

6-1-2016

Delaying Dementia Through Mental Stimulation: A Service Learning Project

Emily Parker
Western Oregon University

Follow this and additional works at: http://digitalcommons.wou.edu/honors_theses



Part of the [Neuroscience and Neurobiology Commons](#)

Recommended Citation

Parker, Emily, "Delaying Dementia Through Mental Stimulation: A Service Learning Project" (2016). *Honors Senior Theses/Projects*. Paper 104.

This is brought to you for free and open access by the Student Scholarship at Digital Commons@WOU. It has been accepted for inclusion in Honors Senior Theses/Projects by an authorized administrator of Digital Commons@WOU. For more information, please contact digitalcommons@wou.edu.

**Delaying Dementia Through Mental Stimulation:
A Service Learning Project**

By
Emily Parker

An Honors Thesis Submitted in Partial Fulfillment
of the Requirements for Graduation from the
Western Oregon University Honors Program

Dr. Emily Vala-Haynes,
Thesis Advisor

Dr. Gavin Keulks,
Honors Program Director

Western Oregon University
June 2016

Acknowledgements

I would like to express my gratitude to my advisor Dr. Vala-Haynes for her guidance and critical eye through this process. Her suggestions greatly improved the quality of this paper. I would also like to thank the Junction City Assisted Living and Retirement Community for opening their doors to me during the course of the project, as well as the wonderful seniors of “The Old Bat Cave” crafting group for their extremely honest opinions on my craft projects.

Table of Contents

| | |
|--|-------|
| Abstract | Pg 3 |
| What is dementia? | Pg 4 |
| What makes dementia so detrimental? | Pg 7 |
| Why is dementia a public health concern? | Pg 10 |
| Literature Review | Pg 11 |
| Service Learning Project | Pg 14 |
| List of crafts and activities | |
| Jewelry making | Pg 15 |
| Tie Pillow | Pg 16 |
| Holiday Cards | Pg 17 |
| Bead Wreath Ornament | Pg 18 |
| Bookmarks | Pg 19 |
| Crosswords | Pg 20 |
| Valentine's Day Cards | Pg 20 |
| Jigsaw Puzzles | Pg 21 |
| Board Games | Pg 22 |
| Watercolor Painting | Pg 23 |
| Coloring Pages | Pg 24 |
| Bird Feeders | Pg 24 |
| Reflection | Pg 25 |
| Works Cited | Pg 30 |

Abstract

The goal of this project was a simple one: to create a mental stimulation focused activity program with the goal to delay the onset of dementia in the elderly. The incidence rate of new dementia cases in our country is increasing due to the large amount of people nearing the age of retirement. This means that more people are at risk of the disease than ever before. Dementia is becoming a major public health concern due to the intense effect it has on society, the patients, their family, and their friends. The mental health of our seniors is becoming just as important as their physical health. Dementia affects the brain in ways that are not yet fully understood. We do know that mental stimulation plays an important role in slowing the development of cognitive impairment diseases such as dementia, and can have as big of an affect as physical activity, a healthy diet, and genetics.¹ Care facilities do their best to address all aspects of health for their residents. Some even go as far as to have specialists on hand to attend to specific needs such as a nutritionist, care physician, or an activities coordinator. Unfortunately not as much attention is given to the cognitive health aspect of health yet. Quality senior care has always been important, but as the average age of our population continues to increase, the need for a dementia prevention program increases as well.

This project includes information and statistics on dementia, the effects it has on those afflicted, and on society as a whole. This information was used to create a dementia prevention program in a senior care facility with a collection of mental stimulation based activities such as jewelry making, painting, board games, and card making. By getting seniors involved in craft-based activities, their brain has to work differently in order to

complete the task at hand. This type of stimulation is important to maintain mental health by having a positive effect on brain functioning.

What is dementia?

Dementia is a cognitive, neurological disease of the brain that is commonly developed among the elderly population. Most people know that the brain is in charge of the daily functions of the body, but the specifics of how it does so is not as common of knowledge. The brain controls movements and bodily functions by sending signals throughout the body to receiving muscles via nerve pathways scattered throughout the body. Millions of these pathways exist and are coated in a substance called the myelin sheath. This material allows the signal sent from the brain to jump along the nerve axon much faster than a pathway without it. This ensures that the signal is delivered to the target destination very quickly. The whole process from start to finish only takes a couple of nanoseconds. And the brain is capable of sending thousands of signals a second to all parts of the body.² A great example of this when a person accidentally touches something hot. Pain receptors in the hand send a signal to the brain with the sensation of hot. The brain then sends a return message to the muscles of the hand, fingers, and arm to move away from the hot substance and fast as possible. This reflex happens automatically and in most cases the hand is removed before the person even has a chance to consciously think of the concept of hot.² The brain is a wonderful organ and can move our body faster than we can think about moving it. Unfortunately, because of the complexity of this organ, when things go wrong within it, there can be complex consequences.

At about 50 years of age, the myelin sheath starts to wear down, and in extreme cases, can disappear from areas completely. This greatly increases the time it takes for a signal to travel down the nerve axon to its destination. In the areas where the myelin sheath disappears completely, the brain signal can be lost and never reach the intended destination. This wear down is the cause for slower reflexes and the deterioration of balance, coordination, and fine motor skills a person experiences as they grow older.² To an extent, every person is going to experience some wear and tear on their body as they grow older. Some people may not be as quick on the uptake as they used to be, or it may take longer to recall things than it did in the past. This is a normal process of aging. The body is not as fine-tuned of a machine as it once was, and just like a machine, parts start to wear out and sometimes stop working. Snowden states that while time causes wear and tear on the body, “the mind ages by a unique calendar.”³ Not everyone ages at the same rate or in the same way and sometimes a person experiences a greater loss than just normal aging. The real issue is when the myelin sheath of the cognitive pathways starts to wear down. Over time, more and more chunks of their memory seem to be missing, simple tasks can no longer be performed, and once familiar faces are now just another face in the sea of strangers. These are symptoms of dementia, a form of Alzheimer's.⁴ Most people are familiar with, or have at least heard of Alzheimer's. The mind of the person afflicted with the disease no longer works properly and noticeable cognitive gaps and issues start to occur. Not every patient diagnosed with dementia has Alzheimer's, even though the latter is a variety of the former.⁴

There are many different types of dementia, but they all affect the body in a similar way. The disease is classified as a chronic neurodegenerative disease characterized by progressive deterioration of cognitive function, meaning it gradually spreads throughout the brain and the symptoms get worse over time. It is common for people with dementia to have difficulty solving problems and controlling their emotions, as well as experiencing personality changes, agitation, delusions, and hallucinations. Patients can also experience problems with attention, judgment, spatial skills, understanding information, language skills, and the ability to perform everyday tasks.⁵ To make matters worse, it can take years before enough symptoms appear to get a clear diagnosis. On average, accelerated decline in memory begins seven years before the patient exhibits strong enough symptoms for anyone to notice that something is amiss.⁵ Almkvist and Baeckman described dementia as an initial slow decline in episodic memory, followed by a more rapid decline in psychomotor speed, semantic memory, and visuospatial function.⁶ The symptoms begins with minor episodes of patchy memory loss and subtle behavior changes. It then gradually progresses over the course of a decade or more until the individual has trouble speaking, understanding what is happening around them, and can no longer properly care for themselves.⁴ Dementia has three phases: a prolonged clinical phase, a mild symptomatic period, and a moderate to severe period. In the preclinical phase, subtle symptoms and warning signs are noticeable, but an official diagnosis cannot yet be obtained. In the symptomatic period, the disease is able to be diagnosed due to the increased severity and frequency of the symptoms including memory loss, impaired judgement, and a decreasing ability to carry out normal, everyday activities. In the final and most severe stage, patients require 24 hour supervision and care

and suffer increasing trouble with basic human functions such as speech, feeding, hydration, the ability to maintain continence, and locomotion.⁴

What makes dementia so detrimental?

One might recall as a young child, the world was an open oyster. There were many new things to discover and learn about. Young children take full advantage of this and absorb knowledge like a sponge, as anyone who has accidentally said a bad word in front of a child only to have them repeat it non-stop understands. This daily intake of new information and challenges is what helps a child's brain develop and grow through constant stimulation. The messenger neural pathways for controlling muscles and other bodily functions do not all exist at birth the same way that they do in an adult. They must develop as the child grows.² At first a baby does have not much control over their limbs. Time passes before they discover they can manipulate them in many ways. As the child gains better control of his legs, more and more neural pathways develop to control the finer movements. Once he has the basic mechanics down, the growing toddler is able to refine his movements, reinforcing the neural pathways that control those movements to grow even stronger. Once crawling has been mastered, the child moves on to walking, and then running. Each time repeating the process of forming new pathways, and then strengthening them over time through repetition.²

The human body has a hidden "use it or lose it" property.³ Just because the skill has developed does not mean we get to keep it forever. Skills take time to develop, and if they are not practiced, we lose them. This is especially true with cognitive skills. Many adults with children have probably experienced the aftermath of this property when trying to help their son or daughter with their math homework. Chances are if the skill had not

been practiced in a while, doing math will be difficult. The skills needed to successfully do algebra exist in the brain, but the cognitive pathways needed to get there may have a few cobwebs on them. The subject is rusty due to the lack of use, but with repetition, can become strong again. Too much time without using the skill increases the risk of losing it entirely and being forced to relearn it.³

The brains of developing young children and the brains of the elderly while many decades apart, are surprisingly similar. When it comes to strengthening them, the basic concepts remain the same. The brain is a muscle, and just like any other muscle in the body, it needs to be flexed in order to stay in shape.² One reason for a sharp decline in brain function in the elderly is the loss of daily brain flexing a person experiences when they retire. Their job provided a steady stream of daily mental stimulation and the loss of that can have a grand effect.⁴ If there is not some sort of hobby or other activity to fill that void, the vital mental pathways cannot stay as sharp. Loss of major stimulation is a problem in nursing homes and care facilities. Usually a strict routine exists, and this is good for people. Meals are always served at the same time, visiting hours stay the same, and each day rarely differs from the next. Where some people struggle is the lack of freedom and not having the ability to do whatever they please. Now in most cases, if an elderly person is residing in some type of care home, then there is a reason they are there. They may be unfit to live on their own due to health issues, or their family has a better peace of mind knowing someone is there to help grandma if she slips and hurts herself.⁴ While these are all good reasons for placing granddad in a care facility, sudden loss of freedom still hurts. According to the study done by Antza, et al. the elderly interviewees saw activities as a way of “keeping up to date” and occupying their time in a meaningful

way allowed them to retain a sense of self.⁷ This common theme of lack of stimulation is what makes cognitive diseases like dementia such a dangerous threat to the mental health of senior care home residents.

Old age is the greatest risk factor for developing dementia. Approximately 1 in 70 people between the ages of 65-69 and nearly 1 in 4 people between the ages of 85-89 have dementia.⁸ That's twenty five percent of the population over 85 who have been officially diagnosed with the disease. Just like we have no control over growing older, we also do not have control over our genetics, another major factor that plays a role in the risk of developing dementia.⁸ Some people are just more genetically predisposed to the disease than others, meaning their genes are set up in such a way that it makes a certain disease easier to develop than normal. Thankfully, the last major contributing risk factor is something we do have a little bit of control over: the strength of our cognitive reserve.⁸

Cognitive reserve refers to the mind's resistance to damage of the brain. One can build up their own defenses by keeping their brain active with new challenges.⁸ Participation in higher education may lower the risk of developing dementia by improving cognitive reserve. One study by Verghese, et al. followed the same group of seniors over 21 years. Those who developed dementia over the course of the study were older, had lower levels of education, and lower scores of cognitive activity.⁵ The seniors with higher education levels seemed to be more resistant to the disease because their cognitive reserves were much stronger than some of their counterparts with lower levels of education. Building up the reserve isn't the end of the struggle though. Once built up, it must be maintained. Any type of cognitive activity counts in this sense. Looking back

at the seniors in the Verghese, et al. study, it was found that those who had an increased level of participation in cognitive activities had slower rates of cognitive decline, especially in terms of episodic memory. The reduction of risk was related to the frequency of participation. Doing crosswords four days a week resulted in a 47% lower risk than someone who only did puzzles one day a week.⁵ Another study done by Mausur, et al. also looked at outside contributing factors. They found that having less than a 12th grade education was strongly associated with risk of cognitive impairment down the road. Having a lower level of income, classified by this study as less than \$10,000 a year, was also strongly associated with risk of cognitive impairment. Mausur, et al. theorized that higher education may be a surrogate for extra brain reserve and that those with little or no formal education are at a high risk for developing dementia.⁹

Why is dementia a public health concern?

Not surprisingly, the incidence of dementia cases increases when there is a larger amount of older people in a community. That means that rapidly increasing populations can anticipate an increased amount of dementia cases when those people age into senior citizen status. Currently, the United States of America is in danger of seeing a sudden surge of cases due to the baby boomer generation reaching retirement age.⁴ A lack of effective treatment magnifies the severity of the looming problem. Given the impact of the disease on quality of life, it is not surprising that people who suffer from dementia make more use of health services and experience more accidents and falls. An average estimate of the medical costs is \$38,000 per patient, per year.⁴ That is a total of \$65 billion nationally. The costs are only going to keep increasing and that doesn't take into account the resources other than money put into care of these individuals. The majority

of care dementia patients receive is from family caregivers who are spending an average of 16.1 hours a week providing care. Those with severe limitations can take up to 35.2 hours a week.⁴ Unfortunately not all families are able to take on this type of time commitment and are forced to put their loved one into a care facility. From there, the burden the family has to bear shifts from time, to money. Care homes that specialize in dementia care come with a 2.25 times higher cost than a normal nursing home.⁴

While scientists and medical researchers are still not sure of the cause of the disease, they are getting closer to understanding the contributing factors. As mentioned above, the breakdown of the myelin sheath on the communication pathways in the brain is responsible for the symptoms one afflicted exhibits.² What is yet to be understood is what causes the rapid breakdown in one person, but not in another. For this same reason, a cure has yet to be found. Not all is lost though. Recent research has been able to shed some light on things that we can do to help slow down, and maybe even help protect against the onset of developing the disease in the first place. The new breakthrough: daily mental stimulation.

Literature Review

There are many different research studies focusing on slowing and trying to cure cognitive neurodegenerative diseases of the brain, but very little is focused on prevention of the diseases all together. Prevention of dementia has emerged as a major public health priority. To lower the cost that the disease has on society, focus needs to be put into creating a successful prevention program to delay the onset of cognitive decline in healthy individuals. It has been proven that consistent mental simulation has a higher effect on cognitive healthy individuals than those that are impaired, but both groups show

improvement.¹⁰ Many people already participate in leisure activities, activities that are done during one's leisure time for fun and personal enjoyment, without being prompted. They can range from a wide variety of activities, but for the purpose of this paper, the term refers to cognitive stimulating activities. Even if a person is not at high risk for developing dementia, or already has the disease, they can still receive the benefits of mental stimulation and help slow down the progression of the disease. Multiple studies have the data to back this up.

The first example is a 2002 study conducted by Wang, et al. The study participants were 1,375 subjects who resided in the Kungsholmen district of Stockholm, Sweden with an average age of 81.1 and who were determined to be dementia free at baseline evaluation. Information on frequency of participation in leisure and social activities was obtained from the participants through personal interviews conducted by trained nurses. Over the course of the study, two follow ups were conducted: the first during the period of 1991-1993 and the second over the period of 1994-1996. Of those 1,375 participants identified at baseline, 269 died, and 172 left the study. Of the 934 who made it to the first follow up, 158 were diagnosed with having dementia. Of the remaining 776 dementia free participants, 172 died, and 44 left the study. 560 participants made it to the second follow up, and 123 of those were diagnosed as having dementia. On average, those who developed dementia over the course of the study were older, and had lower levels of leisure activity participation than those who did not develop dementia.¹¹

A second example comes from a study by Verghese, et al. The participants were 469 seniors who did not have dementia at baseline and were between the ages of 75 and 85 years of age. Frequency of participation in leisure activities was measured by the number of activity days per week. Some of the most common activities included reading, playing board games, dancing, and playing musical instruments. The participants were followed for a total of 21 years over the course of the study with follow up visits every 12 to 18 months. Over a median follow up period of 5.1 years, 124 participants developed dementia. On average, subjects who developed dementia were older, had lower levels of education, and had fewer reported activity days. In fact, a one point increment in the number of activity days was significantly associated with a reduced risk of dementia.⁵

The third example also took place in Sweden and was done by Hossein Mousavi-Nasab, et al. 794 participants between the ages of 65-85 were randomly selected from the population of Umeå, Sweden. Those selected were screened for any preexisting dementia condition and were followed for a period of 10 years with 3 follow ups over the course of the study. Frequency of leisure activities was measured with a questionnaire with responses of 'never', 'once in a while,' 'a couple of times a month', 'once a week', and 'daily'. Participants were also subjected to episodic memory tests of recall and recognition at baseline and at each follow up. At the end of the study it was found that performance on the episodic memory tests at the first follow up significantly predicted change in cognitive activity at the second follow up. The trend continued with scores in the second follow up predicting change at the third follow up. Findings from this study suggest that social activity can be seen as a protective factor against memory decline. It

also seems that episodic memory performance is a predictor of cognitive activity in old people.¹²

The final example was a study conducted by Wilson, et al. Participants were 801 seniors 65 years or older, without a clinical diagnosis of dementia. Their level of cognitive activity was determined by a survey of how much time was spent in 7 predetermined activities that were previously established as a composite measure of cognitive activity. The answers were then put into a 5 point scale: 5 points, every day or every other day; 4 points, several times a week; 3 points, several times a month; 2 points, several times a year; and 1 point, once a year or less. Over a mean of 4.5 follow up years, a total of 111 participants were diagnosed with dementia. On average, a person who reported frequent cognitive activity at baseline was 47% less likely to develop dementia than a person with who reported infrequent activity and a 1 point increase in cognitive activity score was associated with a 33% reduction in risk of Alzheimer's disease. It was also determined that that the frequency of cognitive activity was associated with the rate of cognitive decline, suggesting that the association of cognitive activity with Alzheimer's disease is not exclusively due to the association of cognitive activity with premorbid level of cognitive ability, a known risk factor for the disease.¹³

Service Learning Project

The main goal of the service learning project was to take this recent information on mental stimulation and use it to create a series of mental stimulation based craft and activity classes that could be implemented in any nursing home across the country to the benefit of the elderly living there. The hands on work was conducted with the help of the Junction City Assisted Living and Retirement Community in Junction City, Oregon and

with “The Old Bat Cave” crafting group located in Albany, Oregon. A total of 48 hours was spent during the months of November 2015 through April 2016 volunteering in the center and with the crafting group testing out each of the planned courses. The following section contains a breakdown of each of the tested activities, complete with a supplies list, directions, and feedback.

List of Crafts and Activities

Jewelry making

This activity requires a higher level of dexterity and eyesight than one would normally expect to find in a nursing home or care facility, but with a few minor adjustments, a surprising amount of people are able to participate.

Supplies needed: Assorted colored pony beads, stretchy/elastic string, child safety needles (optional to help with stringing)

Directions: The two most important components to this craft are the type of beads and the type of string. The large hole found in pony beads makes them ideal for easy stringing without too much eye strain and they come in a wide variety of colors. If more help is still needed, children’s safety needles can lend an extra hand as well. Elastic string is also important. Arthritis can make fiddling with little clasps difficult if not downright impossible. The most successful bracelets should be stretchy enough to slip over a wrist. While seniors should be able to handle the majority of the process themselves, it is possible they may need help with the final tying off of the finished piece.

Feedback: The very first session was full of trial and error. The holes on the beads were too small, the participants had trouble with stringing their desired patterns, and the string was not stretchy enough to fit the intended purpose. The above problems were solved the

second time around with large pony beads, children safety needles, and better quality of string. The design of the bracelet or necklace was the aspect that they enjoyed the most and stringing was just a secondary factor. Those with poor eyesight were more hesitant to participate due to their belief of not being able to succeed at the craft. After a little bit of coaxing from the others, these individuals were still able to join the activity with the assistance of someone else stringing their pattern. Overall, it was a very well received activity and many of the senior ended up making multiple pieces of jewelry for themselves and for their family members.

Tie Pillow

This craft takes a little bit of prep time but is a quick and fairly simple way to make a customized pillow. The end product is easily washable, and allows anyone to feel like a master crafter.

Supplies needed: Different patterns of fleece fabric, scissors, rulers, polyester fiberfill (for stuffing the pillows)

Directions: Note: It may be better to precut the fabric and have it ready ahead of time depending on the mental and dexterity levels of the seniors participating. Each fleece fabric sheet needs to be cut into a 20 inch square. Lay two sheets of different colored fabric on top of each other. From this point on the two sheets should never separate. Next, measure 2 inches in from the side and draw a line. Repeat the process for the remaining three sides. The overlapping lines should create a small square in each of the four corners. Cut these squares out and discard. Next, place a ruler on the edge of the fabric and make a mark from the edge of the fabric to the 2 inch line every $\frac{1}{2}$ inch along the width of the fabric. Repeat this progress for the remaining three sides. The next step is

to cut along the ½ inch lines, making sure to cut through both layers of fabric. This should result in little tabs of fabric on all four sides of the fabric. The next step is to take one set of tabs, one tab of each color, and tie them together. The knot is very simple. Just lay one side over the other and pull through, similar to tying one's shoelaces. Continue on down the line, repeating the process. The best method is to work in a linear fashion. When three of the four sides are finished, stuff the pillow with the polyester fiberfill, taking extra care to make sure the corners are filled. The last step is to tie up the final side and enjoy.

Feedback: This was my favorite craft. The end product was really nice and it had many layers of difficulty built into it. Some seniors preferred to just tie their pillows while others were willing to tackle the more difficult task of measuring and cutting. My suggestion is to present the option to everyone and let them pick what parts they think they can handle and what parts they can't.

Holiday Cards

During the holidays it is a very common thing to send cards full of good wishes and holiday greetings to friends and family. Store bought cards are nice but nothing sums up the magical feelings of the holidays like a homemade card from your loved one. The only limit is one's own imagination.

Supplies needed: Blank paper, scissors, glue sticks, pens/markers, old magazines, cardstock, construction paper

Directions: Making cards is a great activity that really allows creativity to flow. The holidays provide a great theme, and with so many magazines sent out this time of year, it

provides a lot of great material to cut up and add to the cards. The best part is drawing or any other artistic skill is not required to fully enjoy this activity.

Feedback: The seniors really had a good time making cards to give to their families.

They started out pretty conservative at first, but one person branched out of the box, the others were quick to follow suit. I was also told that family members really enjoyed receiving the cards.

Bead Wreath Ornament

This holiday craft creates a simple, but beautiful handmade ornament that will look great on any tree. The wreath is sturdy and will last for many more Christmases to come.

Supplies needed: Green/red ribbon, green and red tri beads, child safety needles (optional to help with stringing, but highly suggested)

Directions: Cut the ribbon into 15 inch strips. Divide the red and green beads into multiple, smaller containers and place them throughout the table so the participants don't have to fight over one bowl. String the beads in alternating colors, making sure to leave room on both sides of the ribbon for tying off. If stringing is difficult, thread one side of the ribbon through a children's safety needle and use that to string. Once satisfied with the amount of beads, bring the two ends together and tie in a bow. Finally, hang on a tree and enjoy.

Feedback: This activity was first done with regular pony beads due to their easy stringing capabilities, but the final bead wreath did not hold the round shape I was looking for. Using wire instead of ribbon helped with the shape but did not have as nice of hanging appeal as the ribbon did. The best solution was to use tri beads with the ribbon. The shape of the beads and their nature to fit snugly together worked well in our

favor and artificially created the round shape that we needed. The seniors really had fun with this one. Many gave them away as gifts to their families and the extras looked really nice hanging on the nursing home's Christmas tree.

Bookmarks

Many seniors enjoy reading as a quiet activity and a personalized bookmark adds to the fun. This activity is relatively simple, makes a great gift, and the finished product can be used over and over again.

Supplies needed: Blank paper, scissors, glue sticks, pens/markers, old magazines, ribbon, a hole punch, cardstock, construction paper

Directions: Start with a piece of paper about 6 inches tall by 1 inch wide. The measurements don't have to be exact, so this is a good task for the seniors to tackle. Card stock is suggested for the base because it is thicker and more durable than construction paper and the resulting product will last longer. Allow participants to decorate how they wish with the provided materials. If desired, a hole can be punched in the top of the finished bookmark and a ribbon strung through to add that extra touch.

Feedback: This activity was not very popular. I believe I overestimated the percentage of seniors who still enjoyed to read or whose health allowed them to enjoy that activity. Several people thought the idea was interesting but they already had a bookmark or was did want to make one of their own. A few people did make some as gifts for their family though.

Crossword Puzzles

This activity is one of the most recommended activities in terms of the cognitive benefits and levels of enjoyment that participants get out of it. This can be a solo or a group activity and various levels of difficulty exist to challenge all skill levels. When using puzzles from the newspaper or online, Monday puzzles are the easiest and get progressively harder as the week goes by. It is also possible to buy crossword puzzle books in large print from bookstores.

Supplies needed: Pens/pencils, erasers, crossword puzzles

Directions: When working in groups, small groups work better than large ones. Start with the easiest puzzle available, and move up in difficulty if necessary. Starting with too difficult of a puzzle could lead to frustration in participants in not being able to complete a puzzle.

Feedback: This was a very popular activity. Almost everyone loved crosswords and was able to contribute to the puzzle in one way or another. Not much guidance was needed and attendance was strong at the following sessions.

Valentine's Day Cards

Everyone enjoys receiving Valentine's Day cards and it can be just as fun making them too. This craft allows the participants to dabble in all sorts of different mediums while making items to give to their loved ones.

Supplies needed: Blank paper, scissors, glue sticks, pens/markers, old magazines, cardstock, construction paper

Directions: The mechanics of making cards are relatively simple which is great because it allows the maker a lot of freedom in what they can put on/in the card. Old magazines

are included on the supply list because they are great for cutting out pictures for those who have no desire to draw. It is suggested to have a few example cards but creativity should really be encouraged. Having a target in mind of who to give the card to also helps when residents become stuck.

Feedback: Similar to the Holiday card making sessions that were done back in December, the Valentine's Day card sessions were hit or miss. Higher attendance was seen closer to the holiday, but once again the seniors had a pretty good time flexing their creative muscles. The majority gave their cards to their grandchildren.

Jigsaw Puzzles

This activity stimulates the brain in a way unlike any other. Jigsaws can provide hours of entertainment and have a real community atmosphere about them. Not much prep time is needed and clean-up is easy. Not to mention the value of being able to reuse a popular puzzle multiple times.

Supplies needed: Jigsaw puzzles (recommended between 100 and 500 pieces), a large flat surface that multiple people can gather around

Directions: When picking a puzzle, the size and subject matter need to be taken into careful consideration. Too large or too complex of an image will take too long to complete and could lead to frustration. Scenery or nature images are typically too difficult due to so much of the puzzle's surface area being the same color. Soft background music can add a pleasant tone to the atmosphere.

Feedback: This was one of the few activities that seemed to appeal to the male population as well as the female population. The concept of a puzzle is simple enough that anyone can have a go at it. This was less popular than most of my other activities

probably due to the fact that it wasn't as exciting or new in comparison to some of my other options.

Board Games

Board games are a popular group activity for many reasons. They bring people together and give everyone a chance to participate. They can also be a lot of fun and a good way to pass the time on a rainy afternoon. Board games also have a great replay value and are especially appealing to those with a competitive nature.

Supplies needed: Games should be relatively simple and easy to learn. Suggested games include Checkers, Sorry, Dominoes, Uno and Chinese checkers.

Directions: The best games for this type of setting are games that are not too complex and have a simple set of rules. You want a person to be able to pick up the game quickly if they have never played before. Diced based games such as Sorry are good because the moving mechanic is simple counting. Games such as Uno and Dominoes also work well because their goal is to match numbers. When picking a game to play the amount of participants is important to take into consideration. Some games have caps on the number of players, such as Sorry with 4 players or Checkers with 2, while others can add more people simply by adding to the material needed to play such as in Dominoes.

Feedback: The popularity of this activity varied on the type of game that was being played. Dominoes was a popular option while Uno was not so much. Some residents had trouble holding all the cards if they had a particular large hand. They also preferred games where a large amount of people could play at once. When a decent group was gathered around a table the room was filled with a pleasant atmosphere of laughter and enjoyment. Overall it was successful.

Watercolor Painting

This activity is higher on the artistic scale, but with a little creativity, almost anyone can enjoy it. Water color painting is a common activity in elementary schools for one simple reason: it is relatively mess free. For the same reason it works well in nursing homes as well. The paint comes out easily when washed in the case of a spill and dries quickly when applied to paper.

Supplies needed: Paint brushes, water cups (washed out old yogurt cups are great for this purpose), watercolor paper, watercolor paint pallet

Directions: This activity can go two different ways: The person directing the activity can lead the group in a step-by-step process of how to paint a particular image, or, and this is the method that I used, the group can be given free rein to paint whatever image they desire. For those who need a little more guidance, a theme can be chosen to paint in order to narrow down the options.

Feedback: Having no painting talent myself, this was the craft I was most nervous about, but thankfully it went well. The theme I used was spring time and flowers. A flower is a relatively easy image to create and there are so many different kinds of flowers it leaves the painter with lots of options. Many of the seniors loved to garden and had a good time attempting to paint their favorite flowers. Water colors by nature bleed, which actually worked to the advantage of those whose hands were a little shaky because you couldn't see the dexterity issues in the finished project and the seniors were less frustrated than they would have been working with a different medium.

Coloring Pages

Lately there has been a sudden increase in popularity in this old school favorite. “Adult” and “Stress Relieving” coloring books have been popping up in almost any store. All types of books with different themes can be found in any craft store, or even at the grocery store. It is also possible to print pages off from online. This activity had a wide appeal due to the low level of skill required and anyone can create something beautiful and feel like an artist.

Supplies needed: Large, simple drawings without too many tiny details are suggested. Pens, markers, colored pencils, crayons are also a necessity.

Directions: At the start, each participant should choose their own coloring sheet and coloring tools. Not much guidance is needed for this activity. Soft background music can add to the creative atmosphere.

Feedback: This activity was better received than I expected. The most popular coloring sheets were mandala type patterns. The simple, repetitive patterns allowed a greater deal of freedom in comparison to a picture of say a flamingo that “has” to be colored pink. One lady said it reminded her of designing quilts. This activity has the potential to become boring very quickly though so I would not recommend doing many of these sessions in a row.

Bird Feeders

This simple string craft is easy enough that anyone can complete it. The cost of the starting materials is really cheap and a large quantity of items can be made from one initial purchase. An added bonus lies in the entertainment factor of watching the birds enjoy the homemade feeders.

Supplies needed: String (any type will do), and a box of Cheerios

Directions: Cut 12 inches of string for each participating senior. Next, string Cheerios along the length of the string, leaving 1 inch of uncovered string on each end. Tie the two ends together in a knot, forming a circle of stringed Cheerios. Hang these feeders outside on a branch or near a window and many hours of birdwatching ensues.

Feedback: This craft was the simplest, but surprisingly, the most well received. The seniors loved this. Faces just lit up as I was explaining the topic and the excitement was felt throughout the room. Stringing the Cheerios was not difficult due to the large size of the holes in the cereal. Everyone had a good time and could not wait to hand their creations outside for the birds. As the word spread, I had more people attending the following sessions.

Reflection

This project was an eye opening experience. Service learning projects can be tricky because they do not always go exactly as planned. Whenever you are dealing with people, nothing is set in stone, and one must be ready to adopt their strategies to deal with the evolving situation at a moment's notice. I ran into a few unexpected hiccups along the way during the course of my project, mostly in the logistics of my ideas and the way that things were initially structured.

Some common issues with most of the crafts were poor eyesight, dexterity challenges, and short attention spans. The length of the craft sessions is critical. If the session was too long, the seniors lost interest and if the session was too short, we were not able to complete the craft. I found one hour was just about the right amount of time. Stopping and starting the craft over multiple days/sessions was not a good strategy

because it was not guaranteed to get the exact same group of participants every time. Newbies in the second session were hard to catch up with the rest of the group due to them missing the first session. To really be successful, a craft should be able to start and finish in a single one hour session.

Another tidbit that I picked up was the best and most successful crafts resulted in something that the senior could actually get use out of. Most nursing homes/assisted living facilities have rooms that are small, and there isn't much room for any extra clutter. One strategy to deal with this is to encourage the participants to give their finished items away to friends or family. Several of the women who did not want to participate in my jewelry making sessions due to not wanting to make something for themselves to wear, jumped at the chance to make a necklace or bracelet for their granddaughter to wear. This strategy can work for almost any craft and actually encourages repeat visitors to the sessions.

One slightly troublesome problem that I encountered was difficulty in getting males to participate. I have a few theories as to why this is. It could have been the gender ratio of the facility where I was spending my time. Female residents largely outnumbered the male residents. Also, females are generally more drawn to quiet, thinking activities such as crafts than males are. And finally, I may just have not had the right type of crafts to attract male residents. Whatever the reason was, I had very little interest in my craft sessions from male participants and unfortunately, I did not notice the problem soon enough in order to try and come up with a solution for the problem and test it out before I finished my work in the care facility. Finding a solution to the problem is a difficult task and there may not be a one solution that will work for every facility. Each location will

have different circumstances and levels of interest that will vary on a case by case basis. I wish my program was a perfect fit for everyone, but by the nature of the game, tweaks will need to be made on implementation, even among the female population.

In terms of personal gain for myself, I believe I took a lot away from this project. Before taking on this project, I had not had a lot of experience working with the age group of senior citizens. Quality care for this population is currently in high demand in the work force and it takes a special kind of person to do that work. While I enjoyed my time spent working with the elderly during the course of this project, I do not have any plans to continue to work in this field. I did gain some useful experience and new skills for my future career as a medical assistant though.

Before volunteering in the center, I was not aware of the amount of work and special constraints that went into planning activities. Senior homes that are non-profit typically do not have a lot of extra money to devote to fun activities. The majority of their budget is put towards more important things such as food and housing. It took a bit of creative thinking to come up with activities that were both enjoyable and cost effective. It also opened my eyes to hidden constraints and extra challenges located in the real world that do not necessarily exist in a classroom situation. There were more than a few instances when I had to unexpectedly change my plans to better adapt to what I needed to do. This leads me into my next point of the importance of being flexible and adaptable. Even the most perfectly laid out plan is not guaranteed to work 100% of the time due to the wild card factor of working with people. Humans are unique, constantly changing, organisms. The approach to dealing with them needs to adapt as fluidly as well. Interacting with people is a part of most jobs, especially in the healthcare industry, and

knowing how to handle difficult or uncomfortable situations that arise due to the actions of someone other than yourself is critical. To give a brief example, there was one lady I saw on a fairly regular basis that would sometimes create conflict within the group or dampen the mood of others because of her attitude. While I understood the lady was going through a difficult transition with getting used to living in the care home, dealing with her became a challenge because her behavior was affecting more than just herself. The first couple of craft sessions with her in attendance left me frustrated because I did not know how to address the situation without bringing the whole room's attention to her. After about the fourth session I had a better understanding of what was going on to make her act the way that she was and I was able to minimize most of the things that would normally set her off before they even started. I can see this being very beneficial in my future when I will have to deal with people on a daily basis that may not be in their best state of mind due to an illness or are nervous about their current situation. Being able to make a nervous patient as comfortable as possible, even for just a short amount of time, can do a lot towards improving their experience and make their next trips not as big of a deal emotionally. Finesse is an important skill that takes time to develop and I am thankful that I received this opportunity to gain some real hands on experience with this type of problem solving.

Overall, I believe my program was successful. While the mental well-being of our aging citizens is not a very often brought up subject, the reality is mental care is just as important as physical care in the eldest members of our population. The impact of dementia is hard, but there is hope that the prognosis of the disease will continue to improve as science progresses and new treatments become available. For right now

though, we have to work with the tools that we currently have. I have a new admiration for the people who do this type of work on a daily basis. The work is very emotionally taxing, but they do a good job at what they do. Even though this is not the field that I want to end up working in, I hope to be able to put everything that I learned during my time spent working in it into helping me succeed in my future endeavors.

Works Cited

- [1] Friedman DB, et al. (2015). Public Perceptions about Risk and Protective Factors for Cognitive Health and Impairment: A Review of the Literature. *International Psychogeriatrics*, 27(8); 1263-1275. Retrieved 9/16/15.
- [2] Marieb EN, and Hoehn K. (2013). *Anatomy & Physiology* (5th Edition). Pearson Publishing.
- [3] Cusack SA, Thompson WJA, and Rogers ME. (2003). Mental Fitness for Life: Assessing the Impact of an 8-Week Mental Fitness Program on Healthy Aging. *Educational Gerontology*, 29(5); 393. Retrieved 9/17/15.
- [4] Sloane, PD, et al. (2002). The Public Health Impact of Alzheimer's Disease, 2000-2050: Potential Implication of Treatment Advances. *Annual Review of Public Health*, 23(1); 213-231. Retrieved 5/17/16.
- [5] Verghese J, et al. (2003). Leisure Activities and the Risk of Dementia in the Elderly. *New England Journal of Medicine*, 348(25); 2508-2515. Retrieved 9/17/15.
- [6] Cullum S, et al. (2000). Decline Across Different Domains Of Cognitive Function In Normal Ageing: Results Of A Longitudinal Population-Based Study Using Camcog. *International Journal of Geriatric Psychiatry*, 15(9); 853-862. Retrieved 9/17/15.
- [7] Yates LA, Orrell M, Spector A, and Orgeta V. (2015). Service Users' Involvement in the Development of Individual Cognitive Stimulation Therapy (ICST) For Dementia: A Qualitative Study. *BMC Geriatrics*, 15(4). Retrieved 9/16/15.
- [8] Dementia Collaborative Research Centres. (2014). What is Dementia? Your Brain Matters The Power of Prevention. Retrieved 5/9/16.

- [9] Chodosh J, Reuben DB, Albert MS, and Seeman TE. (2002). Predicting Cognitive Impairment in High-Functioning Community-Dwelling Older Persons: Macarthur Studies of Successful Aging. *Journal of the American Geriatrics Society*, 50(6); 1051-1060. Retrieved 9/17/15.
- [10] Polito L, et al. (2014). Cognitive Stimulation in Cognitively Impaired Individuals and Cognitively Healthy Individuals with a Family History of Dementia: Short-Term Results from the "Allena-Mente" Randomized Controlled Trial. *International Journal of Geriatric Psychiatry*, 30(6); 631-638. Retrieved 9/16/15.
- [11] Wang H, Karp A, Winbald B, and Fratiglioni. (2002). Late-Life Engagement in Social and Leisure Activities Is Associated with a Decreased Risk of Dementia: A Longitudinal Study from the Kungsholmen Project. *American Journal of Epidemiology*, 155(12); 1081-1087. Retrieved 5/19/16.
- [12] Hossein Mousavi-Nasab SM, Kormi-Nouri R, and Nilsson LG. (2014). Examination of the bidirectional influences of leisure activity and memory in old people: A dissociative effect on episodic memory. *British Journal of Psychology*, 105; 382-398. Retrieved 5/9/16.
- [13] Wilson RS, et al. (2002). Participation in Cognitively Stimulating Activities and Risk of Incident Alzheimer Disease. *Journal of American Association*, 287(6); 742-748. Retrieved 5/19/16.