describe dementia, their first feelings when they heard about participating in the program, and if their feelings changed after meeting and working with their partner. Additional open-ended questions asked about their favorite part about the program, their least favorite part about the program, and if they would participate in the program again. Caregiver evaluations measured observations of the PWD’s emotional response, PWD’s behavioral response, PWD’s oral and verbal communications, caregiver thoughts on the respite opportunities, caregiver thoughts on
changes of the program, and caregiver recommendations to others of the program. All of this information is analyzed and presented in the results.
RESULTS

The purpose of this study was to investigate the impact of an intergenerational program in an educational setting for PWD, younger students who worked with the participants, and the perspective of the caregivers of the participants. Specifically, the study was designed with the goals of providing PWD with an opportunity to work with the younger middle school aged students in an intergenerational socio-emotional learning experience with the objective to increase well-being of participants, providing an opportunity to young students to become knowledgeable and understanding of cognitive impairment, and to provide caregivers with an opportunity for respite care. The specific research questions included:

1. What is the observed level of overall satisfaction of participants who engaged in intergenerational activities as assessed by the middle school aged students and the BGSU students? Is there a difference between the BGSU students rank of satisfaction versus the middle school aged students rank of satisfaction?

2. Do the feelings of middle school aged students regarding dementia and working with PWD change as a result of the intergenerational program? If so, in what ways?

3. How did the middle school aged students assess the intergenerational program?

4. How did the caregivers of PWD assess the value of the intergenerational program?

Observations of Participant Satisfaction

The study collected data on the satisfaction of PWD using observations by the students and guides working with each participant after each of the six sessions of the program. The observational report asked both the students and guides to rate the “participants overall satisfaction with the program” using a Likert scale of very dissatisfied to very satisfied (1-5).

The scores of overall satisfaction varied in terms of the number of reports because of the absence of participants across the six sessions. Session one had a mean satisfaction value of 4.38
(N = 4, SD = 0.52). When the eight observation reports (two observation reports for each participant) are compared, the guides and students ranked the PWD’s satisfaction level the same for six observations (75%), with deviations of the students ranking individuals with a higher/lower satisfaction level in two ratings on one participant. The guide and student of participant four during session one had ranked the PWD’s satisfaction level differently with the guide ranking the individual as somewhat satisfied (4) and the student providing a ranking of very satisfied (5). The guide marked that they thought the satisfaction value of the PWD was somewhat satisfied while the student thought the PWD was very satisfied.

Session two had a mean satisfaction value of 4.13 (N = 4, SD = 0.83). When the eight observation reports are compared, the guides and students ranked the PWD’s satisfaction level the same for two observations (25%), with deviations of the students ranking individuals with a higher/lower satisfaction level in six ratings on three participants. The guide and student of participant two, three, and four during session two had ranked the PWD’s satisfaction level differently. The guide of participant two ranked the individual as neither satisfied nor dissatisfied (3) and the student provided a ranking of somewhat satisfied (4). The guide of participant three ranked the individual as somewhat satisfied (4) and the student provided a ranking of very satisfied (5). The guide of participant four ranked the individual as neither satisfied nor dissatisfied (3) and the student provided a ranking of somewhat satisfied (4).

The average satisfaction value of session three was 4.0 (N = 4, SD = 0.53). When the eight observation reports are compared, the guides and students ranked the PWD’s satisfaction level the same for four observations (50%), with deviations of the students ranking individuals with a higher/lower satisfaction level in four ratings on one participant. The guide and student of participant two and four during session three had ranked the PWD’s satisfaction level differently. The guide of participant two ranked the individual as somewhat satisfied (4) and the student
provided a ranking of neither satisfied nor dissatisfied (3). The guide of participant four ranked

the individual as somewhat satisfied (4) and the student provided a ranking of very satisfied (5).

The average satisfaction value of session four was 4.17 (N = 3, SD = 0.75). Participant

three was absent for this session, so this average is based on six observation reports. When the

six observation reports are compared, the guides and students ranked the PWD’s satisfaction

level the same for four observations (67%), with deviations of the students ranking individuals

with a higher/lower satisfaction level in two ratings on one participant. The guide and student of

participant two and three during session three had ranked the PWD’s satisfaction level
differently. The guide of participant two ranked the individual as neither satisfied nor dissatisfied

(3) and the student provided a ranking of somewhat satisfied (4). The guide of participant three

ranked the individual as neither satisfied nor dissatisfied (3) and the student provided a ranking

of somewhat satisfied (4).

The average satisfaction value of session five was 3.67 (N = 3, SD = 1.51). Participant

four was absent for this session, so this average is based on six observation reports. When the six

observation reports are compared, the guides and students did not rank the PWD’s satisfaction

level the same for any observation. The guide of participant one ranked the individual as

somewhat satisfied (4) and the student provided a ranking of very satisfied (5). The guide of

participant two ranked the individual as very dissatisfied (1) and the student provided a ranking

of very satisfied (5). The guide of participant three ranked the individual as somewhat satisfied

(4) and the student provided a ranking of very satisfied (5). The guide of participant four ranked

the individual as somewhat satisfied (4) and the student provided a ranking of neither satisfied

nor dissatisfied (3).

The average satisfaction value of session six was 4.33 (N = 3, SD = 0.52). Participant

four was absent for this session, so this average is based on six observation reports. When the six
observation reports are compared, the guides and students ranked the PWD’s satisfaction level the same for two observations (33%), with deviations of the students ranking individuals with a higher/lower satisfaction level in four ratings on one participant. The guide and student of participant one and three during session three had ranked the PWD’s satisfaction level differently. The guide of participant one ranked the individual as very satisfied (5) and the student provided a ranking of somewhat satisfied (4). The guide of participant three ranked the individual as somewhat satisfied (4) and the student provided a ranking of very satisfied (5).

The overall participant average satisfaction value across all four participants and six sessions was a 4.11, which equates to between somewhat satisfied and very satisfied. The average satisfaction value was also analyzed through each session and compared between the rank of guides and students. When stated that satisfaction levels were ranked differently, the students ranked the PWD’s satisfaction level lower than guides when there was a discrepancy.

**Student Attitudes toward Aging and Cognitive Impairment**

Student attitudes about working with individuals with cognitive impairment were assessed as part of the program post-test. The students (N=23) were asked about their initial thoughts regarding hearing about the program and if their attitudes had changed as a result of the intergenerational socio-educational component of the Finding Your P.L.A.C.E. program. The analysis revealed that 11 students (48%) reported positive first impressions of the program. These students reported reactions such as ‘excited’, ‘happy’, ‘nervous-excited’, ‘curious’, ‘fine’, and ‘happy-excited’. The remaining 12 students’ first reactions consisted of being ‘nervous’, ‘nervous-excited’, ‘nervous-sympathetic’, ‘nervous-happy’, and ‘nervous-scared-happy-excited’. When students were asked if their attitudes had changed across the six sessions of the program, 12 out of 23 students (56%) stated that their feelings changed after meeting their partner. This
group of students reported positive attitude changes such as ‘happy’, ‘excited’, ‘relieved’, and ‘good’ after having participated in the program.

**Student Assessment of the Finding Your P.L.A.C.E. Program**

Student assessments of the Finding Your P.L.A.C.E. program were measured by open-ended responses to their favorite part of the program, least favorite part of the program, and their desire to participate in the program again. ATLAS.ti was used to code these responses and the themes that emerged from the student comments.

**Favorite part.** The students were asked to provide feedback through reporting their favorite part about the program. The most common themes are presented. The first theme consisted of task specific interactions and reciprocal teaching. Task specific interactions included issues that were directly related to educational activities and the completion of the educational assignments by the students and the PWD. An example of feedback regarding specific tasks was the idea of reciprocal teaching. Reciprocal teaching reflects the idea that in some cases students valued how they were able to instruct the PWD on the activity and in other cases the student’s favorite part was learning from the PWD. The reciprocal teaching reflected students’ comments on teaching PWD with responses such as “Getting to show them something they don’t know but I know well” and “My favorite part was showing him the work”. The reciprocal part of teaching involved how the PWD interacted with the student by “Answering questions with him”. This reflects the bidirectional aspect of reciprocal and interactive learning. Students also reflected on the idea of reciprocal learning through comments such as “Seeing how engaged they were with the activity”, “Working with them”, and “I liked how they were really involved in the work”.

While being involved with the specific educational activity was a major part of the program, and is reflected in these results, another theme emerged from the responses by students regarding their favorite parts of the program. The second theme was the issue of memories.
Students reflected on these aspects that were outside of the more formal educational tasks and included the sharing of memories and stories. Examples within this theme included statements by students such as “The stories they told”, “My favorite part about working with (participant) was when he talked about his memory square”, “His stories”, and “Learning about their life”. In this way, both the formal learning in terms of activities and the more informal learning about each other were valued aspects of the program.

**Least favorite part.** Students were also asked to report on their least favorite part of the program. The student responses to this question reflected two themes. The first and most common theme with nine responses is ‘none’. In this case, the student reported they did not have a least favorite part. The second theme related to communication. Three students made comments regarding difficulty communicating with the participant. For example, one student stated that, “Sometimes I had to say things louder than normal so they could hear”.

**Desire to participate again.** Students were asked if they would want to participate in the Finding Your P.L.A.C.E. program in the future. Six students did not answer this question. Of the 17 remaining responses, 15 students stated that they would want to participate in the Finding Your P.L.A.C.E. program again. One student wrote, “I would like to do this again because working with someone makes me feel more aware of how I can help people.” One student stated that they would not want to participate in this program again, but there was no explanation given for the response. One student had mixed feelings about participating in the program again, stating that they might want to, but were not sure.

**Caregiver Assessment of the Finding Your P.L.A.C.E. Program**

Caregivers were asked to provide their feedback at the conclusion of the program. Issues included in the assessment were the evaluation by the caregiver of the PWD’s response to the program in terms of emotion, behavior, and communication. Caregivers were also asked about
their use of the time from the Finding Your P.L.A.C.E. program as a mechanism for caregiver respite. Lastly, caregivers were asked about their overall assessment and any changes they would make to the program. All four caregivers completed the evaluation. Caregiver evaluations of the program in terms of reported care recipient’s emotional, behavioral, and communication response to the program, use of time for respite, and recommendations for changes indicate that the Finding Your P.L.A.C.E. program was beneficial for both PWD and their caregivers

**Emotional response.** Caregivers were asked about their care recipient’s general emotional response throughout the duration of the program through the caregiver evaluations at the end of the program. The caregiver of participant one noted that her spouse was generally happy and content after each session and enjoyed all aspects of the program. The caregiver of participant two noted that her spouse was usually content after each session, although he sometimes became frustrated with the classroom setting. The caregiver of participant three noted that her spouse was generally happy and content after each session. She stated, “(Participant) was amazed at how bright the students were. His comments were always positive. He never complained about the program and gladly got ready to attend!” Lastly, the caregiver of participant four noted that her spouse was generally happy but confused after each session. She stated, “Once there, (Participant) enjoyed all aspects of the program.” There were no comments regarding his confusion.

**Behavioral response.** Caregivers were asked about their care recipient’s general behavioral response throughout the duration of the program through the caregiver evaluations at the end of the program. All four caregivers noted that their spouse always had positive behavior afterwards. The caregiver of participant one stated that her spouse always looked forward to participating. The caregiver of participant three noted, “His comments were always positive. He always followed up at home on the assignments with enthusiasm.” The caregiver of participant
four stated, “He loves social interaction once he engages, so the three generations together was an excellent idea which brought insight to all involved.”

**Communication response.** Caregivers were asked about their care recipient’s general communication response throughout the duration of the program through the caregiver evaluations at the end of the program. Communication responses addressed the ability to express thoughts and ideas, speaking clearly, and forming sentence structure. The caregiver of participant one noted that her spouse’s communication response depended on the place and time to share. The caregiver of participant four commented, “I am not really sure as I did not get to observe his interactions, but he came away with a smile and words of enjoyment.” The caregiver of participant two stated that her spouse correctly expressed thoughts and ideas after sessions. Additionally, the caregiver of participant three stated that her spouse was able to correctly communicate questions after sessions. She commented, “By the end of the day he has difficulty with language. Early in the day he is fine. The evening/pm difficulties are ‘normal’ for someone with his condition.”

**Experience of respite.** One of the primary goals of the Finding Your P.L.A.C.E. program was to provide an opportunity for respite care through the use of a community-based program. One question from the program assessment by the caregivers asked specifically about respite benefits. All of the caregivers responded that they had received respite. The caregiver of participant one noted that the group of caregivers met for coffee and conversation. In this way, the program offered an opportunity for group support and interaction. The caregiver of participant four commented, “(The program) got a group of four spouses together who found great support in each other. Very good brainstorming and sharing and sympathizing.” In addition, the caregiver of participant three stated, “Absolutely! It was especially nice getting some chores done”. For these caregivers, the program offered an opportunity for traditional
aspects of respite such as a break from caregiving, mutual support, and an opportunity to take care of needs while knowing their care recipient was in a safe environment and participating in enriching activities.

**Recommended program changes from caregivers.** Caregivers were asked if there should be any changes to the program. The caregiver of participant one stated that she believed all aspects of the program were great and did not need to be changed. Three caregivers suggested changes for the program in the future. The caregiver of participant three stated, “(Participant) enjoys arts/craft projects. He does some of this in his other groups. The cognitive challenges are good for him”. This suggested that she would like to see more arts/crafts in the program. The caregiver of participant two stated that she would like to see more hands on activities and less student interaction. Her spouse did not enjoy the student interaction as much as the other participants due to issues related to hearing impairment and having difficulty communicating with the students. Lastly, the caregiver of participant four commented, “Maybe a phone call from the Montessori students would have helped me get (Participant) to attend more faithfully. Getting him there was a challenge and failed at too often.”


DISCUSSION

The analysis of the data from the individual sessions and the conclusion of the study both indicate that the intergenerational socio-educational intervention from the Finding Your P.L.A.C.E. study is beneficial for PWD, attitudes of school-aged children, and the caregivers of PWD.

Participant Satisfaction and Benefits

Participant satisfaction throughout the program was rated by both the students and guides as satisfied across the six sessions of the program with a mean satisfaction of 4.11 on a Likert scale of 1-5. There was moderate consistency across the ratings of satisfaction by the students and guides with identical ratings in 42 percent of the cases. The cases where ratings were different showed a pattern of students’ rating satisfaction slightly lower than the ratings of the guides. However, overall satisfaction remained positive across all participants and observations. While this might indicate an observation bias or a desire for it to appear that participants with cognitive impairment benefited from the program, the reports by caregivers of emotional, behavioral, and communication response lend support to the observations of participant satisfaction.

When comparing the results of this study to previous intergenerational activities, the results of this study support findings of George (2011), Skropeta, Colvin, and Sladen (2014), and Xaverius and Matthews (2003). George (2011) reported that PWD participating in intergenerational volunteering gain a sense of purpose and usefulness, thus increasing their satisfaction with the program. Skropeta, Colvin, and Sladen (2014) argue that PWD participating in intergenerational playgroups connected with the children, leaving an increase in overall satisfaction for the PWD. Xaverius and Matthews (2003) argue that individuals who participate in intergenerational socialization are more likely to experience an increase in life satisfaction.
**Student Attitudes toward Aging and Cognitive Impairment**

Based on the analysis of students’ attitudes toward cognitive impairment, the attitudes were almost equally divided with approximately half (48%) reporting an initial positive attitude toward the program and 52 percent reporting concerns about the program. The 52 percent of students stated that their first initial thoughts regarding the program were negative and had changed to positive after meeting their partner and working with them in at least one session over the six week program. These findings reflect the importance of shared experiences that the Finding Your P.L.A.C.E. program incorporated, suggesting similarities to previous research (Hernandez & Gonzalez, 2008; Kaplan, 2001; Lokon, Kinney, & Kunkel, 2012; Newman & Ward, 1993; Yamashita, Kinney, & Lokon, 2011). The past research indicates that children may have stereotypes due to their lack of knowledge associated with older adults, especially PWD. Intergenerational programs provide knowledge for both children and older adults which, in turn, reveals the change in attitudes among the students in the Finding Your P.L.A.C.E. program.

**Student Assessment of the Finding Your P.L.A.C.E. Program**

The findings on the student assessment of the Finding Your P.L.A.C.E. program show several benefits from intergenerational socio-educational programs. Students reported benefits around the specific activities and tasks completed in the program, but also when the interaction involved more informal learning like sharing memories. Assessing the students’ favorite part is important for future program implementation. Receiving this information helps discover what was the most meaningful to the students. Most students (56%) reported not having a least favorite part. This finding can be interpreted as an indicator of general satisfaction of how the program was designed and implemented. Similarly, 88 percent of students stated that they would want to participate in this program again. These findings suggest that the program was successful based on this response from students.
Caregiver Assessment of the Finding Your P.L.A.C.E. Program

Caregiver evaluations of the program reported care recipient’s emotional, behavioral, and communication response to the program, use of time for respite, and recommendations for changes of the Finding Your P.L.A.C.E. program. The only negative comment made from a caregiver was the lessening of student interaction. This was related to issues of hearing impairment, interest in the activities, and having difficulty communicating with the students.

All of the caregivers stated that the Finding Your P.L.A.C.E. program provided them a good opportunity for respite, which was one of the main goals of the program. One of the caregivers reported no need for changes to the existing program. The remaining three caregivers suggested recommendations for future program implementation including more hands on activities, less student interaction, and motivation phone calls from the students. The reference to less student interaction needs to be understood within the context of the individual response by the participant who had communication difficulties. This finding reinforces the idea of heterogeneity of the types of impairment, co-morbid conditions, and the potential for diverse responses to any program or intervention. In two previous studies, caregivers of PWD reported lower levels of life satisfaction and higher burden when they did not utilize respite services (Kosloski, Montgomery, & Youngbauer, 2001; Brodaty, Thomson, Thompson & Fine, 2005). Utilizing respite services helps caregivers of PWD decrease that burden and lessen the negative health outcomes associated with burden. The more knowledgeable a caregiver is about respite and its potential benefits, the more willing they may be towards utilizing respite services.

Limitations

The results of this study need to be viewed with limitations in terms of the types of impairment, attendance, active participation, and missing data. Variations in the types of dementia and cognitive impairment of the participants complicate the design, analysis, and
results. The heterogeneity of the range of impairments of the participants makes analysis and complete understanding of the results difficult. One mechanism to control for this heterogeneity would be the limitation of eligibility to one particular type of cognitive impairment. The recruitment of participants with the same cognitive impairment may have made for a better comparison of behavioral, emotional, and communication related change as a result of the Finding Your P.L.A.C.E. program. However, having a program that tries to satisfy the needs of a diverse set of individuals with cognitive impairment and their caregivers remains a laudable goal. The absence rates of participants (participant three missing one session and participant four missing three sessions) influences the validity of the findings and somewhat weakened the findings. The PWD seemed to sometimes get distracted by the surrounding students in the classroom, which affected the level of active participation. The participating students, guides, and PWD completed the activities in the same classroom as the other working students, but it would sometimes get loud from those other students. This could be avoided by having the intergenerational sessions located in an empty classroom. Missing data in the student evaluations was also an issue that needed to be viewed as a limitation. Approximately six students did not answer the questions in the student evaluation about their favorite part, least favorite part, and desire to participate again. Having this information would have increased the sample size and would have possibly made for more reliable results.

Recommendations

Findings from this study provide a foundation for future research. This study adds to the literature showing that intergenerational programs for cognitively impaired adults can benefit both students and PWD. Recommendations for future research include issues of sample size, intergenerational socialization, and measurement.
Although the sample size for this particular program was acceptable for developing and implementing a pilot project, an increase in the number of program participants would be of benefit to understand the potential impact of the program.

The effectiveness of the project would also benefit from an increased frequency of the intergenerational socialization. Modifying from bi-weekly sessions may enhance the benefits of the program. Previous research has demonstrated that weekly intergenerational socialization could maximize emotional, behavioral, and communication responses from PWD. Weekly participation in intergenerational programs provides an increase in social engagement, which is beneficial towards improving physical health (Lokon, Kinney, & Kunkel, 2012). Weekly interactions also provide an increase in communication between student and participant.

In terms of measurement of the intergenerational socialization, students should receive training on how to assess the observation reports. For instance, a student may not know how to assess an individual as frustrated, angry, or happy. Students should be able to recognize the emotions of the PWD and assess whether they are confused, happy, frustrated, etc. Training in the use of the measures would add to the validity of the findings across so many observations and ratings. Students should also undergo a pre-test on baseline attitudes toward older adults and older adults with dementia. This could allow for a more meaningful assessment on attitudes change. There should also be an assessment of the older adults after each session on their satisfaction ranking. Although the students had completed the satisfaction ranking for their participant, the older adults were not asked whether the perceived satisfaction ranking was accurate. While there are limitations on how to assess attitudes of individuals with cognitive impairment, mechanisms for doing so exist, such as having caregivers assess attitudes.

Another suggested change to the implementation of the program would be to receive a list of likes and dislikes in terms of activities from caregivers of the PWD before the start of the
intergenerational sessions. This could have been completed for the Finding Your P.L.A.C.E. program because there were instances of participants expressing dislike for some of the activities. For example, one participant disliked math, but the guides and students were unaware. During the math activity, the particular participant reacted negatively through disengagement, as addressed by his partner in the observation report. It would also be beneficial to record the activities participated in between the participant and student. This additional variable could give researchers information on whether the activity was a significant factor that affected the behavior of the PWD and how different activities may be more or less useful when working in intergenerational groups. The age and gender of the students should have also been recorded to see if these factors affected their feelings about the PWD. Lastly, the PWD should be given a choice if they would like to participate in the given activity or not. This factor could help increase the satisfaction values of the PWD throughout the program.

Based on caregiver recommendations for program changes in the caregiver evaluation, there should be more hands on activities with the participants. This type of activity could increase participation. As an issue of design, this places the importance on the activities benefitting the PWD and not on those of the younger students.

In regards to the measurement of group movement exercises, individual pre and post tasks for balance, gait speed, and strength should be completed for all participants in order to examine/evaluate the program for outcomes and impacts. It should be made a point to record pre tasks before the program begins, and post tasks after the program ends. Unfortunately, participant one did not receive a post strength score, participant two did not receive a post balance score, participant three did not receive a pre balance score, and participant four did not receive a post balance, gait speed, and a strength score. A complete assessment and
corresponding data would allow for an assessment of the physical exercise component of the program.

Lastly, participant motor skills were evaluated in the observation report, but the caregivers did not record and report on this in the caregiver evaluation. This could have been beneficial to compare the student observation reports to the caregivers’ observations of their care recipient.

Conclusion

The Finding Your P.L.A.C.E. program provided a successful innovative intergenerational socialization where PWD interacted and connected with a number of middle school age Montessori students. The intergenerational socialization provided meaningful engagement for participants and provided several benefits for PWD, children, and caregivers. These benefits include, but are not limited to, socialization for PWD, the change in thoughts and attitudes towards PWD for the students, and the opportunity for respite for caregivers. The findings of this study provide a foundation for continued development and refinement of the program. In addition, Finding Your P.L.A.C.E. could be implemented in other ways such as in assisted living facilities, skilled nursing facilities and memory care centers with a variety of participants. The Finding Your P.L.A.C.E. program provides a model for interventions and programs that can benefit from multiple generations interacting and provide an opportunity to dispel myths and develop empathy for PWD at younger ages. In addition, Finding Your P.L.A.C.E. provides a critical opportunity for respite for caregivers providing increasingly difficult care to the millions of individuals with dementia in the United States. As the population continues to age and develop age-related dementia, even a constant prevalence of cognitive impairment will mean a growth in the number of individuals with dementia and makes programs such as Finding Your P.L.A.C.E. a critical community resource for the growing number of caregivers navigating the complex demands of caregiving.
INTERGENERATIONAL PROGRAM AND COGNITIVE IMPAIRMENT

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*Journal of Applied Gerontology, 32*(2), 139-163.
APPENDIX A: PARTICIPANT OBSERVATION REPORT

Student Name: ____________________________________________________________

School: __________________________________________________________________

Date of Observation: ______________________________________________________

Senior Participant (FIRST NAME ONLY): ______________________________________

Directions: Based on your observations, under each category check all items that describe the older adult during the activities

Emotional Responses: During the activities did the participant seem:
- □ Happy
- □ Sad
- □ Angry
- □ Aggressive
- □ Frustrated
- □ Confused

Behavioral Responses: During the activities did the participant:
- □ Begin activity without help
- □ Need help getting started
- □ Seem distracted/have difficulty staying on task
- □ Seem engaged with activity
- □ Correctly complete activity without help

Listening Comprehension: During the activities did the participant:
- □ Understand directions
- □ Correctly follow directions
- □ Need directions repeated
- □ Seem confused about what they are supposed to do

Oral/Verbal Communication: During the activities did the participant:
- □ Have problems expressing thoughts or ideas
- □ Have problems speaking clearly
- □ Have problems forming correct sentence structure
- □ Correctly expressed thoughts and ideas
- □ Correctly communicate questions

***Please continue onto the back side of page →
**Motor skills:** During the activities did the participant:
- [ ] Correctly copy design
- [ ] Correctly trace or draw within lines
- [ ] Correctly use activity utensils and supplies
- [ ] Have trouble holding/using writing or cutting utensils
- [ ] Have trouble writing or forming letters or numbers
- [ ] Have trouble drawing recognizable objects

**Value:** Rate how the participant seemed to feel about the program as a whole

- [ ] Interesting
- [ ] Fun
- [ ] OK

Overall, did the participant seem to find the activities:
- [ ] Boring
- [ ] Confusing

How would you rate the participants overall satisfaction of the program?
- [ ] Very dissatisfied
- [ ] Somewhat satisfied
- [ ] Neither satisfied nor dissatisfied
- [ ] Very satisfied

**Describe your thoughts about the experience / interaction.**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What are your thoughts on aging and dementia?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
APPENDIX B: STUDENT EVALUATION

Student Name: ____________________________________________________________
Date: __________________________________________________________________

Based on your observations of your senior participant throughout the program, please check all items or answer all questions.

How would you describe dementia?
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

What were you feeling when you first heard about meeting older adults with dementia?

☐ Nervous  ☐ Happy
☐ Scared  ☐ Excited
☐ Other: ______________________________________________________________

Why were you feeling this way? ___________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Did your feelings change after meeting your senior participant?

☐ Yes  ☐ No

If yes, how did you feel after you met your senior participant? ________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

What was your favorite part about working with your senior participant?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What was your least favorite part about working with your senior participant?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Would you want to participate in this project again? Why or why not?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
APPENDIX C: CAREGIVER EVALUATION

Caregiver Name: ____________________________________________________________

Date: ___________________________________________________________________

Senior Participant: __________________________________________________________

Based on your observations of your senior participant throughout the program, please check all items or answer all questions accordingly.

**Emotional Response:** Throughout the duration of the program, the participant seemed:

- [ ] Happy
- [ ] Sad
- [ ] Angry
- [ ] Aggressive
- [ ] Frustrated
- [ ] Confused

Additional comments on emotional response: ________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

**Behavioral Response:** Throughout the duration of the program, the participant engaged in:

- [ ] Positive Behavior
- [ ] Negative Behavior

Please Explain: ________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

**Oral / Verbal Communication:** Throughout the duration of the program, the participant:

- [ ] Had problems expressing thoughts or ideas
- [ ] Correctly expressed thoughts and ideas
- [ ] Had problems speaking clearly
- [ ] Correctly communicate questions
- [ ] Had problems forming correct sentence structure
Please explain if needed: ____________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

Did you feel as if the program gave you a good opportunity for respite?
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

Is there anything you would change about the program?
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

Would you recommend this program to other individuals who are caring for a loved one with cognitive impairment?
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________