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Reducing Behavioral and Psychological Symptoms of Dementia and Supporting Memory Care: A Multi-Sensory Approach

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Reducing Behavioral and Psychological Symptoms of Dementia and Supporting Memory Care: A Multi-Sensory Approach

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A Doctoral Experiential Capstone Project

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in

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by

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Abstract

Dementia is a progressive disease that encompasses a multitude of changes in the body and mind. Individuals with Alzheimer's disease and related dementias (ADRD) may face changes affecting their ability to engage in familiar roles, routines, activities of daily living, leisure, and community engagement. As individuals with ADRD progress throughout each of the stages of dementia, communication may become increasingly difficult, which can subsequently lead to frustration, agitation, depression and other forms of behavioral and psychological symptoms of dementia (BPSD). The first line of treatment while addressing BPSD within long term care is often antipsychotic medication. However, non-pharmacological options have been identified as viable options to decrease BPSD within the dementia population. The purpose of the doctoral experiential capstone was to develop a program to reduce the prevalence of BPSD using multi-sensory approaches to support residents and staff within memory care units. Additionally, the doctoral experiential capstone aimed to increase awareness and use of non-pharmacological, holistic multi-sensory approaches within memory care.

Keywords: Dementia, Alzheimer's disease and related dementias (ADRD), behavioral and psychological symptoms of dementia (BPSD), multi-sensory approaches

Reducing Behavioral and Psychological Symptoms of Dementia and Supporting Memory Care: A Multi-Sensory Approach

Introduction/Background

As of 2016, there were 47 million individuals within the globe living with dementia. By 2050, it is estimated that approximately 131 million individuals will have the condition (Jakob & Collier, 2017a). As individuals continue to live longer, older adults are therefore at an increased risk for developing chronic conditions such as dementia. The prevalence of dementia for those above the age of sixty five measures at approximately 5-10% in high income countries and continues to double every five years above this age (Hugo & Ganguli, 2014). Individuals with Alzheimer's disease or related dementias (ADRD) are estimated at 13.6% of the total population of Massachusetts and 19% of the total population of East Longmeadow (Tufts Health Plan Foundation, 2018).

Individuals with dementia often lose the ability to communicate their feelings and unmet needs. These may include loneliness, boredom, lack of comfort, decreased social opportunities, lack of meaningful activities or inappropriate levels of stimulation from the environment. Individuals with ADRD are too often left without an effective means to communicate to caregivers or loved ones and they may become frustrated or confused. Therefore, agitation, resistance, lack of interest, and depression may result (Jakob & Collier, 2017a).

Sensory based approaches promote holistic care and can decrease restraint use and overmedication. The restraint and seclusion reduction initiative aims to promote trauma informed care that ensures all staff are aware of an individual's past and potential triggers (Champagne, T., 2018). Systematic review results identified that five randomized control trials, examining under stimulation in dementia residents, using sensory interventions in care homes significantly

decreased both symptomatic and clinically significant agitation (Livingston, Kelly, Lewis-Holmes, Baio, et. al., 2014). Jakob and Collier (2017b) performed a study to investigate 16 care homes with current or previous multi-sensory environments in order to identify barriers, supports, and design recommendations. Semi-structured interviews among 32 care home staff member's revealed positive calming effects and reduction in anxiety through MSE's use (Jakob & Collier, 2017b). However, research has identified a need for multi-sensory environments that are not only age appropriate but appropriate for those with dementia (Jakob & Collier, 2017a).

Demographics

Population

An estimated 1,016,679 individuals above the age of sixty-five reside in Massachusetts and 3,299 of these individuals live in the city of East Longmeadow. Of those in East Longmeadow, 49.4% of older adults are between the ages of 65-74 while 28.8% of older adults are between the ages of 75-84 years. Additionally, 21.8% of older adults in East Longmeadow are at or above the age of eighty-five. Individuals with Alzheimer's disease or related dementias are estimated at 13.6% of the total population of Massachusetts and 19% of the total population of East Longmeadow. Additionally, out of those living with a disability above the age of sixty-five, 9.0% of East Long Meadow reported difficulty with cognition as compared to 8.3% of those within Massachusetts. Out of 1000 residents ages sixty five and older in East Longmeadow, 132 are living in skilled nursing facilities each year (Tufts Health Plan Foundation, 2018). Dementia rates as a percent of the total population of East Longmeadow are worse comparatively to the state which provides increased opportunities to access the target population. With a large pool of older adults in the area living in skilled nursing facilities and high rates of dementia, there are increased opportunities to make a difference in the area.

Community Partner

The experiential part of the doctoral experiential capstone took place in conjunction with East Village Place (EVP), a retirement community located in East Longmeadow, MA. East Village Place offers a variety of services including: assisted living, two levels of memory care and short term stays. *Our Place* is a memory care community located around the corner from the assisted living community offering increased services as individuals begin to experience cognitive changes. *Pathways* is another memory care unit located on the first floor of EVP that provides services to those who require higher levels of assistance throughout the progression of Alzheimer's disease and related dementias (ADRD). All individuals within both memory care units have a diagnosis of ADRD while an additional twenty out of twenty-five residents in the assisted living community are diagnosed as well. The high prevalence of ADRD within EVP provided the student with increased opportunities to interact with and support those within the dementia population. Additionally, in collaboration with EVP, each experiential component of the capstone project was developed and led to the development of each scholarly component as well.

Significance to Occupational Therapy

Occupational therapy practitioners can assist older adults with ADRD in a variety of ways including: health promotion, remediation, maintenance and modification. Occupational therapy practitioners can provide environmental adaptations, perform activity analysis, promote wellbeing through exercise, and assist with maintaining function despite cognitive decline. As BPSD arise, occupational therapy practitioners have the knowledge and background to provide those with ADRD with meaningful activities that promote engagement and feelings of productivity (American Occupational Therapy Association, 2017).

Theory

According to Cole and Tuffano, sensory integration can additionally be referred to as the organization and adaptive response to sensory input. Difficulty with sensory integration can be observed with populations such those with acquired brain injuries, developmental disorders, mental illness and dementia. Difficulty with sensory integration as seen within the above populations may lead to decreased motivation to engage in movement activities or activities that rely on sensory input. Providing sensory input while additionally taking the client's needs and environment into consideration can elicit change. Mildred Ross provides a Five Stage Group for older adults with chronic illness through the use of the following: orientation, movement, perceptual motor, cognitive and closure. Occupational therapy practitioners may utilize sensory input through the use of calming and alerting strategies that can be adapted based on client needs. Additionally, Allen's Cognitive Levels frame of reference explores an individual's level of cognition as well as the interaction between both physical and social environment and ability to carry out a task efficiently. Occupational therapy practitioners can provide task and environmental adaptations in order to provide clients with enhanced motivation, confidence, and autonomy while carrying out daily routines or activities (Cole & Tufano, 2018).

Purpose

The original intent and purpose of the doctoral experiential capstone was to develop and build a dementia friendly and age appropriate multi-sensory environment in order to increase awareness of non-pharmacological approaches and decrease behavioral and psychological symptoms of dementia while addressing the underlying needs of those with ADRD rather than silencing them. However, due to COVID-19 restrictions and the limited space at EVP, generalized sensory calming and alerting boxes were developed as a resource for addressing

BPSD in a holistic manner. East Village Place provided the student with the opportunity to develop meaningful non-pharmacological, multi-sensory approaches as there was a direct need identified through observations as well as the needs assessment questionnaire. The experiential and scholarly components developed were designed with the intent to support those with ADRD as well as their caregivers in order to promote awareness and use of multi-sensory approaches and address BPSD as a form of communication rather than a side effect of dementia.

Doctoral Experiential Project Overview

Over the course of fourteen weeks, a variety of experiential and scholarly programs were developed in collaboration with our community partner, East Village Place (EVP). Each component of the doctoral experiential was developed from both an extensive review of the literature and from a needs assessment completed within the first four weeks of the onsite experience. The full literature review and needs assessment can be found in both the e-portfolio and in the attached scholarly report. Please see appendix A for full details regarding the literature review. The full needs assessment is attached in appendix B. Additionally, a need's assessment questionnaire was synthesized utilizing components relevant to each original DEx lite focus and responses were generated by site mentor Judith Gagnon. The intended focus was to gain more information regarding current methods of care at the site in regards to diagnoses of ADRD, participation and level of engagement throughout activities, current multi-sensory approaches utilized, typical BPSD observed, responses to BPSD, knowledge, and the knowledge use and awareness of animal assisted activities within EVP. Please see appendix C for full details regarding the needs assessment questionnaire.

The intended goal for each scholarly component of the doctoral experiential was to not only address gaps in dementia care regarding behavioral and psychological symptoms of

dementia through multi-sensory approaches, but additionally to support caregivers and residents within East Village Place.

Experiential Components

Observations

Throughout weeks two through four of the fourteen-week doctoral experiential, memory care resident observations and semi-structured interviews between staff members and students were conducted and documented. Thematic coding was carried out through the creation and assignment of codes and overarching themes given each student and staff member observation. Nine overarching themes emerged through this process and included the following: Lack of meaningful activities, behavioral and psychological symptoms of dementia (BPSD), engaged, no BPSD, lack of socialization, lack of purposeful and functional movement, gaps during transition, sensory stimulation, and caregiver education and training. Given each of these themes, scholarly components were further developed to best support memory care residents and staff at East Village Place. Please see appendix D for full information regarding observations.

Data Analysis of Resident Information

East Village Place intake form data for incoming residents within assisted living and memory care units was investigated and converted into an online format in order to increase accessibility across each level of care. Data included information pertinent to each resident including but not limited to: Preferred nicknames, marital status, geographical area where each individual was born, geographical area where each individual spent most of their time, siblings, children, work experiences, clubs, interests and hobbies, routines and further information dependent on level of care. The information gathered served as a stepping stone in the process of developing memory box biographies and allowed the student to create more meaningful

interactions and build a therapeutic relationship with residents. As this document contains personal information, said information will not be shared throughout this report.

Memory Box Biographies

Memory box biographies were developed through the use of resident information previously gathered. This resource was visible to all caregivers and residents within the facility describing a resident's major life events, assisting in getting to know who is living within the facility, and how to best manage their disease process. Additionally, the literature demonstrates that memory boxes serve as a tool for individuals with ADRD to navigate their environment and find their way from location to location, known as wayfinding. Studies have shown that the implementation of memory boxes assisted forty-five percent of those with ADRD with locating their own rooms and provided these individuals with meaningful and familiar cues (Davis & Weisbeck, 2016). Please see appendix E for full details regarding memory box biographies.

Get to Know Me Intake Questionnaire

The “Get to Know Me” questionnaire was a resource created specific to the community partner East Village Place to serve as an intake questionnaire for new residents within both memory care units and assisted living. The following resource was created to promote consistency across levels of care as residents with ADRD progress and transition from assisted living into memory care. Additionally, this comprehensive form will serve to identify resident preferences and needs so as to promote participation, decrease behaviors and allow caregivers to provide more inclusive and client-centered care. Please see appendix F for full details regarding the “Get to Know Me” questionnaire.

Scholarly Components

Sensory Boxes

Generalized sensory calming and alerting boxes were designed through evidence based research to address the high prevalence of BPSD, lack of sensory stimulation, and gaps during transitions. Each sensory box provides East Village Place with the necessary tools and resources

to support residents through a sample of calming and alerting strategies. After designing each box and providing physical materials to the facility, a reference was created, listing each component within both boxes in order to describe their intended purpose and serve as a guide to providing non-pharmacological, multi-sensory approaches. Please see appendix G for full details regarding sensory boxes.

Sensory Systems Educational Resource

The sensory systems educational resource was designed with the intent to describe general characteristics and benefits of calming and alerting strategies as well as an in depth description of each sensory system, benefits and effects on the body, dementia's impact on each system, and recommended calming and alerting strategies. Details pertaining to each sensory system and the effects of ADRD on each system can assist caregivers while understanding the importance for sensory stimulation given the dementia population. Calming and alerting strategies are explained in a general sense and are further explained while outlining each sensory system. With this educational resource, caregivers are given the opportunity to understand the importance of each system and the calming and alerting benefits provided by each of the tools, resources and activities within the sensory boxes. Having this background knowledge can provide caregivers with the necessary information to additionally expand on the boxes provided. Please see appendix H for full details regarding the sensory systems educational resource.

Behavioral and Psychological Symptoms of Dementia (BPSD) Educational Resource and Data Collection Resource

The BPSD educational resource and data collection form was created in an effort to support caregivers while addressing behavioral and psychological symptoms of dementia in order to understand why these strategies are important and how BPSD relates to communication.

At the bottom of the form, caregivers are provided with a chart to identify and track patterns of BPSD developed through evidence based materials. While analyzing each behavior and why said behavior occurred, caregivers are given the opportunity to conceptualize behaviors as a form of communication, respond appropriately and prevent such situations in the future. Please see appendix I for full details regarding the BPSD educational resource and data collection resource.

Proprioceptive and Vestibular Movement Group

A proprioceptive and vestibular movement group protocol was developed for EVP in order to provide residents with the opportunity to engage in meaningful and purposeful, functional movements; utilizing rhythm and music to provide sensory input and enhance motivation to participate in physical activity. While compared to standard care in the nursing home setting, music therapy was more effective in significantly decreasing agitation disruptiveness (Ridder, Stige, Qvale, & Gold, 2013). Additionally, music therapy has been shown to have positive effects on motor skills, levels of activity, language or memory recall, orientation and levels of attention. While utilizing music therapy within the ADRD population, decreases in wandering, disruptive vocalizations, and apathy have all been demonstrated (Beard, 2011). Please see appendix J for full details regarding the proprioceptive and vestibular movement group.

Positive Approach to Care Based on Dementia Stages

This educational resource was developed in order to provide caregivers with useful tools regarding the stages of change that occur as dementia progresses such as vision, cognition and general abilities. Additionally, levels of assistance are outlined and client centered approaches and strategies to elicit participation dependent on stage of dementia are discussed. Strategies to approach individuals at each stage are adapted from the Positive Approach to Care virtual

champion course trainings from Teepa Snow, MS, OTR/L, FAOTA. The given resource was created with the hope to highlight abilities at each stage of dementia and appropriate strategies to promote client engagement in activities in order to elicit participation and promote client-centered care and assist with creating a meaningful therapeutic relationship between clients and caregivers. Please reference appendix K for full details regarding the "Positive Approach to Care Based on Dementia Stages" resource.

Discussion and Recommendation

Each scholarly component was developed with concepts formulated with reference to a completed literature review, needs assessment, observations and thematic coding. Taking into account the results from the needs assessment questionnaire, a multi-sensory approach to dementia care was developed in order to promote non-pharmacological approaches as a first line of defense to BPSD. This program was able to touch on many of the areas noted in the needs assessment including increased prevalence of BPSD, lack of engagement in activities, lack of purposeful and functional movement activities, gaps in transitions, sensory stimulation and the use of antipsychotic medication as a first line of approach. Educational materials were created in order to support caregivers while identifying, documenting and preventing BPSD as well as how to recognize the impact of dementia on each sensory system and the effective use of both calming and alerting strategies in regards to BPSD. Abilities at each dementia stage were broken down and explained in an effort to promote inclusive care at each level of ADRD. Additionally, caregivers were provided with a "Positive Approach Based on Dementia Stages" resource in order to map out useful strategies to elicit participation and appropriately recognize and respond to each resident's given abilities at each dementia stage. The program was reviewed by the faculty meteor and then presented to the site mentor where it was received in a positive manner.

Limitations

Due to COVID-19 guidelines and restrictions as well as limited space and time spent collaborating with East Village Place, the implementation of a multi-sensory environment, cart or individualized sensory boxes was not feasible. The major limitation noted was the inability to run this program secondary to both time constraints and limited availability of residents and on site staff. The program was transferred to a flash drive that was left at the site for their use as seen fit.

Learning Outcomes

At the beginning of the DEx, a learning plan was developed including 8 predetermined objectives and 2 personal objectives. The objectives helped to provide a framework for the time spent both on site and when working on education materials for the overall project. These objectives were evaluated at the midpoint and again at the conclusion of the experience by both the site mentor and the faculty mentor with all objectives being met. This plan was crucial in keeping focused and remaining on task to produce the final outcomes of a multi-sensory program in an effort to decrease BPSD within dementia care while utilizing non-pharmacological approaches. Additionally, the identified learning and evaluation plan objectives led to the development of caregiver educational materials as well as an increased awareness surrounding multi-sensory approaches. While all objectives were met, a number of objectives were altered to fit the needs of the site. The full learning and evaluation plan can be found in appendix L.

Due to limitations in space, budget and staffing and East Village Place, generalized calming and alerting boxes were designed and developed in order to ensure effective and efficient use of sensory approaches. Additionally, a proprioceptive and vestibular movement and rhythm group was developed through evidence based literature as well as through observations at

EVP. The BPSD educational resource and data collection form was another component of the multi-sensory program developed through the observed needs of the site and evidence based research surrounding proprioceptive and vestibular input given this population. The BPSD educational resource and data collection form helped to serve as a supplemental guide to sensory based approaches. The intended purpose of these educational forms was to provide caregivers with the resources and tools necessary to recognize, plan and prevent BPSD. While the final educational resource developed does not directly tie into increasing awareness in regards to multi-sensory approaches, the "Positive Approach Based on Stage of Dementia" document was created as a resource to promote engagement in activities, highlight current abilities, and elicit participation.

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Appendix A

Literature Review

Individuals with dementia often lose the ability to communicate their feelings and unmet needs. These may include loneliness, boredom, lack of comfort, decreased social opportunities, lack of meaningful activities or inappropriate levels of stimulation from the environment. Individuals are too often left without an effective means to communicate to caregivers or loved ones and they may become frustrated or confused. Therefore, agitation, resistance, lack of interest, and depression may result (Jakob & Collier, 2017a). According to the *Unmet Needs Model*, inappropriate behaviors exhibited by those with dementia are likely a result of decreased independence and difficulty with communication. With this in mind, behaviors may not only be a result of frustration, but also a means to meet needs within the environment (Cohen-Mansfield, Dakheel-Ali, Marx, Thein, & Regier, 2015). At least ninety-seven percent of individuals with dementia will be affected by one or more behavioral and psychological symptoms of dementia (BPSD) (Scales, Zimmerman, & Miller, 2018). Research in nursing homes has shown that antipsychotic medication is used twice as often with dementia residents (to manage mood and behavior) than with those without. While antipsychotic drugs can be effective in short term reduction of agitation, they have not been validated as influential long term. Adverse effects of antipsychotic medicines can include stroke, further cognitive decline, decreased quality of life and mortality (Ridder et al., 2013).

Additionally, there is a potential risk for urinary tract infections (UTI) and increased agitation with the use of antipsychotic medications. Therefore, non-pharmacological interventions (NPI's) have been recommended for reducing behavioral issues among this population prior to or alongside antipsychotics. NPI's are seen as the best fit to treat psychological aspects such as purpose, social interaction and security as compared to medications (Janzen et al., 2013). It should be noted that antipsychotic medications can be

classified as a chemical restraint. Restraints restrict independence and cannot be removed easily by the individual. Examples of restraints can include mechanical devices, physical methods, environmental barriers or chemical interventions (Champagne, T., 2018). The Nursing Home Reform Act of 1987 states that all physical and chemical restraints are only to be utilized for medical necessities and that all residents have the right to freedom from such restraints. Additionally, said act states that physical and chemical restraints are not to be utilized out of convenience or as punishment (Centers for Medicare and Medicaid Services, 2008). Reduction of restraints is an important aspect in providing client-centered care and promoting independence. Multi-sensory environments (MSE's) and sensory based approaches are forms of NPI's that could provide residents with opportunities to meet psychosocial needs without excessive use of medication and without using restraints.

Multi-sensory environments (MSE's) have proven to instill a sense of calm and relaxation in residents and improve their ability interact with others. Providing residents with meaningful activities within these rooms has shown to improve communication, functional performance, mood, alertness social interaction skills and engagement. Additionally, MSE's have proven to decrease disruptive behaviors, agitation and apathy for the dementia population. However, research has identified a need for sensory rooms that are not only age appropriate but appropriate for those with dementia (Jakob & Collier, 2017). While previously published studies of multi-sensory environments have demonstrated benefits in specific components of BPSD, more research is needed to investigate the overall design and use of multi-sensory based interventions in order to improve quality of life across the board. This study aims to gain insight into long term care facility staff members' use of multi-sensory based approaches and other methods for management of BPSD.

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Appendix B

Needs Assessment

Research Background

Demographics

As of 2016, there were 47 million individuals within the globe living with dementia. By 2050, it is estimated that approximately 131 million individuals will have the condition (Jakob & Collier, 2017). As individuals continue to live longer, older adults are therefore at an increased risk for developing chronic conditions such as dementia. The prevalence of dementia for those above the age of sixty five measures at approximately 5-10% in high income countries and continues to double every five years above this age (Hugo & Ganguli, 2014).

An estimated 1,016,679 individuals above the age of sixty-five reside in Massachusetts and 3,299 of these individuals live in the city of East Longmeadow. Of those in East Longmeadow, 49.4% of older adults are between the ages of 65-74 while 28.8% of older adults are between the ages of 75-84 years. Additionally, 21.8% of older adults in East Longmeadow are at or above the age of eighty-five. Individuals with Alzheimer's disease or related dementias are estimated at 13.6% of the total population of Massachusetts and 19% of the total population of East Longmeadow. Additionally, out of those living with a disability above the age of sixty-five, 9.0% of East Long Meadow reported difficulty with cognition as compared to 8.3% of those within Massachusetts. Out of 1000 residents ages sixty five and older in East Longmeadow, 132 are living in skilled nursing facilities each year (Tufts Health Plan Foundation, 2018). Dementia rates as a percent of the total population of East Longmeadow are worse comparatively to the state which provides increased opportunities to access the target population. With a large pool of older adults in the area living in skilled nursing facilities and high rates of dementia, there are increased opportunities to make a difference in the area.

Please refer to Table 1.

Table 1

Population	East Longmeadow	Massachusetts
Total population above age 65	3,299	1,016,679
Percent of population ages 65-74	49.4%	55.3%
Percent of population ages 75-84	28.8%	29.4%
Percent of population above age 85	21.8%	15.2%
Percent of population above age 65 with Alzheimer's disease or related dementias	19.0%	13.6%
Percent of population above age 65 living with disability with self reported cognition difficulty	9.0%	8.3%
Number of skilled nursing facility stays per 1000 people per year for population above age 65	132	106

Population

East Village Place is a retirement community located within East Longmeadow, Massachusetts that offers a variety of services including: assisted living, two levels of memory care and short term stays. *Our Place* offers a gradual step from assisted living into memory care while *Pathways* provides care to those who require higher levels of assistance throughout the progression of Alzheimer's disease and related dementias (ADRD). According to Judith Gagnon, community life director at East Village Place, thirty-one residents currently reside within the assisted living community while twenty-four live in the combined memory care units.

Significance to Occupational Therapy

Occupational therapy practitioners can assist older adults with ADRD in a variety of ways including: health promotion, remediation, maintenance and modification. Occupational therapy practitioners can provide environmental adaptations, perform activity analysis, promote wellbeing through exercise, and assist with maintaining function despite cognitive decline. As BPSD arise, occupational therapy practitioners have the knowledge and background to provide those with ADRD with meaningful activities that promote engagement and feelings of productivity (American Occupational Therapy Association, 2017).

Theory

According to Cole and Tuffano, sensory integration can additionally be referred to as the organization and adaptive response to sensory input. Difficulty with sensory integration can be observed with populations such those with acquired brain injuries, developmental disorders, mental illness and dementia. Difficulty with sensory integration as seen within the above populations may lead to decreased motivation to engage in movement activities or activities that

rely on sensory input. Providing sensory input while additionally taking the client's needs and environment into consideration can elicit change. Mildred Ross provides a Five Stage Group for older adults with chronic illness through the use of the following: orientation, movement, perceptual motor, cognitive and closure. Occupational therapy practitioners may utilize sensory input through the use of calming and alerting strategies that can be adapted based on client needs. Additionally, Allen's Cognitive Levels frame of reference explores an individual's level of cognition as well as the interaction between both physical and social environment and ability to carry out a task efficiently. Occupational therapy practitioners can provide task and environmental adaptations in order to provide clients with enhanced motivation, confidence, and autonomy while carrying out daily routines or activities (Cole & Tufano, 2018).

Problem Statement

Those with Alzheimer's disease and related dementias have decreased opportunities to engage in meaningful activities that provide purpose, increase autonomy and satisfy sensory needs especially in later stages of the disease. It is important to provide comfort and treat behavioral symptoms at the source in order to increase quality of life for individuals that may not be able to advocate for themselves (Jakob & Collier, 2017).

According to Judy Gagnon, more than twenty-one residents in the combined memory care units are diagnosed with Alzheimer's disease and related dementias (ADRD). Approximately twenty out of twenty-five residents in the assisted living community have a diagnosis of ADRD. Behavioral and psychological symptoms of dementia (BPSD) such as sleeping, wandering, kicking, verbal assault, and crying have all been observed throughout both the morning and afternoon at East Village Place and are believed to prevent resident participation in activities. While medication is utilized as a first line of defense while managing BPSD at East

Village Place, it is believed to only have a fair effect in reducing BPSD. Increased use of medication as a primary response to BPSD speaks to the need for an effective, accessible and client centered multi-sensory program in addition to staff and caregiver education to increase awareness on effective use of multi-sensory based interventions for those with ADRD.

Objectives for Needs Assessment

- *Student will create a SWOT analysis for the implementation of client centered multi-sensory boxes and a staff/caregiver education program*

SWOT Analysis

Strengths	**Weaknesses**
● Allow residents to feel heard as behavioral and psychological symptoms of dementia (BPSD) are addressed as a form of communication rather than a burden ● Allow residents to feel a sense of purpose and provide meaningful occupations ● Increase movement through meaningful and purposeful activities and improve body awareness/balance/mood ● Meet underlying needs of residents (i.e. socialization, increased tactile input, etc.)	● Lack of space to create multi-sensory environment and store cart/client-centered sensory boxes ● Time limit of 14 weeks ● Low funding regarding sensory resources ● Low staff to resident ratios ● COVID-19 restrictions
Opportunities	**Threats**
● Decrease use of antipsychotic medications as a first response to BPSD ● Decreased behaviors/ increase in mood, socialization, communication ● Increase awareness of multi-sensory approaches ● Increase use of non-pharmacological approaches as first line of defense to manage behavioral and psychological symptoms of dementia (BPSD)	● Caregivers do not agree with multi-sensory based approaches/prefer medication ● Caregivers do not have time to utilize sensory based approaches ● Staff are resistant to implementing new ideas due to familiarity of current methods of treatment ● Decreased use of sensory materials due to COVID-19 restrictions ● Use of general strategies is not expanded to client centered strategies due to time restraints

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Appendix C

Needs Assessment Questionnaire

Needs Assessment Completed by Site Mentor

1) What number of residents in the combined memory care units have a diagnosis of dementia or Alzheimer's Disease or Related Dementias (ADRD)?

a) 0 - 5
b) 6 - 10
c) 11 - 15
d) 16 - 20
e) 21 +

2) What types of activities do you run for residents who are diagnosed with dementia?

a) Individual activities
b) Group activities
c) Mostly individual; some group
d) Mostly group; some individual
e) None

3) List the specific types of activities that are run in the memory care units (i.e., bowling)

- Exercise: chair, walking, dancing
- Arts & crafts: sing-a-long
- Bowling, golf
- Bingo, sorting (silverware)
- Trivia, puzzles, word games, memory magic, current events, book club
- Trips, courtyard opportunities

4) In the combined memory care units, are different activities offered to those residents who have a diagnosis of dementia?

If yes or no explain why: All residents have a diagnosis of dementia, but some folks need different activities due to the kind of their dementia.

5) What do you hope the activities will do for residents who present with symptoms of dementia? (check all that apply)

a) Assist with cognitive functioning

b) Provide stimulus for movement

c) Socialization

d) Alleviate behavioral symptoms

e) Alleviate psychological symptoms

f) Encourage participation in daily activities

6) Where do the majority of activities take place?

a) Resident room

b) Activities room – Assisted Living Residents

c) Outside (on premises)

d) Dining room

e) Other: Living rooms and kitchen table

7) Approximately how many residents participate in activities each day?

8 – 10 Pathways

8 – 11 Our Place

8) Is it difficult for your residents with dementia to engage in activities or socialize?

a) Yes: Due to short term memory, agitation, decreased social skills, and sleepiness

b) No

9) Why do you think there is a lack of participation in activities of the residents?

- Check all that apply:
  - Lack of interest
  - Sleeping
  - Agitation
  - Aggression
  - Symptoms of anxiety
  - Symptoms of depression
  - Bullying
  - Activity is too difficult: For some
  - Lack of understanding directions in activities
  - Staff to resident ratio: 1 activities staff member T, W, TH in PW, OP, and AL. 1 activities staff member for both pathways and our place Sun, M, Fri, Sat
  - Other:_____

10) During activities, what are the observed behaviors that occur? Do you notice any maladaptive behaviors?

Kicking, verbal assault to others, crying, exit seeking

11) When do you typically see (time of day) behavioral or psychological symptoms present in residents with dementia?

a) Morning

b) Afternoon

c) Evening

d) Night: Some wanderers

e) During transition of the staff

12) Please circle all interventions that are used to manage behavioral and psychological symptoms of dementia at your facility:

- Physical restraints
- Medications:
- Multisensory based approaches
- Pet therapy
- Physical activity
- Other

13) Which treatment method do you utilize as a first line of defense in managing behavioral and psychological symptoms of dementia?

- Medications
- Multisensory based approaches
- Pet therapy
- Physical activity
- Other

14) In your experience, using your answer from question 13 as the **primary** treatment method has had a (an) _____ effect when it comes to reducing psychological and behavioral symptoms of dementia

- Excellent
- Good
- Fair
- Poor
- Very Poor

15) How often do you use a combination of two or more interventions to manage behavioral and psychological symptoms of dementia?

- Always

- Often
- Sometimes
- Rarely
- Never

16) In your experience, using a combination of treatment methods has had a (an) _____ effect when it comes to reducing psychological and behavioral symptoms of dementia

- Excellent
- Good
- Fair
- Poor
- Very poor

17) How frequently do you use multi-sensory based approaches (ie. Addressing a variety of senses through theraputty, sand, relaxing music, weighted blankets etc.) as a response to behavioral and psychological symptoms of dementia?

- Always
- Often
- Sometimes
- Rarely
- Never

18) What are the barriers that prevent your facility from implementing a sensory room?

- No available room

- Possibly cost of items needed

19) If applicable, please list any effective multi-sensory based approaches that may be used within your facility despite the use of a room (i.e. sensory cart that brings items to residents within their rooms) and any positive outcomes (i.e. gardening and improved socialization).

- Sensory bins in cabinets: all staff have access to use with residents

- Redirecting behaviors

- Gardening outside: increase socialization

- Most residents are out in common areas (living room and kitchen)

20) Do you believe Animal Assisted Therapy (AAT) reduces behavioral and psychological symptoms of dementia (BPSD) in residents (i.e aggression, agitation, anxiety, wandering, etc)?

a) Yes: It seems like it would

b) No

21) How familiar are you with animal assisted therapy in dementia care?

a) 1- Not familiar

b) 2- Slightly familiar: Have not seen a specific program but see the positive effects of animals with the two dogs we have and one resident has a cat

c) 3- Neutral

d) 4- Familiar

e) 5- Very familiar

22) Does this Facility utilize Animal Assisted Therapy (AAT)?

a) Yes

If so, what do you like about it?

b) No

If not, explain why: Not aware of a specific group/program that offers this

Appendix D

Observations

Simple Thematic Analysis of DEx Group and Caregiver Observations of Residents in the Memory Care Units

	Observation (Summary of observations)	**Codes**	**Theme**
1	Minimal engagement in group activities	Lack of engagement	Lack of meaningful activities
2	Minimal participation	Lack of participation	Lack of meaningful activities
3	Wandering	Wandering	BPSD
4	In group activity, 1-2 residents were alert and engaged	Alert Engaged	Engaged
5	Minimal social interactions during activities	Lack of social engagement	-Lack of socialization -Lack of meaningful activities
6	Large gaps between activities = increased wandering, lack of movement, lack of social interactions	-Wandering -Lack of physical movement -Lack of social engagement	-BPSD -Lack of meaningful activities
7	Many residents are not able to complete activities due to decrease FM, cognition, engagement	Lack of physical movement Lack of engagement	-Lack of meaningful activities -Lack of purposeful functional movements
8	While waiting for activities or lunch/dinner slept	Sleeping	-Gaps during transitions

9	Minimal participation in group activities	-Lack of physical movement -Lack of socialization	-Lack of meaningful activities -lack of social engagement
10	Uplifted mood for a few residents when the resident dog was present	-Sensory input	-Sensory based activities
11	Many residents presented with poor posture while seated and while navigating the memory care unit	-Lack of physical movement	-Lack of purposeful functional movements -lack of meaningful activities
12	Minimal activities available for gross motor movement	Lack of physical movement	-Lack of purposeful functional movements
13	Opportunities to engage alert residents were not utilized due to staffing limitations	Staffing limitations	-Gap in transitions
14	Minimal social interactions between residents	-Lack of social engagement	-lack of socialization
15	Several residents wandering throughout the memory care unit	-Staffing Limitations -Wandering	BPSD -Gap in transitions
16	Activities would not start on time some residents would wander as a result	-Staffing limitations -Wandering	-BPSD -Gap in transitions
17	Caregivers completed tasks during a puzzling activity instead of immersing the resident in the activity.	-Graded engagement abilities	Caregiver education/training
18	Of the group, only 3 residents were alert and engaged during a bingo	Engagement	Sensory Stimulation

19	During bingo, more than half the residents were asleep and not engaged in the activity	Sleeping	-Lack of meaningful activities -Gap in transition

20	Two residents were observed proceeding with BPSD: one was wandering and one completing a repetitive task of wiping a table out of context	-Wandering -Repetitive movements	-BPSD
21	In between activity and lunch, some residents presented with forms of anxious behaviors such as wandering and restlessness	-Wandering -Fidgeting	-BPSD
22	One resident presented with disruptive behavior during a social activity - trying to stand up mid-activity	Disruptive behaviors	BPSD
23	During a reading activity, one resident participated	Sensory input	Sensory Stimulation
24	Scheduled activity delayed due to extra time required to move residents from dining room to the community room	-Staffing limitations	-Gap in transitions
25	Lack of participation and engagement during a baking activity. Residents not included in sensory aspects of the activity due to COVID-19 precautions	-Lack of engagement and participation	-Lack of meaningful activities
26	“Pet Therapy” activity was not engaging for most of the residents. One dog is blind and deaf and slept the entire time and the other dog was too rambunctious causing a safety hazard for the mobile residents	Lack of sensory input	Sensory stimulation
27	The resident presented with anxiety in the form of and verbal outburst followed by wandering	-Vocal outburst -Wandering	-BPSD
28	Exercise video was presented for residents to follow and participate in but, most residents were not able to engage due to cognition or	-Graded engagement abilities	-Caregiver education/training

	decreased motor functioning		
29	A trivia and discussion group: 3 residents participated of the bunch. Others were sleeping and one was wandering	-Wandering -Sleeping -Engaged	-BPSD -Engaged -Lack of meaningful activities
30	Caregivers would ask residents if they want to participate, if the resident said no then they would not try to engage the resident(s)	-Graded engagement abilities	-Caregiver education/training
31	During the “story-time” group activity all the residents minus two were engaged and actively participating.	-Engaged	-Engaged
32	Residents presented with poor posture while seated. Many presented with a form of contractures due to a lack of physical activity.	-Lack of physical movement	-Lack of purposeful functional movements
33	Partway through a group activity, an alert resident fell asleep due to a lack of engagement in the activities	-Lack of sensory input -Sleeping	-Sensory stimulation -BPSD
34	Residents were not engaged during “story time” so the assistant activity director decided to turn on music and change the activity to that of a physical one. Residents were more engaged with sensory input	-Engaged -Sensory input	Sensory Stimulation
35	After the physical activity was over and the assistant activity director emerged into the story, residents were unengaged and one resident had a verbal disruptive outburst	-Lack of engagement -vocal outburst	-Lack of meaningful activities -BPSD
36	Activities with purposeful movement increased participation among residents	Physical movement	-Sensory stimulation
37	One resident exhibits aggressive behaviors such as shoving and kicking when she feels pressured to do a task she is not interested in	-physical aggression	-BPSD

38	The period between the last activity and lunch in which residents were not engaged. A noticeable increase is residents wandering if not asleep with poor posture	-staffing limitations -Wandering -Sleeping	-BPSD -Gaps in transitions
39	Caregiver Observation: resident has verbal outbursts and sundowning	-Sundowning Verbal outburst	BPSD

40	Caregiver observation: Resident with anxiety during loud noises and physical aggression during “unfamiliar tasks”	-Physical aggression -Anxiety	-BPSD
41	Caregiver Observation: Residents seek sensory stimulation through oral stimulation	Lack of sensory input	Sensory stimulation
42	Caregiver Observation: The resident does not like to engage in activities	-Lack of engagement	-Lack of meaningful activities
43	Caregiver Observation: Resident prefers to remain seated and declines to participate in physical activities	-Graded engagement abilities	-Caregiver education/training
44	Caregiver Observation: Resident is difficult to engage	-Lack of engagement	Caregiver education/training
45	Caregiver Observation: Resident enjoys listening to music, appears to be at peace	-Sensory input	-Sensory stimulation
46	Caregiver Observation: Resident wanders and seeks ways to exit the unit	-Wandering	-BPSD
47	Caregiver Observation: Resident rummages through other rooms	-Rummaging	-BPSD
48	Caregiver Observation: The resident enjoys the activity of putting puzzles together	-Engaged	-Engaged

49	Caregiver Observation: Resident is difficult to engage	-Lack of engagement -Graded engagement abilities	-Lack of meaningful activities -Caregiver education/training
50	Caregiver Observation: Resident is in a constant state of sleep, does not engage in physical activities	-Graded engagement abilities -Sleeping	-caregiver education/training -Lack of purposeful functional movements
51	Caregiver Observation: Resident is difficult to engage	-Lack of engagement -Graded engagement abilities	-Lack of meaningful activities -Caregiver education/training
52	Caregiver Observation: Resident is pleasant when eating sweet foods such as candy or cake	-sensory input	-Sensory stimulation
53	Caregiver Observation: Resident has high anxiety, has difficulty sitting still and focusing	-Anxiety -Lack of sensory input	-BPSD -Sensory stimulation
54	Caregiver Observation: Resident cries often	-Crying	-BPSD
55	Caregiver Observation: Resident is verbally aggressive at times	-Verbal aggression	-BPSD
56	Caregiver Observation: Resident is sensory seeking	-Lack of sensory input	Sensory stimulation
57	Caregiver Observation: Resident is hard to engage in activities	-Lack of engagement -Graded engagement abilities	-Lack of meaningful activities -Caregiver education/training

58	Caregiver Observation: Resident is verbally aggressive when tasks are unfamiliar	-verbal aggression	-BPSD
59	Caregiver Observation: Resident is difficult to engage in activities	-Lack of engagement -Graded engagement abilities	-Lack of meaningful activities -Caregiver education/training

60	Caregiver Observation: Resident is verbally and/or physically aggressive towards other residents when not engaged	-Verbal aggression -Physical aggression -Lack of engagement	-BPSD -Lack of meaningful activities
61	Caregiver Observation: Resident has improved mood when given compliments and attention	-Social engagement	-Engaged
62	Caregiver Observation: Resident presents with anxiety when needs are not met	Anxiety	BPSD
63	Caregiver Observation: Exhibits physical aggression when presented with a task unfamiliar	Physical aggression	BPSD
64	Caregiver Observation: Resident bullies other residents	-Physical aggression	-BPSD
65	Caregiver Observation: Resident is easily agitated	Agitation	BPSD
66	Caregiver Observation: Resident appears confused during ADLs such as dressing then presents with agitation	-Graded engagement abilities -Agitation	-BPSD -Caregiver education/training
67	Caregiver Observation: Resident presents with physical aggression when touched	-physical aggression	-BPSD

68	Caregiver Observation: Resident does not have adverse reactions or behaviors but, is attention-seeking	Needs met	No BPSD
69	Caregiver Observation: No adverse behaviors notes with resident	Needs met	No BPSD
70	Caregiver Observation: Resident enjoys participating in activities but doesn't engage in many conversations.	-Engaged -Graded engagement abilities -lack of social engagement	-Engaged Caregiver education/training -lack of socialization
71	Caregiver Observation: Many residents sleep for the majority of the day	-Sleeping -Lack of sensory input	-Sensory stimulation -Lack of meaningful activities
72	Caregiver Observation: Resident is a fall risk when attempts to transfer out of her chair without assistance	-Fall risk	-caregiver education/training
73	Some residents enjoyed spending time outside	-Sensory input	Sensory Stimulation
74	Several residents were fidgeting with items due to a lack of activities or engage in meaningful activities	-fidgeting -lack of engagement	-BPSD -lack of meaningful activities
75	Residents were observed sleeping due to a lack of engagement	Sleeping	-Lack of meaningful activities
76	A resident was observed wandering and rummaging through rooms	-wandering -rummaging	-BPSD
77	Two residents presented with BPSD with verbal outbursts and anxious behaviors	-vocal outbursts -anxiety	-BPSD
78	The majority of residents were observed sleeping	sleeping	-Lack of meaningful

			activities Gap in transitions
79	Two residents participated in the activity of rolling playdough	Sensory input	Sensory Stimulation

80	Two residents were observed wandering, rummaging through drawers, and attempting to open doors	-wandering -rummaging -exit seeking	-BPSD

Chart of Themes and Codes	
Themes	Codes
Lack of meaningful activities	• Lack of engagement • Lack of participation • Lack of social engagement • Lack of physical movement • Lack of engagement • Sleeping
BPSD	• Wandering • Repetitive movement • Fidgeting • Disruptive behaviors • Vocal Outbursts • Physical aggression • Sundowning • Anxiety • Rummaging

	• Crying • Verbal aggression • Agitation • Exit-seeking
Engaged	• Alert • Engaged • Social engagement
Lack of Socialization	• Lack of social engagement
Lack of purposeful and functional movement	• Lack of physical movement • Sleeping
Gaps during transition	• Sleeping • Staffing limitations
Sensory Stimulation	• Engagement • Lack of sensory input • Sleeping • Sensory input • Physical movement
Caregiver education/training	• Graded engagement abilities • Lack of engagement • Fall risk
No BPSD	• Needs met
Highlighted Themes are the ranked as the top 5 observed within the memory care units at EVP	

Research Question: What behaviors or lack thereof do the residents present before, during, and after activities?

Samantha Jaffery Analysis:

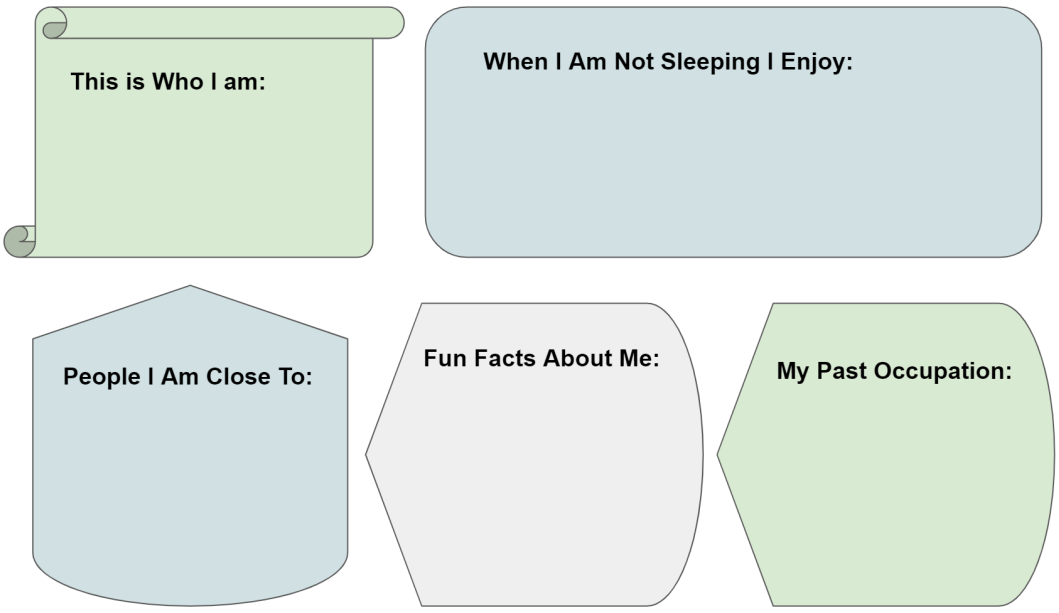
Observations were conducted over a two-week period by myself, my DEx peers, and through casual interviews with caregiving staff at EVP to better understand the behaviors of the residents located in EVP's memory care units. With a simple thematic coding process, a summary of each observation was listed followed by codes and themes completed by Olivia and me. Through this process, Olivia and I determined the top 5 themes based on the recurrence of the theme in the observations. The top 5 themes are listed as: Behavioral and Psychological Symptoms of Dementia (BPSD), lack of meaningful activities, lack of purposeful and functional movements, sensory stimulation, and caregiver education and training. Understanding the behaviors presented through these observations reinforced the need to provide sensory stimulation through Animal Assisted Interventions. However, based on the observations and the needs of the site, I must shift the program from Animal Assisted Therapy to Animal Assisted Activities due to the lack of staffing and professionals to proctor the sessions. Based on a review of literature on animal therapy, activities involving animals have showed increased participation, engagement, physical activity, elevated mood, and mild reduction in BPSD. AAA program outline that will be created will incorporate the needs of the population, community, and the listed themes from the observations in the memory care unit.

Olivia Bernas Analysis:

Throughout weeks 2-4 of the fourteen-week doctoral experiential, memory care resident observations and semi-structured interviews between staff members and DEx students (Olivia Bernas, Samantha Jaffery, and Kaley Kennedy) were conducted and documented. Samantha Jaffery and I carried out the thematic coding process through the creation and assignment of codes and overarching themes given each student and staff member observation. While nine overarching themes emerged, the top five themes were as follows: Lack of meaningful activities, behavioral and psychological symptoms of dementia (BPSD), lack of purposeful and functional movements, sensory stimulation, and caregiver education and training. Given each of these themes, I developed scholarly components that I felt would best support memory care residents and staff at East Village Place. Due to the lack of meaningful and purposeful functional movements, I was inspired to create a proprioceptive and vestibular movement group that utilized music and rhythm to increase needed sensory input. Given the frequency of BPSD such as fidgeting, wandering, vocal outbursts, anxiety, agitation, and physical aggression, I developed a data collection form and guide to understanding BPSD. I also felt that the frequency of such behaviors as well as the lack of sensory stimulation and high rate of sleeping during transitions supports the general need for sensory calming and alerting boxes, as well as educational resources on each of the sensory systems. Additionally, caregiver training and education led Samantha Jaffery and I to create a “Positive Approach Based on Stages of Dementia” resource.

Appendix E

Memory Box Biographies



Memory Box Bios PW & OP

<u>Scroll Box</u> (This is Who I Am)

Basic info (narrative)

- Name:
- Nickname:
- Region I spent a majority of my life:

<u>Rectangular Box</u> (When I Am Not Sleeping I Enjoy)

Hobbies/Interests

- Activities
- Foods

<u>1st Call Out Box</u> (People I Am Close To)

- Siblings
- Marital status
- Family/children
- If never married or have children
- put siblings here or extended family

<u>2nd Call Out Box</u> (Fun Facts About Me)

- Calming activities
- Favorite tv shows
- Favorite foods
- Religion

<u>3rd Call Out Box</u> (My Past Occupation)

Major Accomplishments

- Education
- Profession
- Veteran

Appendix F

Get to Know Me Questionnaire

Get to Know Me

Community Life Questionnaire for
Assisted-Living & Memory Care Units

Name: _____ Move in Date:

Nickname/Preferred Name: _____ _____

Language(s) I speak: _____
(If more than one, please circle primary language)

Spiritual/Religious Preference: _____

Birth Date: _____

Place of Birth:

State: _____ *City*: _____

Hometown (Place I've lived the most years at):
_____ *For How Long?* _____

Marital Status:

☐ Single ☐ Married ☐ Divorced ☐ Widowed ☐ Prefer not to respond

Maiden Name: _____ Spouses Name: _____ Date of Marriage: _____

Number of Children:	Number of Grandchildren:	Number of Siblings:
_____	_____	_____
Names:	*Names:*	*Names:*
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Education Level - Check each degree received and specify below:

☐ HS Diploma/GED _____	☐ Associates Degree _____	☐ Bachelor's Degree _____
☐ Masters Degree _____	☐ PhD/MD/Doctorate _____	☐ Other _____

School where highest education was received: _____

Past Occupation(s): _____

Are you a veteran?

- ☐ No
- ☐ Yes:*Branch*: _____
  Time Served: _____
  Special titles/distinctions: _____

Sleeping Habits:

What time do you like to wake up? _____
What time do you like to go to bed? _____
Do you like to take naps?

- ☐ No
- ☐ Yes
  If so, when? _____

Check Off Some Of Your Favorite Foods:
Food Allergies: _____

☐ Coffee	☐ Tea	☐ Orange juice	☐ Cereal	☐ Toast
☐ Eggs	☐ Fruit	☐ Dessert	☐ Ice cream	☐ Wine and Cheese
☐ Pasta	☐ Chicken	☐ Soup	☐ Pork	☐ Steak
☐ Ham	☐ Turkey	☐ Cheese	☐ Sandwiches	☐ Salad
☐ Corn	☐ Green Beans	☐ Broccoli	☐ Burgers	☐ BBQ
☐ Fish	☐ Indian	☐ American	☐ Asian	☐ Vegan
☐ Spanish or Mexican	☐ Sushi	☐ Pizza	☐ Tacos	☐ Other: List Below

Other:_____

Do You Have A Favorite T.V./Show or Movie?

☐ No
☐ Yes
What is it? _____

What Type of Music Do You Enjoy Listening To?

☐ Alternative Rock	☐ Country	☐ Gospel	☐ Patriotic	☐ Rock and Roll
☐ Big Band	☐ Disco	☐ Hip Hop	☐ Soothing	☐ 20's
☐ Blues	☐ Folk	☐ Heavy Metal	☐ Reggae	☐ 30's-50's
☐ Classical	☐ Funk	☐ Musical Theatre	☐ Rhythm and Blues (R&B)	☐ 60's-now

Other: _____

What Types Of Activities Keep You Awake/Alert ?

1. _____
2. _____
3. _____

I May Become Stressed When:

1. _____
2. _____
3. _____

What Types Of Activities Calm You Down?

1. _____
2. _____
3. _____

What Brightens Your Day?

1. _____
2. _____

Check off Activities That May Be of Interest: (Activities can include past, present, or future areas of interest)

☐ Aroma Therapy	☐ Ball Class	☐ Beer Tasting	☐ Bible Studies	☐ Billiards
☐ Bingo	☐ Bocce	☐ Bowling	☐ Bunco	☐ Card Games
☐ Church	☐ Coffee Social	☐ Communion	☐ Cooking	☐ Crafts
☐ Crochet	☐ Cruises	☐ Current Events	☐ Daily Devotional	☐ Dinners out
☐ Drawing	☐ Exercises	☐ Facials	☐ Fitness classes	☐ Flower Arranging
☐ Gardening	☐ Golf	☐ Happy Hour	☐ Horse Racing	☐ Horse Shoes
☐ Hymn Sing	☐ Jewelry Making	☐ Jewish High Holy Days	☐ Knitting Group	☐ Live Music
☐ LRC	☐ Lunches Out	☐ Manicures	☐ Massages	☐ Men's Group
☐ Movies	☐ Music	☐ Out of town trips	☐ Outdoor event	☐ Painting
☐ Pedicures	☐ Performing Arts	☐ Photography	☐ Pokeno	☐ Pottery
☐ Prayer Group	☐ Red Hat Society	☐ Resident Council	☐ Rosary	☐ Scenic Rides
☐ Scrabble	☐ Shabbat Dinner	☐ Shopping	☐ Spiritual Care	☐ Stretching Classes
☐ Sudoku	☐ Support Groups	☐ Synagogue	☐ Tabletop Bowling	☐ Tai Chi
☐ Trivia	☐ Volunteering	☐ Walking Club	☐ Wii Games/ XBOX	☐ Wine Tasting
☐ Woodworking	☐ Word Games	☐ Yahtzee	☐ Yoga	☐ Zumba

What Time Of Day Do You Prefer To Participate In Activities?

- ☐ Morning
- ☐ Mid-Afternoon
- ☐ Afternoon
- ☐ Evening

In The Past, Have you Identified with Any Community Groups or Sports Teams?

- ☐ No
- ☐ Yes

  What are they? _____

Is There One Thing You Have Always Wanted to Do, But Never Had the Chance?

- ☐ No
- ☐ Yes

  What is it? _____

Do you have allergies to a specific animal(s)?

- ☐ No
- ☐ Yes

  Please Specify: _____

Do you have fears/phobia of dogs, cats, rabbits or reptiles?

- ☐ No
- ☐ Yes

  Please Specify: _____

Are you familiar with Watermark University?

- ☐ No
- ☐ Yes

Routines and Activities of Daily Living (ADLs):

Morning:
What is your typical routine?

Tasks I may need help with:

-
-
-

Afternoon:
What is your typical routine?

Tasks I may need help with:

-
-
-

Evening/Night:
What is your typical routine?

Task I may need help with:

-
-
-

Check Out My Abilities

The purpose of this assessment is to get a better understanding of your loved one's current abilities. This section provides our caregivers with better insight on how to best modify/simplify the environment and engage your loved one to participate in activities of daily living based on their level of function and/or abilities. Please fill out each section below to the best of your knowledge, touching on what is relevant and meaningful so we can provide the best care to your family member.

Resident Name: _____

***Filled out by Family/Caregiver: Initial Assessment**		
Can Do ★ *Realistic abilities* ★ *ACL level or Best Ability to Function (BATF)* ↓ *Example:* "Have the ability to walk"	**Will Do** ★ *Relevant Activities* ★ *Meaningful* ★ *Influenced by values/interests or culture* ↓ *Example:* "Get up to walk to get coffee"	**May Do** ★ *Possible abilities* ★ *Extrinsic Motivation* ★ *If steps/procedures are simplified and/or environment modified* ↓ *Example:* "Walk downstairs with you to make a fresh pot of coffee"
1. Communication		
● ● ●	● ● ●	● ● ●
2. Mobility		
● ● ●	● ● ●	● ● ●
3. Behavior/Socialization		
● ● ●	● ● ●	● ● ●

Resident Name: _____

***Filled out by the EVP Staff: 90 day review**		
Can Do ★ *Realistic abilities* ★ *ACL level or Best Ability to Function (BATF)* ↓ *Example:* "Have the ability to walk"	**Will Do** ★ *Relevant Activities* ★ *Meaningful* ★ *Influenced by values/interests or culture* ↓ *Example:* "Get up to walk to get coffee"	**May Do** ★ *Possible abilities* ★ *Externally influenced* ★ *If steps/procedures are simplified and/or environment modified* ↓ *Example:* "Walk downstairs with you to make a fresh pot of coffee"
1. Communication		
● ● ●	● ● ●	● ● ●
2. Mobility		
● ● ●	● ● ●	● ● ●
3. Behavior/Socialization		
● ● ●	● ● ●	● ● ●

Appendix G

Sensory Boxes

Sensory Boxes Explained

Each component of the sensory calming and alerting boxes is explained below in order to best understand the purpose and intended use within East Village Place. These materials were developed after completing thematic coding through analysis of resident observations and discussions with caregivers within the facility. The following tools and materials were gathered based on evidence based research and general principles of calming and alerting strategies. With this in mind, each component of both boxes can further be tailored to individual preferences and needs. These materials were developed to serve as a guide to decreasing BPSD only and should not be utilized without supervision, as an intervention or without consulting a specialist. Allergies, traumatic events and medical precautions or contraindications should always be considered prior to the use of any and all sensory based materials. Please refer to the “Sensory Systems Explained” educational resource for more information regarding general principles of calming and alerting strategies as well as a breakdown of each sensory system.

Alerting Box Contents:

- Cooling spray fan
    - The cooling mist fan provides cool air and mist that can serve as alerting tactile stimulation as the resident feels the cooling effect on the skin
- Bubble popping fidget
    - The bubble popping fidget provides alerting visual, tactile and auditory sensory input that may prove to be useful during down time or transitions when sleeping tends to occur as residents will be more alert while joining a new activity or preparing to partake in a meal
- Matching card game
    - The matching card game provides alerting visual stimulation
- Pin art
    - The pin art board can serve as an alerting technique as residents receive tactile input that may come as unexpected or prickly and provides light touch rather than deep pressure
- Color changing aromatherapy room diffuser and oils

    - Can additionally be utilized for calming (see scents listed under “Calming Box Contents”
    - Alerting scents include:
        - Orange
        - Lemon
        - Peppermint
            - Research has shown that these scents can provide alerting olfactory input
- Cooling towel
    - Utilizing a cooling towel can provide alerting tactile input through the sense of temperature as cooler temperatures are alerting as compared to warmer temperatures
- Noise putty
    - The noise putty provides alerting input in the form of both the tactile and auditory senses. While manipulating the putty, the sounds may change and are unexpected. The squishy texture can additionally serve as a tool for alerting each resident
- Magnetic fishing
    - While manipulating the magnetic fishing game, residents will receive alerting input as their visual, proprioceptive and vestibular senses are stimulated
- Citrus lotion
    - Lotion can serve as an alerting technique if utilized with light touch. Additionally, citrus can serve to alert the olfactory senses as well.

Calming Box Contents:

- Marble LED fountain
    - The marble LED fountain provides calming visual and auditory input as the rhythmic sounds and cyclic falling water provide predictability and comfort
- Bubbles
    - Bubbles assist with breath support and provides a calming effect, thus ensuring that residents are taking slow, deep breaths rather than quick short, alerting breaths
- Hand massage roller
    - The hand massage roller can serve as a tool to provide calming deep pressure massage. Additionally, essential oils can be added into the roller utilizing the essential oils provided that are pictured within the “Alerting Box Contents” image. Calming scents provided include:
        - Lavender
        - Tea tree oil
        - Rose
- Lavender lotion

    - The lavender lotion can additionally provide calming tactile and olfactory input in the form of deep pressure massage with a calming aroma of lavender
- Scented play dough
    - Scented play dough can serve as a calming tool that provides both proprioceptive and olefactory input. While manipulating play dough with the hands by pushing and pulling, the body receives proprioceptive feedback and instills a sense of calm. Additionally, the crayola scents can provide a sense of familiarity and calm as long term memories surface from one's childhood
- Zen garden
    - The zen garden provides calming visual visual feedback as residents are given opportunities to create rhythmic sand patterns
- Stress ball (minimal resistance)
    - The minimal resistance stress ball provides tactile and proprioceptive input similar to that of kneading dough and produces a calming effect on the body
- Pull apart noodles
    - The pull apart noodles can be utilized for pulling and stretching activities that stimulate the proprioceptive system, providing a sense of calm
- Slinky
    - The slinky provides slow and rhythmic tactile and visual input while utilizing both hands
- Foam baseballs (moderate resistance)
    - Squeezing a moderate resistance foam baseball provides calming proprioceptive input such as while squeezing a stress ball

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Champagne, T. (2018). *Sensory modulation in dementia care: Assessment and activities for sensory enriched care.* London: Jessica Kingsley Publishers.

Appendix H

Sensory Systems Educational Resource

INTRODUCTION TO SENSORY CALMING AND ALERTING STRATEGIES [2]

Why Calming Strategies Are Important	Why Alerting Strategies Are Important	General Characteristics of Calming Strategies	General Characteristics of Alerting Strategies
• Soothing • Safety • Comfort • Relaxation	• Uplifting • Noxious (to alert one for safety concerns) • Intense	• Familiar • Consistent • Slow pace • Even, rhythmic beat • Simplicity • Low stimulus intensity	• Unfamiliar • Inconsistent • Fast pace • Uneven beat • Complexity • High stimulus intensity

SENSORY SYSTEMS EXPLAINED

Sensory System	Description of Sensory System	Benefits of Each System	Impact of Dementia on Sensory System	Calming Strategies Regarding Each Sensory System	Alerting Strategies Regarding Each Sensory System
Proprioception (Bodily awareness, body position, movement)	Provides information regarding: • Joint and body movement[2] • Body awareness/boundaries[2] • How much force is used[2] • How fast a muscle is stretched[2] Interconnected with the tactile and vestibular systems[2]	Receiving feedback regarding where the body is located in space provides[3] • Sense of control[3] • Relaxation[3] • Physical/cognitive organization[3] • Hard work such as pushing, pulling and lifting activities can have a calming effect on the body with increased levels of hard work providing increased levels of proprioceptive feedback[3]	• With immobility and decreased activity, the proprioceptive sensory system cannot operate efficiently[2] • Adults living with Alzheimer's Disease and Related Dementias (ADRD) may be sedentary for longer periods of time or even immobile. This can lead to loss of muscle, muscle weakness, difficulty with body awareness and poor proprioception[2]	• Joint compression[3] • Slow rhythmic movements[3] • Heavy, sustained resistance[3] • Walking[3] • Weight lifting[3] • Yoga[3] • Tai chi[3] • Pushing hands together against wall[3] • Chair pushups[3]	• Quick changes[3] • Jerky movements[3] • Jarring , changing activities[3] • Aerobic exercise[3]

		• Proprioceptive feedback can provide individuals with an alert yet calm state[3]
		  ○ Calm body with an alert mind[2]
		• Increased proprioceptive feedback can provide:
		  ○ Sense of safety[2]
		  ○ Increased orientation[2]
		  ○ Feeling grounded[2]
			• Providing increased proprioceptive input can help to increase strength/ muscle mass or prevent joint deformity[2]	• Lifting, carrying, pushing[3]	

Vestibular (Space, Balance and Movement)	• Stimulated with head and body movements[2]
	• Interconnected with the proprioceptive auditory and visual systems and contributes to feelings of orientation and safety[2]
	
	Provides:
	• Spatial awareness[2]
	• Directionality[2]
	• Balance[2]
	• Speed (timing,
		• Long lasting input that lasts anywhere from 4 hours to six days[3]
		• Vestibular input is best at controlling level of arousal[3]
		• Slow linear vestibular input provides calming effects quickly[3]
		• Too much vestibular input can also cause an individual to feel overstimulated
		  ○ Heart rate, blood pressure and respiratory rate should be monitored[3]
			• Individuals with ADRD may develop an irregular gait (walk), dizziness, difficulty with coordination, movement, and balance. Those with ADRD are additionally at risk for an increase in falls[2]
			• Exercise reduces fall and injury risk[2]
			• Those who have difficulty processing vestibular input may exhibit behavioral and psychological symptoms of dementia including but not limited to:
			  ○ Anxiety[2]
			  ○ Agitation[2]
				• Rocking/rocking chair[3]
				• Slow dancing[3]
				• Swinging gently[3]
				• Stationary activities (chess)[3]
				• Walking[3]
				• Slow head rolls[3]
				• Sitting on something sturdy/motionless[3]
				• Glider[3]
					• Squirming[3]
					• Fast dancing[3]
					• Spinning quickly[3]
					• Movement activities[3]
					• Quick movements of the head[3]
					• Sitting on a therapy ball[3]
					• Swing[3]

	acceleration, deceleration)[2] Supports ● Balance/equilibrium[2] ● Postural control[2] ● Fluid, efficient coordinated and movements[2]		○ Assaultive behavior[2] Ensure feelings of safety through: ● Safely and securely hold onto resident during movement based activities[2] ● Encourage active participation rather than passive[2] ● Refocus attention[2] ● Offer reassurance[2] ● Assist with orientation[2] ● Move slowly[2] ● Approach from the front within visual field[2] ● Utilize a supportive tone of voice[2] ● Provide the individual with a secure object to hold onto[2] ● Identify preferred temperature[2]		
Tactile (Touch)	● Provides information regarding touch, pressure, pain, temperature and vibration[2]	● Light touch typically elicits an alerting response while deep touch tends to elicit a calming response[2] ● Light touch affects the sympathetic system and can cause a protective response while deep pressure touch can	● Adults typically receive less opportunities for touch as they age, or as illness or mental illness develops[3]	● Strong hugs[3] ● Heavy quilts/covers[3] ● Firm touch on the shoulder[3] ● Deep massage[3] ● Something heavy on the lap[3]	● Tickling[3] ● Light stroking[3] ● Feeling something prickly or squishy[3] ● Unfamiliar or unexpected touch[3] ● Something

		assist with relaxation and self regulation, leading to a sense of calm[3] • Pressure touch can raise the dopamine system which in turn, positively affects the limbic system[3] • Twisting one's hair or playing with a "fidget widget" can be alerting[3]		• Neutral warmth[3] • Squeezing a stress ball[3] • Foot roller[3] • Use of hand lotions[3] • Rubbing smooth stones/chinese balls in the hand[3] • Beanbag tapping[3]	moving on the lap[3] • Cool room[3] • Fiddling with stress ball[3] • Use of "fidget widgets"[3] • Walking on grass[3]
Visual (Sight)	• Provides sense of spatial awareness, balance, and equilibrium due to the connection with the vestibular system[2]	• Vision is a protective sense that allows one to be aware of danger[3] • Vision additionally • contributes to hand-eye coordination[3] • Bright lighting can assist with ensuring individuals are alert and can be used to increase mood or assist with sundowning[3] • Predictable floor patterns can assist with a visual rhythm while walking[3]	• With age, individuals experience decreased flexibility of the eye musculature which can impact[2] ○ Peripheral vision[2] ○ Scanning[2] ○ Visual tracking[2] • Due to the visual field narrowing with dementia, it is important to place objects within one's visual field[2] • Visual hallucinations can often play a role in dementia[2] ○ Provide reassurance[2] ○ Support	• Soft colors[3] • Natural or dim lighting[3] • Serene paintings[3] • Pleasant scenery[3] • Flickering candle or campfire[3] • Watching fish in an aquarium[3] • Looking at flowers[3] • Bubble lamp[3] • Clean environment[3]	• Bright colors[3] • Artificial or bright lighting[3] • Modern art[3] • Complex visual images[3] • Changing patterns of light[3] • Video game[3] • Watching animals[3] • Rotary sprinkler[3] • Crowded environment[3] • Watching sports[2] • Watching fast paced dance

			○ Distractions[2] ○ Sensory approaches to calm and comfort[2] ● Using contrasting colors is an efficient way to draw attention to desired items or areas[2] ● Changes in visual processing when combined with behavioral and psychological symptoms of dementia such as fear, anxiety, disorientation, paranoia and hallucinations can cause[2] ○ Fall risk ○ Sedentary lifestyle[2] ○ Decrease participation in roles and activities[2]		performance[2] ● Matching games[2] ● Orientation boards[2] ● Map posters[2] ● Playing balloon volleyball or target games (for visual tracking)[2]
Olfactory (Smell)	● Smell is the only sense that does not follow the typical path of sensory processing[3] ● Smell is	● Positive memories of a particular smell can elicit feelings of comfort[3] ● Strong odors stimulate the Reticular Arousal System (RAS)[1] ● The RAS is responsible for one's state of	● The aging process, Illness or medications can cause a decrease in the ability to smell or taste[3]	● Mild fragrances[3] ● Cedar filled pillow or potpourri[3] ● Positive associations[3]	● Strong fragrances[3] ● Room fragrance spray[3] ● Negative associations[3]

	directly connected to the limbic system, causing strong associations to emotions[3] ● Primitive and protective sense that allows the body to detect danger or assist with survival[3]	arousal, muscle tone, attention and ability to focus[1]			
Gustatory (Taste)	● The sense of taste is individualized and associated with culture[3] ● The state of one's body can additionally influence taste (examples can include: cravings after exercise or while pregnant)[3] ● The sense of taste is influenced by	● Unusual tastes, herbal teas, hot/spicy or cold and sour foods can assist with altering an individual[3] ● Comfort foods or those that are familiar can bring about a sense of calm[3]	● The aging process, Illness or medications can cause a decrease in the ability to smell or taste[3] ● Decreased appetite can result as a consequence of depression[3]	● Mild[3] ● Sweet[3] ● lollipop/hard candy[3] ● Pleasant[3] ● Oatmeal and brown sugar[3] ● Apple juice[3] ● Sweet fruits (cherries/grapes)[3]	● Strong or spicy[3] ● Sour or bitter[3] ● Lemon drop[3] ● Peppermints[3] ● Distasteful[3] ● Chili[3] ● Lemonade[3] ● Pickles[3]

	smell[3]				
Oral Motor	• Begins with the sucking instinct as an infant and continues throughout the lifespan[3] • The strongest proprioceptors are located in the jaw[3]	• Assists with comfort, attention and organization[3] • Sensory input to the proprioceptors can be calming and organizing and can also assist with sustaining attention[3]	• Through the progression of dementia, individuals may lose oral motor control such as the ability to feed themselves, suck, and swallow[2]	• Hard candy[3] • Thick liquid through a straw[3] • Sweet orange slices[3] • Lollipop[3]	• Popcorn[3] • Pretzels[3] • Raw vegetables[3] • Crunchy cereal[3] • Crushed ice[3]
Auditory (Sound)	Assists with: • The ability to speak[2] • Timing and rhythm[2] • Attention[2] • Organization[2]	• Sound impacts muscle tone, equilibrium and flexibility as evidenced by coordinated movements demonstrated while following a rhythm[3]	• When in a stressed or fearful state, the auditory system prioritizes safety[2] ○ Providing calming strategies can assist with the ability to receive and process auditory information and additionally assist with hearing and communication[2]	• Soft/slow music[3] • Classical or New Age music[3] • Familiar background noise (fan)[3] • Humming[3] • Singing quietly[3] • Simple melodic[3] • Repetitive sounds (ocean waves)[3] • Rock waterfall[3] • Meditation tapes[3]	• Offbeat loud quick paced music[3] • Rock music[3] • Unfamiliar background noise[3] • Whistling[3] • Singing loudly[3] • Changing sounds[3] • Hand held instruments[3]

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[1] Arguinchona, J. H. & Tadi, P. (2020). *Neuroanatomy, Reticular Activating System*. Statpearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK549835/

[2] Champagne, T. (2018). *Sensory modulation in dementia care: Assessment and activities for sensory enriched care.* London: Jessica Kingsley Publishers.

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Appendix I

Behavioral and Psychological Symptoms of Dementia Educational Resource/ Data Collection Resource

Behavioral and Psychological Symptoms of Dementia Data Collection Form and Educational Resource

Name of Resident: _____

Name of Caregiver: _____

The following form is intended to serve as an educational resource and data collection form for behavioral and psychological symptoms of dementia. Please check off or manually fill in any/all observed behavioral and psychological symptoms of dementia (BPSD), time observed, level of alertness, breathing level, and signs of stress. The behavior management plan at the bottom of the page is intended to gain a better understanding of how to recognize trends and prevent BPSD through a client-centered and holistic approach

BEHAVIORAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA (BPSD)

☐ Wandering	☐ Verbal aggression (screaming/threatening/cursing)	☐ Fidgeting with hands/body or other objects	☐ Repetition (questions)
☐ Sundowning (behaviors occur during afternoon/early evening)	☐ Physical aggression (hitting, kicking, biting)	☐ Sad/crying/low interest/depressed	☐ Other (Please list) _____

(Crisis Prevention Institute, 2016).

TIME OF DAY BPSD OCCURED:

_____

TABLE 1: LEVEL OF ALERTNESS

☐ Groggy	☐ Distractible	☐ Energetic	☐ Invigorated
☐ Drowsy	☐ Over stimulated	☐ Focused	☐ Perky
☐ Tired	☐ Lively	☐ Attentive	☐ Hyper Vigilant

(Moore, 2005).

TABLE 2: BREATHING

☐ Shallow	☐ Wheezy	☐ Normal
☐ Labored	☐ Irregular	☐ Deep

(Moore, 2005).

TABLE 3: SIGNS OF STRESS

☐ Increased heartbeat	☐ Jittery	☐ Disturbed Sleep	☐ Nausea	☐ Sweatiness	☐ Tenseness
☐ Hypertension	☐ Restlessness	☐ Overtired	☐ Disturbed Appetite	☐ Shakiness	☐ Back Pain

(Moore, 2005).

Please reference the following resources below to better understand how to approach, respond to, and prevent behaviors and then complete the behavior management plan below:

Individuals with dementia often lose the ability to communicate their feelings and unmet needs. These may include loneliness, boredom, lack of comfort, decreased social opportunities, lack of meaningful activities or inappropriate levels of stimulation from the environment. Individuals are too often left without an effective means to communicate to caregivers or loved ones and they may become frustrated or confused. Therefore, agitation, resistance, lack of interest, and depression may result (Jakob & Collier, 2017a). According to the *Unmet Needs Model*, inappropriate behaviors exhibited by those with dementia are likely a result of decreased independence and difficulty with communication. With this in mind, behaviors may not only be a result of frustration, but also a means to meet needs within the environment (Cohen-Mansfield, Dakheel-Ali, Marx, Thein, & Regier, 2015).

According to Crisis Prevention Institute (2016), Behaviors may occur due to any of the following (Crisis Prevention Institute, 2016):

1. Pain
2. Fear
3. Unmet needs
4. Loss of identity
5. Increased demands

TABLE 4: IDENTIFYING BPSD PATTERNS

Who	Example: Who was present when the observed behavior occurred? Staff, resident, two other residents nearby
What	Example: What behaviors were observed? Verbal aggression
Where	Example: Where did the observed behavior occur? In the common area
When	Example: When did the observed behavior occur? Before breakfast
Why	Example: Why did the behavior occur? The resident was asked to sit down for breakfast but was preoccupied trying to find a lost item and began yelling

How	Example: How can staff respond to the situation to prevent the behavior from occurring in the future? Approach the resident from within their visual field and offer to lend a helping hand in trying to find the lost item prior to asking the resident to immediately sit down for lunch

(Adapted from Crisis Prevention Institute, 2016).

References

Cohen-Mansfield, J., Dakheel-Ali, M., Marx, M. S., Thein, K., & Regier, N. G. (2015). Which unmet needs contribute to behavior problems in persons with advanced dementia?. *Psychiatry research*, *228*(1), 59–64. https://doi.org/10.1016/j.psychres.2015.03.043

Crisis Prevention Institute. (2016). Dementia Capable Care: Foundation Course. https://institute.crisisprevention.com/CPI-Branded.html?code=GSIT01CPIH&src=PPC&utm_source=google&utm_medium=cpc&utm_campaign=cpi_help&utm_content=mofu_gen&gclid=CjwKCAjwjJmIBhA4EiwAQdCbxu1XqPQ7xDL5aQbVp10Sp8TxWBPKjqXbL111dwV3_Net41UU8IQiCBoCVG0QAvD_BwE

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Appendix J

Proprioceptive and Vestibular Movement Group

Group Protocol Outline

Group Title: Music and Movement

Author: Olivia Bernas

Time and Place of Meeting: East Village Place, Our Place or Pathways Common Area

Options for time of group: 8:00 AM, 12:30 PM, 5:30 PM

The times listed above will provide calming input at appropriate times of the day in order to best coincide with daily activities

Supplies:

- If available:
    - Drums, maracas, tambourines, bell shakers
- If homemade instruments are preferred:
    - Drums: Tin cans, rubber bands, balloons, chopsticks
    - Maracas: Water bottles, sand, beads, paper clips, beans, rice,
    - Bell shakers: wooden dowels, jingle bells, fabric scraps

Cost: $0-$20 depending on availability of instruments or recycled materials as homemade instruments can be utilized

Purpose/Description: The purpose of this group is to provide residents with group activities that promote vestibular and proprioceptive input through music in order to promote purposeful physical activity throughout the day and decrease behavioral and psychological symptoms of dementia (BPSD) through increased calming sensory input

Population/Group Membership and Size: Minimum of 1 participant and maximum depending on size of the room. Typical group size is approximately ten to fourteen participants

Adaptations:

The following recommendations will assist caregivers in promoting optimal performance and engagement depending on each residents level of cognition and stage of alzheimer's disease and related dementias (ADRD) throughout this group activity

Early Stage:

- Provide individuals within this stage with a role or purpose
    - For example: residents may:

        - Assist other residents
        - Choose desired songs
        - Assist the group facilitator
- Residents at this stage will be able to take turns, understand the desired purpose of the group and will be able to follow along with the group for 20 minutes at a minimum with 1-2 verbal or visual cues for assistance as needed
    - Success will be more easily achieved if given one step verbal directions
- Residents will be able to follow visual demonstrations from the group leader when positioned at different areas around the room
    - However, be aware of the visual changes at each stage of dementia
        - Those within the early stage of ADRD may present with decreased peripheral vision and therefore it will be important to stand within the given visual field while providing visual demonstrations
- In order to increase success, set-up instruments 3-4 feet away from the individual
- Residents at this stage can play a familiar instrument following verbal instructions from the group leader but may require a visual demonstration in addition to verbal instructions given an unfamiliar instrument
- It is important to note that individuals within this stage might require a slower pace to perform the activity at their optimal level of functioning

Middle Stage:

- Although residents at this stage might not understand the purpose of the group, they will still be able to participate given the appropriate supports and enjoy the group just as others would
- Residents within this stage will be able to follow along with the group for five to twenty minutes but may require verbal, visual or tactile cues to stay focused on the task
- Residents within this stage should be positioned at a distance of 14-18 inches in front of the given instrument and should be 3-6 feet away from the group facilitator
    - Those within the middle stage of ADRD may present with decreased peripheral vision and therefore it will be important to stand within the given visual field while providing visual demonstrations
- Residents within this stage will benefit from one-step directions and may require a visual or hands on demonstration indicating how to perform a given movement
    - Once the movement has been carried out given a visual or hands on cue, residents may be able to carry out subsequent movements with only verbal cues depending on their needs and abilities
- Residents within this stage will benefit from easy to use and familiar instruments such as maracas or tambourines

    - Larger instruments will allow residents to rely on gross motor movements (or the use of larger muscle groups) rather than using fine motor movements (or smaller muscle groups)
- It is important to note that individuals within this stage might require a slower pace to perform the activity at their optimal level of functioning and might not be able to play with accuracy
    - It is important to allow individuals to experience the instrument regardless of the sound/outcome

Late Stage:

- Although residents at this stage might not understand the purpose of the group, they will still be able to participate given the appropriate supports and enjoy the group just as others would
    - With this in mind, residents may not be able to understand the cause and effect of each instrument (shaking a maraca makes a noise) but will still be able to enjoy the activity through movements and rhythm
- Residents within this stage will require constant cues to participate in the activity including verbal, visual and tactile (hand over hand) cues
- Residents within this stage will require setup of all materials (instruments and any materials needed should be placed within the visual field of the resident)
    - Those within the late stage of ADRD may present with decreased peripheral vision and therefore it will be important to stand within the given visual field while providing visual demonstrations
- Residents within this stage will require hand over hand assistance to move the instrument as well as verbal cues throughout each movement
- Residents may get up during the activity
- It is important to note that individuals within this stage might require a slower pace to perform the activity at their optimal level of functioning and might not be able to play with accuracy

Group Goals:

1. During this session, residents will participate in a multi-sensory experience while focusing primarily on the auditory, proprioceptive and vestibular senses
2. By the end of the group participants will play at least one instrument while stimulating the proprioceptive and vestibular senses through movement

Outcome Criteria: Residents will participate in the activity, playing at least one instrument and gain proprioceptive and vestibular input

Method:

Introduction (5-10 minutes)

- The group facilitator will gather participants and elicit participation utilizing strategies such as those located within the "Positive Approach Based on Stages of Dementia" educational materials
- After gathering residents, the group facilitator will explain the purpose of the group and greet each resident by their name
- Set up of all materials should be provided at the appropriate distances listed above in the adaptations section

Activity (5-20 minutes depending on each resident's ability to follow and attend to the activity)

- The group facilitator or any resident in the early stages of dementia may choose a familiar song to begin the session (it should be noted that familiar songs may additionally stimulate positive emotions and a sense of calm)
    - Examples include but are not limited to:
        - Take me out to the ballgame
        - You are my sunshine
        - We will rock you
- Each resident will start off with a drum
- The group facilitator or residents at the early stages of dementia will provide a beat to begin at
    - Please refer to the above section of adaptations to best support each group member while playing the given instrument
- After performing one song given a drum beat, participants will then be given a maraca, bells, or a tambourine
    - The facilitator will demonstrate the desired motion using the maraca or bells to stimulate vestibular movements
        - Shake the instrument to the beat
            - Shake the maracas or bells above the head while swaying back and forth from side to side
                - Once this motion has been mastered (providing the appropriate levels of assistance located within the adaptations section above) the next motion will be demonstrated
            - Shake the maraca or bells while shifting the weight forward and backwards in a rocking motion
- Repeat the given sequence of drumming and shaking to the beat with a new song

Cool down (5 minutes)

- The group leader will lead residents through a cool down meditation, thanking residents for joining the group
- The group leader will provide verbal instructions as well as a visual demonstration for slow neck rolls and large or small arm circles

References

Champagne, T. (2018). *Sensory modulation in dementia care: Assessment and activities for sensory enriched care.* London: Jessica Kingsley Publishers.\

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Appendix K

Positive Approach to Care Based on Dementia Stages

Stages of Change Related to the Progression of Dementia

Global Deterioration Scale	ACL Stage	Description	Vision Changes	Verbal Changes	Time and situational awareness changes	General Abilities
Stage 1/2	6	No cognitive decline/ very mild cognitive decline (Age-Associated Memory Impairment)	45 degrees lost from peripheral vision	Receptive: ● Difficulty hearing in loud spaces ● Difficulty hearing high pitched sounds Expressive: ● Slower word finding	Time: ● Aware of time with general age-related forgetfulness Situational: ● Limited impairment with age-related difficulty to think	● Learn new tasks independently ● Anticipate problems independently ● Think/plan ahead
Stage 3	5	Mild cognitive decline (Mild Cognitive Impairment)	Tunnel vision	Receptive: ● Slower ● Missing consonants ● No longer understands pronouns Expressive: ● Difficulty with word-finding ● Speaking out when stressed	Time: ● Thoughts are rooted in the past slightly more than the present. Situational: ● Often emotions forged from the past will drive new interactions.	● Learn new tasks with a demonstration ● Complete familiar IADLs* independently

Stage 4	High 4	Moderate cognitive decline (Mild dementia)	Binocular vision	Receptive: ● Misses ¼ words ● Better with rhythm ● Needs pauses Expressive: ● Stuck in social situations ● Repeats words/phrases ● Intonation is important	Time: ● Resident can present as lost in episodes or loops of time front he past Situational: ● Often not present in the movement with moments of time travel.	● Follow schedules/calendars independently ● Complete crafts by matching samples or asking to personalize ● Independent with ADLs** ● Can select appropriate clothing and dress independently ● Visual scanning intact
Stage 5	Low 4	Moderately severe cognitive decline (Moderate Dementia)	Loss of object recognition	Receptive: ● Misses 2/4 words ● Can catch some keywords without context Expressive: ● Varied volume ● Echo ● Repetitive	Time: ● Residents can appear to be in the moment but not the task or sequence. Situational: ● Residents will have more sensory awareness than intellectual or environmental awareness. They will present more immediate	● Requires setup to complete ADLs (independent with sequencing) ● Remember goals of simple/familiar activities ● Requires initial instruction to refer to sample during a craft activity

					concerns then look at the bigger picture.	
Stage 6	3	Severe cognitive decline (Moderately Severe Dementia)	Monocular vision	Receptive: ● Music/rhythm ● Social chit chat ● Tone of voice Expressive: ● Hum/sing ● Rhythmic Vocalizations ● Babbling/less articulated speech	Time: ● Awareness of time has mostly diminished but Situational: ● Residents will react to what is concerning at the moment. Proprioceptive awareness and what is happening surrounding them is impaired.	● Requires simple, one-step verbal/visual or hands-on cues to sequence through familiar activities ● Simple sorting ● Hold and use familiar objects
Stage 6/7	2	Severe cognitive decline (Moderately Severe Dementia)/ Severe Dementia	Monocular vision/limited visual regard	Receptive: ● Calm/excited ● Familiar/friendly Expressive: ● Responsive ● Single words/sounds	Time: ● Time is an abstruse concept and holds little to no meaning to the resident. Situational: ● Due to visual and brain	● Gross (large) body movements ● With hands-on cueing can bring food to the mouth using fingers ● Sit unsupported/stand/ steps during transfers/walk

					changes residents will not be externally aware of what is around him/her	
Stage 7	1	Severe Dementia	Limited visual regard	Receptive: ● Calm/excited ● Familiar/friendly Expressive: ● Responsive ● Single words/sounds	Time: ● Time is an abstruse concept and holds little to no meaning to the resident. Situational: ● Due to visual and brain changes, residents will not be externally aware of what is around him/her	● Sounds/vocalizations ● Response to stimulation (turn head, facial movement, or extremity movement)

***IADL (Instrumental Activities of Daily Living)**

Meal preparation and cleanup, driving and community mobility, religious and spiritual expression, safety and emergency maintenance, shopping, financial management, communication management, care of pets, child-rearing, care of others, home management, and maintenance (American Journal of Occupational Therapy, 2020).

****ADL (Activities of Daily Living)**

Bathing/ showering, toileting/toilet hygiene, dressing, feeding, eating/swallowing, functional mobility, personal hygiene/grooming, sexual activity (AJOT, 2020).

Levels of Assistance based on Functional Skills		
Level of Assistance	**Acronym**	**Example of Functional Skills and Assistance**
Complete Independence	I	No assistance is required. The resident is able to perform components of an activity safely, securely, without modification, and in a reasonable time. Activities are performed without the use of assistive devices such as walkers, wheelchairs, hearing devices, etc.
Modified Independence	MOD-I	Assistance may be required in the form of an assistive device, a helper, or more time needed than reasonable. Assistive devices are required if there are safety or risk potential to performing an activity.
Supervision or Set-up/ Stand-by Assist	Set-up/ SBA	Assistance required is no more help than standby verbal cueing or coaxing without physical contact. The resident may need to set up for food, dressing, or applying orthoses. Activities may not be completed safely or securely by the residents and will require supervision and or verbal cues.
Contact Guard Assistance	CGA	Assistance required is a variation of minimal assistance where the resident needs some contact to maintain balance or stability. This is a form of safeguard or when a resident occasionally is unsteady but otherwise can transfer, sit, stand or move I, or MOD-I.
Minimal Assistance	MIN A	Assistance required during activities is about 25%. The resident is able to put in 75% or more effort during an activity. The resident requires no more assistance than touching or guidance for initiation, stability, and/or balance during the activity.
Moderate Assistance	MOD A	Assistance required during activities is about 50%. The resident

		is able to put in about 50%-75% effort towards activities.
Maximum Assistance	MAX A	Assistance required during activities is about 75%. The residents put in little to no effort towards the activity, about 25% or less.
Total Assistance	Total A	Assistance required during an activity is greater than 75%. The resident lacks the physical and/or mental capacity to perform an activity or it's out of their scope. In this case, the resident is not able to safely initiate and/or perform the activity without assistance.

Opportunities to Approach and Connect with Residents

Note: Please refer to **Stages of Change Related to the Progression of Dementia** for understanding the current level of abilities based on the resident's stage of dementia. It is important to begin with a positive approach for all residents, providing more assistance and adapting visual, verbal and physical cues as one sees fit based on resident abilities

GDS Stage	ACL Stage	How to Approach Residents to Elicit Participation
1/2	6	● Offer a friendly greeting ● Connect with the resident and build/strengthen the therapeutic relationship: ○ Introduce yourself or share a fact about yourself and ask for a reciprocal answer, identify unmet needs and offer a solution, provide a personal and meaningful compliment, discuss the environment around you ● Motivating residents to engage in tasks by providing them with a sense of autonomy or purpose ○ Examples: ■ Provide a task for the resident to assist with such as setting the table in order to gather them for a mealtime ■ Provide choices such as: ● "Do you think we should have rice pudding or chocolate eclairs for dessert?"
3	5	*Positive Approach*: ● Begin at a public distance of 6 feet away ● Cues should be offered in the following order to best support residents with dementia: ○ Step 1: Visual ○ Step 2: Verbal ○ Step 3: Physical ● Example: ○ Step 1: Place your hand next to your face with your palm facing the resident to

		provide a visual cue ○ Step 2: Verbally greet the resident while offering a friendly "hello," state your name, and ask for theirs. Provide ample time for the resident to process each verbal piece of information provided depending on their stage (approximately 6 seconds is required for individuals with dementia to process information). A verbal or physical "Knock, knock" may also be utilized to provide a verbal cue to look towards the care partner. ○ Step 3: If the resident is sleeping or resting their eyes and does not look up given a verbal cue, a physical cue may be provided. With this in mind, provide a moderate amount of pressure at or below the knee so as not to startle the individual depending on their stage ● After making eye contact using any/all of the approaches above, the care partner may then extend their hand out to the resident at a slow pace in order to offer a handshake. If the individual does not offer their hand, do not reach out and grab for the resident as this is not an appropriate way to engage any individual. ● If the individual offers their hand, move into a hand underhand position and step off to the side, moving into a supportive stance rather than a dominant position, as needed depending on the resident stage in dementia ● If the resident is seated, move into their visual field by taking a seat as well
4	High 4	● Begin with the positive approach stated above ● When approaching a resident in this stage, use sensory needs/tolerance to portray your message, ask a question or elicit participation ○ Bring a physical item or example of an activity that you would like the resident to participate in ○ Example: If you are trying to elicit participation in dressing, bring a shirt with you and ask which shirt the resident might like to change into giving choices ■ **Note that this example is using just one aspect of the strategies to build a strong therapeutic relationship and any strategy to build a connection with each resident may be used here** ■ Offering choices can promote an individual to take action and provides those living with dementia with a sense of autonomy while providing the visual cue

		of the physical shirts that may be required at this stage
5	Low 4	● Begin with the positive approach stated above ● When approaching a resident in this stage, use sensory needs/tolerance to portray your message, ask a question or elicit participation ○ Bring a physical item or example of an activity that you would like the resident to participate in ○ Example: If you are trying to elicit participation in dressing, bring a shirt with you and ask which shirt the resident might like to change into giving choices ■ **Note: this is only one example is using just one aspect of the strategies to build a strong therapeutic relationship any strategy to build a connection with each resident may be used here** ■ Offering choices can promote an individual to take action and provides those living with dementia with a sense of autonomy while providing the visual cue of the physical shirts that may be required at this stage
6	3	● Begin with the positive approach stated above ● When approaching a resident in this stage, use sensory needs/tolerance to portray your message, ask a question or elicit participation ○ Bring a physical item or example of an activity that you would like the resident to participate in ○ Example: If you are trying to elicit participation in dressing, bring a shirt with you and ask which shirt the resident might like to change into giving choices ■ **Note that this example is using just one aspect of the strategies to build a strong therapeutic relationship and any strategy to build a connection with each resident may be used here** ■ Offering choices can promote an individual to take action and provides those living with dementia with a sense of autonomy while providing the visual cue of the physical shirts that may be required at this stage ● Utilize rhythm within your greeting/while approaching or engaging with a resident within this stage as this highlights current strengths and abilities and can draw attention to you as the care partner or the task at hand

		○ Example: Use a musical voice while stating your name and offering out a hand ● Rhythmic movements such as rocking can create a more fluid transition from sitting to standing ○ Residents in this stage have the ability to imitate actions, therefore it may be helpful to physically demonstrate the task that you would like them to participate in ● Using hand underhand as needed; individuals may require more support to complete a task such as self-feeding as they possess strength rather than skill at this stage
6/7	2	● Begin with the positive approach stated above ● Utilize rhythm within your greeting/while approaching or engaging with a resident within this stage as this highlights current strengths and abilities and can draw attention to you as the care partner or the task at hand ○ Example: Use a musical voice while stating your name and offering out a hand ● Rhythmic movements such as rocking can create a more fluid transition from sitting to standing ○ Residents in this stage have the ability to imitate actions, therefore it may be helpful to physically demonstrate the task that you would like them to participate in ○ Using hand underhand as necessary, individuals may require more support to complete a task such as self-feeding as they possess strength rather than skill at this stage
7	1	● Begin with the general approach ● Connect to the resident within their world by remembering their visual field is much smaller ○ A verbal or physical cue may be required in this stage to engage the resident ○ Connections will be short, but meaningful ○ Utilize vocalizations/ rhythm while engaging with the resident ○ Sing or hum while providing a greeting ○ Provide moderate pressure/massage at the knee ● Residents in this stage typically take in sensory input from one sensation (sight, sound, touch, smell) at a time and require anywhere from six to fifteen seconds to respond/comprehend

		○ Patience is extremely important here so as not to overwhelm the resident ● Hand under hand is required to elicit participation as individuals in this stage are mostly immobile

References:

American Occupational Therapy Association. (2020). Occupational therapy practice framework; Domain and process (4th ed.)

Cohen-Mansfield, J., Dakheel-Ali, M., Marx, M. S., Thein, K., & Regier, N. G. (2015). Which unmet needs contribute to behavior problems in persons with advanced dementia?. *Psychiatry research*, *228*(1), 59–64. https://doi.org/10.1016/j.psychres.2015.03.043

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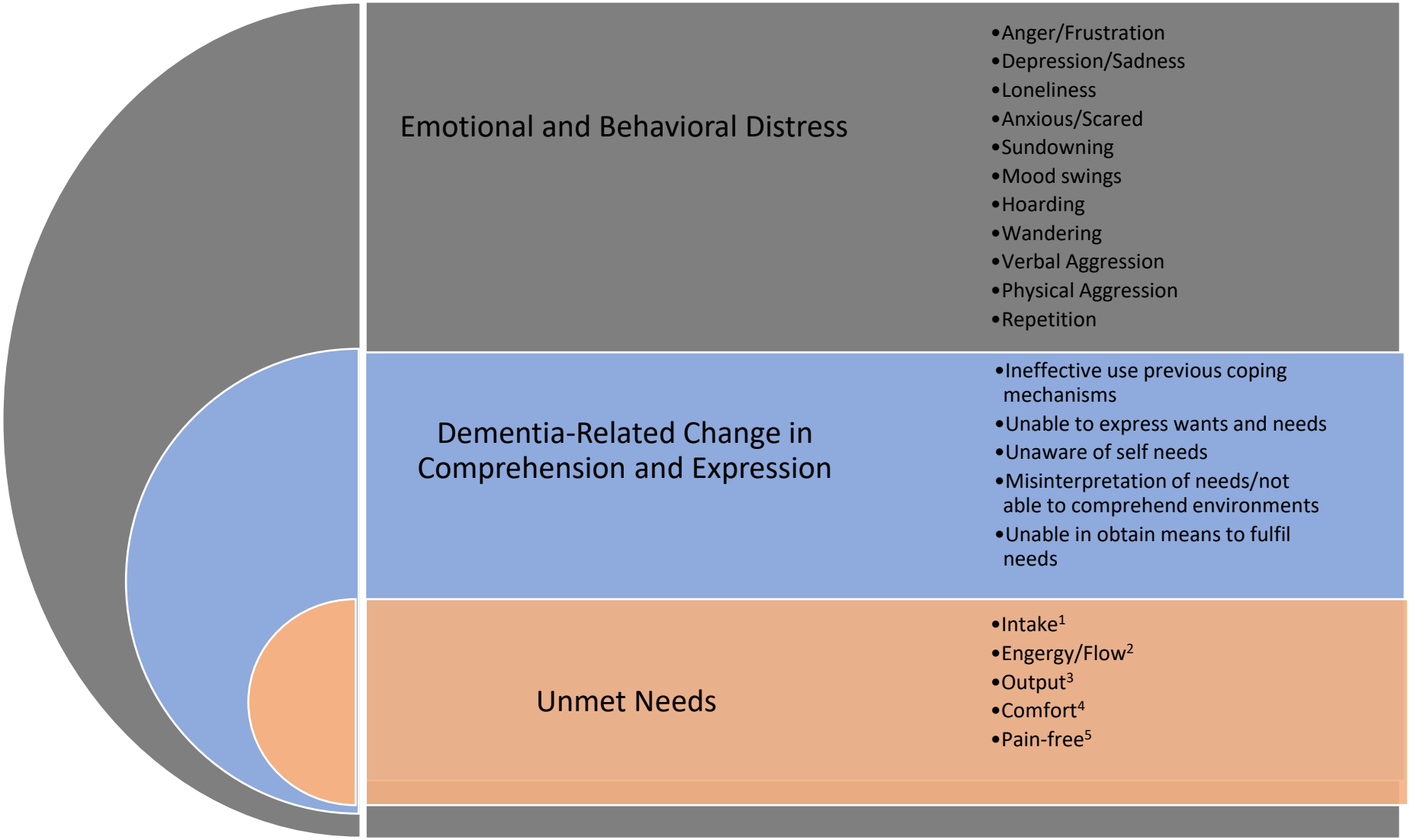
Prost, E. L., & Willis, B. W. (2021, May 3). Geriatric Assessment Tool Kit. https://geriatrictoolkit.missouri.edu/funct/FIM.pdf.

Snow, T. (n.d.). (PAC) Champion Course 1-4 [MOOC]. Positive Approach to Care (PAC). https://teepasnow.com/services/one-day-public-skills-champion-course/

Flow Chart of Emotional/ Behavioral Distress and Unmet Needs



1. Intake: Food, Hydration, Medication
2. Energy/Flow: Tired, Amped, Restless, Bored
3. Output: Bladder, Bowel, Sweat, Tears
4. Comfort: Environment – Friendly, Familiar, Functional, Forgiving, Space, Sensation, Socialization, and Surface Contact
5. Pain-free: Physical, Spiritual, and Emotional

Cohen-Mansfield, J., Dakheel-Ali, M., Marx, M. S., Thein, K., & Regier, N. G. (2015). Which unmet needs contribute to behavior problems in persons with advanced dementia?. *Psychiatry research*, *228*(1), 59–64. https://doi.org/10.1016/j.psychres.2015.03.043

Appendix L

Learning and Evaluation Plan

<table>
<tr><td colspan="2"><u>WNE OTD Objective #1</u>:
Document my experience in collaboration for program or service delivery with professionals and/or members of consumer groups who are not occupational therapists. This includes being able to negotiate the role of occupational therapy as part of an interprofessional team.</td></tr>
<tr><td colspan="2"><u>Planned Activity of Methodology</u>
Communicating with DEx mentor, site mentor, Lisa Parent, nurses, CNAs and other professionals via email and in person communication
Weekly meetings with Judy Gagnon (site mentor), nurses and CNAs</td></tr>
<tr><td><u>Who is responsible?</u>
Olivia Bernas</td><td><u>What is the timeline?</u>
Monday morning meetings with Judy for the duration of 14 weeks from April 12th to July 16th</td></tr>
<tr><td colspan="2"><u>What resources are needed?</u>
● WNE email
● Computer/phone
● Internet/wifi
● Meeting space at East Village Place (activity room, cafe, Judy’s office)</td></tr>
<tr><td colspan="2"><u>Evidence of Accomplishment</u>
● Meeting notes
● Email correspondence
● Reflective writing
● Posted flyers
● Completed E-Portfolio, and Poster Presentation
● Thumb drive provided to the community with all completed documents, education, and programs.</td></tr>
<tr><td><u>Midterm</u>
☐ Accomplished</td><td><u>Final</u>
☐ Accomplished</td></tr>
</table>

☐ Making progress ☐ Not progressing, needs attention	☐ Making progress ☐ Not progressing, needs attention
MIDTERM NOTES: Continued collaboration with site mentor and facility staff with meeting and meeting notes being kept with action plans completed in relation to those meetings.Educational flyers have been developed and posted within facility break room/meeting space	FINAL NOTES: Collaboration has taken place throughout the 14 weeks with all notes, action plans, and follow up kept in Drive.Educational materials have been developed, posted and provided to facility on a thumb drive. Poster has been completed and is ready for presentation as well as E-portforlio.
Olivia's Midterm Notes: Progress is being made on this objective with ongoing collaboration on site/virtually via meetings and email with Judy, Lisa, Charlotte, Olive and various other professionals (CNAs, nursing staff) with meeting notes stored on drive. Continued development of evidence based educational flyers intended to provide staff education on role of occupational therapy, individual projects and learned components of Positive Approach to Care (PAC) virtual champion course designed to educate caregivers and family on stages of dementia and appropriate care techniques (located on drive). Past flyers displayed in common areas within East Village Place	Olivia's Final Notes: This objective has been completed as collaboration with Judy, Lisa, Charlotte, Olive and other professionals (CNAs, nursing staff) was ongoing throughout the 14 week experiential with meeting notes stored on drive. The role of occupational was established through educational flyers displayed throughout EVP and discussed with the interprofessional team at EVP

WNE OTD Objective #2: Documentation of a needs assessment for a particular population and using said assessment as the foundation for planning a successful Doctoral Experiential Project. Additional evidence will include feedback from consumers that indicates the impact of the project on the population they represent.
Planned Activity of Methodology

<table>
<tr><td colspan="2">Student (Olivia Bernas) will complete a need's assessment/community profile on Alzheimer's Disease and Related Dementias (ADRD) using data pertaining to the general Massachusetts area, East Longmeadow, and East Village Place. Students (Olivia Bernas, Kaley Kennedy, and Samantha Jaffery) will generate a need's assessment questionnaire in order to determine individuals diagnosed with alzheimer's disease and related dementias (ADRD) within both memory care and assisted living at EVP, resident participation in activities, behavioral and psychological symptoms of dementia, animal assisted therapy, and multi-sensory based interventions.Needs assessment will be given to and completed by Judy Ganon, site mentor, with collected data analyzed and reported on by before mentioned students.</td></tr>
<tr><td>Who is responsible?
Olivia Bernas
Kaley Kennedy
Samantha Jaffery</td><td>What is the timeline?
Students will complete the questionnaire on Monday April 26th, 2021. Judy Gagnon (site mentor) will fill out a needs assessment questionnaire and return to students no later than Thursday April 29th, 2021.</td></tr>
<tr><td colspan="2">What resources are needed?
● Google documents
● Completed questionnaire
● Massachusetts Healthy Aging Community Profile: East Longmeadow, Massachusetts
● East Village Place Watermark Retirement Communities website</td></tr>
<tr><td colspan="2">Evidence of Accomplishment
Completed questionnaire with responses is located in a shared folder in Google Docs
Completed needs assessment</td></tr>
<tr><td>Midterm
☐ Accomplished
☐ Making progress
☐ Not progressing, needs attention</td><td>Final
☐ Accomplished
☐ Making progress
☐ Not progressing, needs attention</td></tr>
<tr><td>MIDTERM NOTES: Needs assessment is complete and most data has been interpreted with action steps taken including the development of facility specific</td><td>FINAL NOTES: Needs assessment is complete, data has been interpreted with development of facility specific memory box bios, facility getting to know you questionnaire, and the development of a sample sensory box with education materials surrounding the use of</td></tr>
</table>

memory box bios, and the development of sensory boxes and sensory movement activities.	both alerting and calming activities for residents. This plan was changed from resident specific boxes to a facility example with a larger focus on education and what can be accomplished when addressing sensory system.
Olivia's Midterm Notes: Progress is being made on this objective. Completed needs assessment guiding course of DEx; shifting towards need for movement based activities and individualized sensory boxes to provide residents with a sense of calm or alertness based on sensory modulation and discrimination	This objective has been completed as a completed needs assessment questionnaire provided feedback from site mentor Judy Gagnon regarding current methods of care at the site in regards to diagnoses of alzheimer's disease and related dementias (ADRD), current multi-sensory approaches, typical behavioral and psychological symptoms of dementia (BPSD) observed, responses to BPSD, and participation and level of engagement throughout activities. Additional observations, feedback and collaboration between site mentor, and thematic coding led to the development of the current scholarly components: sensory calming and alerting boxes, sensory systems educational resource, BPSD educational resource and data collection form, Positive Approach Based on Stages of Dementia, and proprioceptive and vestibular movement group.

WNE OTD Objective #3:
Demonstrated proficiency with the use of personal computers, learning platforms, electronic health records and assistive technology sufficient to fully document the Doctoral Experiential Project for WNE as well as for members of the population served by that project.
Planned Activity of Methodology Student will utilize WNE zoom account to schedule and attend virtual meetings as needed with DEx mentor, peers, and various other professionals. Student will utilize google sites to continuously update E-portfolio. Student will access peer reviewed journal articles through resources such as AOTA, AJOT or WNE library databases. Student will utilize WNE DEx 2021 community resource page to upload daily logs, reflective writings, and updates on DEx proposal

<table>
<tr><td>Who is responsible?
Olivia Bernas</td><td>What is the timeline?
Fourteen weeks from April 12th to July 16th</td></tr>
<tr><td colspan="2">What resources are needed?
● WNE zoom account
● Google Drive
● WNE website and online databases
● Microsoft platform
● Internet/wifi
● AOTA membership
● Watermark University platform</td></tr>
<tr><td colspan="2">Evidence of Accomplishment
● Documentation of meeting minutes held virtually
● Completed E-Portfolio, and Poster Presentation
● Thumb drive provided to the community with all completed documents, education, and programs.</td></tr>
<tr><td>Midterm
☐ Accomplished
☐ Making progress
☐ Not progressing, needs attention</td><td>Final
☐ Accomplished
☐ Making progress
☐ Not progressing, needs attention</td></tr>
<tr><td>MIDTERM NOTES: This objective has effectively been consistently met throughout. All information is stored in a shared google drive where meeting notes, plans, activities developed, and background information is kept. Webinars have been attended, and will continue over the next month. All material is ready to be uploaded to thumb drive for transfer to site mentor.</td><td>FINAL NOTES: This objective has effectively been consistently met throughout. All information is stored in a shared google drive where meeting notes, plans, activities developed, and background information is kept. Webinars have been attended, with the completion of the PAC program. All material is ready and being uploaded to thumb drive for transfer to site mentor.</td></tr>
</table>

Olivia's Midterm Notes: All information is stored within a shared google drive including meeting minutes, notes, observations, resources, plans, and past research that is continuously updated. Microsoft platform was utilized to create a template for memory box bios and shared with site mentor. Databases and online journals are frequently utilized to gather evidence based practice. Zoom meetings are attended with DEx peers, Dr. Wheeler, PAC team members, and other professionals.	Olivia's Final Notes: This objective has been completed as all information is stored in a shared google drive including meeting minutes, notes, observations, resources, and all e-portfolio components. Microsoft platform was utilized to create the template for the experiential component titled: "Memory Box Biographies." Online journal articles were frequently accessed through the D'amour library database resource as well as AOTA, to ensure that all research is peer reviewed and evidence-based. Zoom meetings were frequently conducted when virtual collaboration and communication was required. Those in attendance included: Dr. Graves Wheeler, DEx peers PAC team members and other professionals such as site mentor Judy Gagnon. The PAC virtual training sessions were fully completed. All material is being uploaded onto a thumb drive to deliver to site mentor Judy Gagnon.

WNE OTD Objective #4: Recognize and be able to describe the diverse systems of service delivery that are most cost-effective and considerate for health, social, and educational settings, both traditional and nontraditional. Through both clinical and reflective writing, be able to articulate a sensitivity to cultural, linguistic, and other diversities and describe solutions for care disparities.	
Planned Activity of Methodology Student will recognize and describe the above components through both remote and on-site meetings with Judy Gagnon and staff members at East Village Place. Student will additionally demonstrate through DEx proposal, E-portfolio and reflective writings.	
Who is responsible? Olivia Bernas	What is the timeline? Fourteen weeks from April 12th to July 16th
What resources are needed? ● Meeting space on site at East Village Place ● Internet access/wifi ● Google sites ● Word documents	

<table>
<tr><td colspan="2">

- WNE community DEx 2021 page
- WNE zoom account

</td></tr>
<tr><td colspan="2">

Evidence of Accomplishment

- Evidenced through DEx proposal, needs assessment, and E-portfolio.
- Reflective writing

</td></tr>
<tr><td>

Midterm
☐ Accomplished
☐ Making progress
☐ Not progressing, needs attention

</td><td>

Final
☐ Accomplished
☐ Making progress
☐ Not progressing, needs attention

</td></tr>
<tr><td>

MIDPOINT NOTES: Knowing cost of delivery is difficult in this setting as all are working independent of an OT or providing direct services. Easily seen that an individual more knowledgeable in staging, and activity modification would be beneficial in this setting. This information is documented and found in reflections, needs assessments and produced educational material.

</td><td>

FINAL NOTES: Able to articulate the need for a skilled, knowledgeable individual to develop and implement programming that is staged and appropriate for the individuals participating.within the facility.

</td></tr>
<tr><td>

Olivia's Midterm Notes: This objective is in progress. Cost effective plans to create sensory boxes are being explored. Educational materials and sensory boxes are in process of design to support those with ADRD at each stage and with individual sensory preferences. Need's assessment, reflections, educational flyers, and proposal reflect these components of care

</td><td>

Olivia's Final Notes: This objective has been completed as cost effective plans to create sensory boxes were completed and explained to site mentor. Educational materials were designed in order to appropriately meet the abilities of all individuals with ADRD regardless of the stage they reside at. Need's assessment, reflections, educational flyers, experiential and scholarly components and proposal reflect these components of care.

</td></tr>
</table>

<table>
<tr><td colspan="2"><u>WNE OTD Objective #5</u>:
Document the ability to work with others to identify meaningful objectives, organize, manage, and motivate people and resources, communicate effectively, and oversee action to accomplish stated program or service goals.</td></tr>
<tr><td colspan="2"><u>Planned Activity of Methodology</u>
Meetings with Kaley Kennedy, Samantha Jaffery, Dr. Wheeler, Judy Gagnon, and Lisa Parent</td></tr>
<tr><td><u>Who is responsible?</u>
Olivia Bernas</td><td><u>What is the timeline?</u>
Fourteen weeks from April 12th to July16th</td></tr>
<tr><td colspan="2"><u>What resources are needed?</u>
● Zoom account
● Email
● Meeting space at East Village Place or off site</td></tr>
<tr><td colspan="2"><u>Evidence of Accomplishment</u>
● Reflective writing
● Completed needs assessment
● Completed E-portfolio and Poster Presentation
● Thumb drive provided to the community with all completed documents, education, and programs.</td></tr>
<tr><td><u>Midterm</u>
☐ Accomplished
☐ Making progress
☐ Not progressing, needs attention</td><td><u>Final</u>
☐ Accomplished
☐ Making progress
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MIDPOINT NOTES: Needs assessment has been completed and data has been analyzed leading to the development of individualized sensory boxes, as well as sensory movement protocols. Information is kept in a shared google drive and is ready to be transferred to the thumb drive.	FINAL NOTES: Needs assessment is complete, data has been interpreted with development of facility specific memory box bios, facility getting to know you questionnaire, and the development of a sample sensory box with education materials surrounding the use of both alerting and calming activities for residents. This plan was changed from resident specific boxes to a facility example with a larger focus on education and what can be accomplished when addressing the sensory system. All of this has been completed in collaboration with the site and faculty mentor.
Olivia's Midterm Notes:This objective is in progress. Communicating frequently with Dr. Wheeler, Judy, Olive, Charlotte, Lisa and other staff members at EVP in order to reach service goals such as an effective sensory based program and sensory based movement activities based on development of need's assessment. Communication with PAC members assists development of educational resources.	Olivia's Final Notes: This objective has been completed as collaboration between myself, Dr. Wheeler, Judy, Olive, Charlotte, Lisa and other staff members at EVP provided opportunities to communicate plans to create sensory calming and alerting boxes, sensory systems educational resource, BPSD educational resource and data collection form, Positive Approach Based on Stages of Dementia, and proprioceptive and vestibular movement group. Additionally, site specific service goals were identified and met through aspects of care including: data analysis of resident information and thematic coding memory box biographies, and a "Getting to Know Me Questionaire"

WNE OTD Objective #6: Through both clinical and reflective writing, be able to articulate the therapeutic/clinical reasoning (procedural, interactive, narrative, ethical, scientific, pragmatic) process that I use during planning, delivery, and evaluation of population-based and evidence-driven occupational therapy services. Demonstrate the ability to implement, in existing programs, and plan for in developing programs, an occupational therapy process that is occupation-based, client-centered, culturally sensitive, and ethically appropriate.
Planned Activity of Methodology Through observation of existing programs, creation of educational resources such as tip sheets as well as the development of client-centered sensory based program

Who is responsible? Olivia Bernas	What is the timeline? Fourteen Weeks from April 12th to July 16th
What resources are needed? ● Access to evidence based resources through AOTA, AJOT, WNE website or library databases ● Wifi/internet ● Computer ● WaterMark University template	
Evidence of Accomplishment ● Reflective writing ● Completed E-portfolio and Poster Presentation ● Thumb drive provided to the community with all completed documents, education, and programs ● Completed person centered sensory boxes as well as guidelines/ideas for the development of more community based activities once Covid restriction are lifted	
Midterm ☐ Accomplished ☐ Making progress ☐ Not progressing, needs attention	Final ☐ Accomplished ☐ Making progress ☐ Not progressing, needs attention
MIDPOINT NOTES: Progress being made in this area, culture within this particular building is difficult, apprehensive of change and a different way of thinking. On going education on purpose of being on site and what opportunity is being offered. Individual sensory boxes are being explored and developed, as well as the use of movement as sensory input during the day.	Final Notes All reflective writing has been completed and articulates the relationships that have been established. A sensory based program with a sample sensory box and extensive education has been developed and graded for the stages of Dementia. Program has been reviewed and approved by both site and faculty mentor and has been transferred to a thumb drive for the facilities use.
Olivia's Midterm Notes: This objective is in progress. Evidence based resources are consistently accessed such	Olivia's Final Notes: This objective has been completed as Positive Approach to Care trainings were all attended and guided the creation of

as the effectiveness of vestibular and proprioceptive input for those with dementia and increased need for more ethical treatments such as sensory input rather than reliance on medications as a behavior management strategy for psychological and behavioral symptoms of dementia. Positive Approach to Care (PAC) training assists in building evidence based practice techniques that are ethical, culturally sensitive and occupation based	an educational resource communicating and outlining practice techniques that are ethical, culturally sensitive and occupation based. Educational resources and multi-sensory approaches were developed in order to support client-centered and non-pharmacological approaches to dementia care in order to elicit participation and decrease behavioral and psychological symptoms of dementia.

WNE OTD Objective #7:

Document an experiential and scholarly project that reflects the literature in the field and uses responsive, ethical methods. The scholarly process and results should be made accessible to the college and the community, especially to the population served by the project. A report of the project, presented in a professional format that others can replicate or build upon, will be evidence of accomplishment.

Planned Activity of Methodology

Update and refine literature review and present scholarly/experiential component of research through proposal and E-portfolio
Create personalized sensory boxes using *Caregiver Questionnaire* and *Get to Know Me Questionnaire*

Who is responsible?	What is the timeline?
Olivia Bernas	Fourteen weeks from April 12th to July 16th

What resources are needed?

- Databases
- Library access (online or in person)
- Computer/wifi
- Google docs
- Word

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- Google sites

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Evidence of Accomplishment

- Completed E-portfolio and Poster Presentation
- Thumb drive provided to the community with all completed documents, education, and programs
- Individualized sensory boxes as well as guidelines/ideas for the development of more community based activities once Covid restriction are lifted
- Completed research paper

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Midterm

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☐ Making progress

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Final

☐ Accomplished

☐ Making progress

☐ Not progressing, needs attention

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MIDPOINT NOTES: Lit review, needs assessment, proposal are completed, progress is being made on development of resident specific sensory boxes and movement break/participation activities to be used in the group setting.

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FINAL NOTES: Lit review, needs assessment, proposal are completed, as is a sensory based program with a sample sensory box and extensive education has been developed and graded for the stages of Dementia. Program has been reviewed and approved by both site and faculty mentor and has been transferred to a thumb drive for the facilities use. Scholarly projects, as well as all associated material will all be located on the e-portfolio and presented.

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Olivia's Midterm Notes: This objective is in progress. Completed need's assessment, literature review and proposal which will be accessed via E-portfolio as needed to further inform and educate individuals at EVP, community and WNE on sensory based interventions and dementia care. Individualized sensory boxes, sensory based

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Olivia's Final Notes: This objective has been completed as the need's assessment, literature review and proposal are all accessible via Oilvia's e-portfolio. Each scholarly component has been finalized and linked within the E-portfolio as well as described throughout a collaborative poster to present each component of the doctoral experiential

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movement program and group protocol for sensory based activities are being developed	

WNE OTD Objective #8: Through both clinical and reflective writing, be able to articulate a clear awareness of my own personal and professional strengths and boundaries and identify supports and strategies for goal achievement.	
Planned Activity of Methodology Student will articulate personal and professional strengths, boundaries, supports, and strategies for goal achievement through reflective writing assignments as well as weekly meetings every Wednesday with Dr. Wheeler	
Who is responsible? Olivia Bernas	What is the timeline? Weekly writing assignments throughout week 1, 5, 9 and 14 Weekly meetings every Wednesday with Dr. Wheeler
What resources are needed? ● Wifi/internet ● Access to reflective writing prompts through DEx community 2021 page ● Google drive ● Space to meet with DEx mentor	
Evidence of Accomplishment ● Reflective writing ● Meeting notes located on google drive/ e-portfoliio ● Completed E-portfolio and Poster Presentation	

Midterm ☐ Accomplished ☐ Making progress ☐ Not progressing, needs attention	Final ☐ Accomplished ☐ Making progress ☐ Not progressing, needs attention
MIDPOINT NOTES: although there are still reflections to be written, Olivia has already demonstrated the ability to be self aware of both personal and professional strengths and weaknesses. Olivia has continued to grow and develop in this area and address those weaknesses that she has identified.	FINAL NOTES: Olivia has demonstrated the ability to be self aware of both personal and professional strengths and weaknesses. Olivia has continued to grow and develop in this area and address those weaknesses that she has identified.
Olivia's Midterm Notes: Reflective writings are submitted on kodiak and reflect personal and professional strengths as well as areas of weakness or strategies for support and goal achievement. Additionally, collaborating with Dr. Wheeler and DEx peers during Wednesday weekly meetings allows a period of time to reflect, and plan for growth in the upcoming weeks	Olivia's Final Notes: This objective has been completed. All reflective writings as well as the Student Evaluation of the Doctoral Experiential have been uploaded to kodiak and displayed via the e-portfolio. Each reflective writing outlines personal and professionals areas of strength and weakness faced throughout the DEx. Additionally, all weekly meetings with Dr. Graves Wheeler are completed and therefore, personal areas of planning and growth have concluded for the purpose of the DEx.

WNE OTD Objective #9: In 14 weeks, the student will design and implement a client-centered, evidence-based multi-sensory program in order to decrease behavioral and psychological symptoms of dementia.
Planned Activity of Methodology: Student will identify evidence based assessments and interventions through webinars, podcasts, peer reviewed articles and current literature to develop program at East Village Place. Student will read Sensory Modulation in Dementia Care: Assessment and Activities for Sensory Enriched Care.

Who is responsible? Olivia Bernas	What is the timeline? Fourteen weeks from April 12th to July 16th
What resources are needed? ● Podcasts ● Webinar access (ASA, Teepa Snow Positive approach to Care) ● Library access through WNE website/physical access to literature ● Library databases ● Wifi/internet ● Sensory Modulation in Dementia Care	
Evidence of Accomplishment ● Completed E-portfolio and Poster Presentation ● Thumb drive provided to the community with all completed documents, education, and programs ● Individualized sensory boxes as well as guidelines/ideas for the development of more community based activities once Covid restriction are lifted ● Completed research paper	
Midterm ☐ Accomplished ☐ Making progress ☐ Not progressing, needs attention	Final ☐ Accomplished ☐ Making progress ☐ Not progressing, needs attention
MIDPOINT NOTES: Literature review has been completed (with additions as necessary), need assessment completed with observation of residents ongoing. Development of individualized sensory boxes ongoing with the addition of the use of movement breaks throughout the day to increase levels of alertness.	FINAL NOTES: Lit review, needs assessment, proposal are completed, as is a sensory based program with a sample sensory box and extensive education has been developed and graded for the stages of Dementia. Program has been reviewed and approved by both site and faculty mentor and has been transferred to a thumb drive for the facilities use. Scholarly projects, as well as all associated material will all be located on the e-portfolio and presented.
Olivia's Midterm Notes: This objective is in progress. Literature review has been completed with ongoing	Olivia's Final Notes: Student observations, semi-structured interviews between staff members at EVP, thematic coding, need's assessment,

research and updates will continue to be made. Sensory based program in development; sensory boxes in process of development based on individual sensory preferences and dementia stages. Sensory based movement group protocol in process of development	and literature review have all been completed. All aspects of research leading to the development of each multi-sensory approach have been completed. Sensory calming and sensory alerting boxes were designed and were presented to site mentor Judy Gagnon along with supplemental educational resources and a proprioceptive and vestibular movement based group protocol outline. An educational resource and data collection sheet were formulated as an additional component to the program to support and guide caregivers in the use of the given materials

WNE OTD Objective #10:

In 14 weeks, the student will demonstrate the ability to design and implement a staff education program within a long-term facility, building awareness on multi-sensory behavioral management approaches within dementia care.

Planned Activity of Methodology

Determine current awareness of multi-sensory behavioral management approaches at East Village Place through Needs Assessment Questionnaire. Develop educational resources for residents, staff members and family caregivers in order to build awareness of multi-sensory based interventions within dementia care

Who is responsible?	What is the timeline?
Olivia Bernas	Fourteen Weeks from April 12th to July 16th

What resources are needed?

- Completed needs assessment questionnaire
- Access to WaterMark University templates
- Wifi/internet
- Computer
- Evidence based resources (databases, literature)

Evidence of Accomplishment

- Completed E-portfolio and Poster Presentation
- Thumb drive provided to the community with all completed documents, education, and programs

• Individualized sensory boxes as well as guidelines/ideas for the development of more community based activities once Covid restriction are lifted • Completed research paper	
Midterm ☐ Accomplished ☐ Making progress ☐ Not progressing, needs attention	Final ☐ Accomplished ☐ Making progress ☐ Not progressing, needs attention
MIDPOINT NOTES: Literature review has been completed (with additions as necessary), need assessment completed with observation of residents ongoing. Development of individualized sensory boxes ongoing with the addition of the use of movement breaks throughout the day to increase levels of alertness. With this materials will be protocol written on how and when to utilize as well as how to develop in the future.	FINAL NOTES: Lit review, needs assessment, proposal are completed, as is a sensory based program with a sample sensory box and extensive education has been developed and graded for the stages of Dementia. Program has been reviewed and approved by both site and faculty mentor and has been transferred to a thumb drive for the facilities use. Scholarly projects, as well as all associated material will all be located on the e-portfolio and presented.
Olivia's Midterm Notes: This objective is in progress. With completed needs assessment and literature review and continued research/webinar participation, development of educational resources are in development in order to spread awareness of effective and individualized sensory based interventions, activities or routines	Olivia's Final Notes: This objective has been completed. Completed webinars, trainings, and research assisted in the development of educational materials to support staff while providing client centered care based on the abilities retained at each ADRD stage while promoting awareness of multi-sensory approaches

Reviewed 7/29/2021

Ellen Rainville OT, OTD, MS, FAOTA
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