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## Brain Fitness Program for Aging Individuals: Prevention Focused Program for Alzheimer's Disease and Related Dementias

Mary M. Eisele  
Nova Southeastern University, [me932@mynsu.nova.edu](mailto:me932@mynsu.nova.edu)

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# Brain Fitness Program for Aging Individuals: Prevention Focused Program for Alzheimer's Disease and Related Dementias

Mary Eisele, OTD-S

Dr. Terri Cassidy OTD, OTR/L, CRDS & Health Promotion Partners



## Introduction

- Alzheimer's Disease and Related Dementia (ADRD) begins developing 20 years before the onset of symptoms (Alzheimer's Association, 2021)
- Many individuals do not experience symptoms or receive a diagnosis until around the age of 75 years old (Livingston et al., 2020; Livingston et al., 2017).
- New research indicates there are modifiable lifestyle factors that can delay or prevent the onset of ADRD symptoms. (Livingston et al., 2020; Livingston et al., 2017).

## Site Description

### Health Promotion Partners

- Outpatient Occupational Therapy clinic located in Colorado Springs

### Target population

- Young adults with learning or developmental disabilities
- Individuals returning to drive after a medical event
- Older adults
- Individuals with dementia or Alzheimer's and their caregivers

### Mission Statement

- "Empowering people to access the everyday occupations that support their well-being."

### Services offered

- Senior driving evaluations
- Adaptive driving education
- Readiness to drive education for young adults
- Aging in Place education for older adults
- Communication education for caregivers

## Literature Review Summary

- More than one third of dementia related cases could theoretically have been preventable through implementing modifiable lifestyle habits (Livingston, 2017)
- Interventions such as education, cognitive exercises, stress management, social engagement, physical exercise, and improving one's quality of life can prevent or delay onset of ADRD (Livingston, 2017).
- Cations et al. (2018) found that in a twenty-six-article systematic review, half stated that dementia is a normal part of aging, and it is non-preventable.

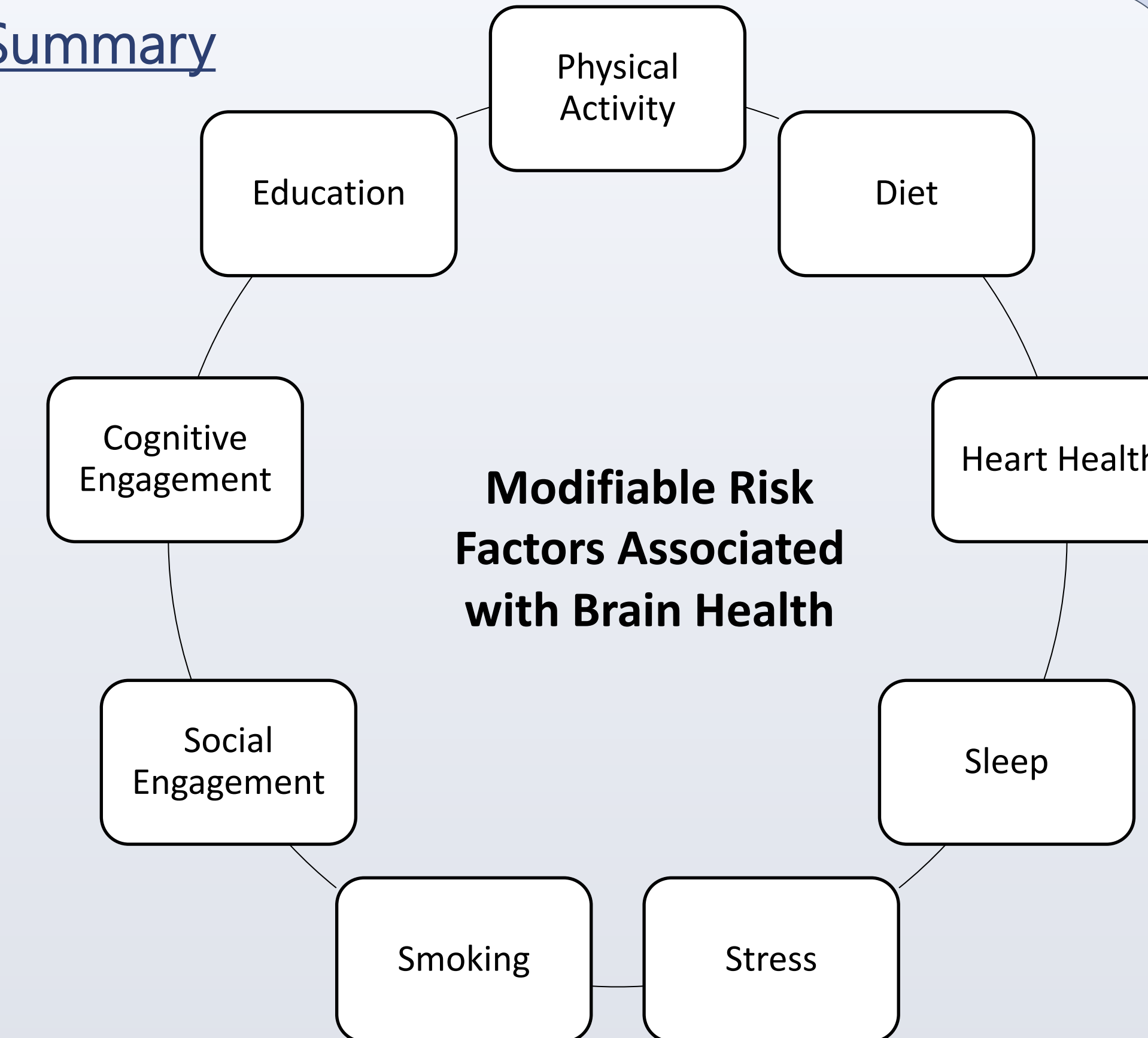
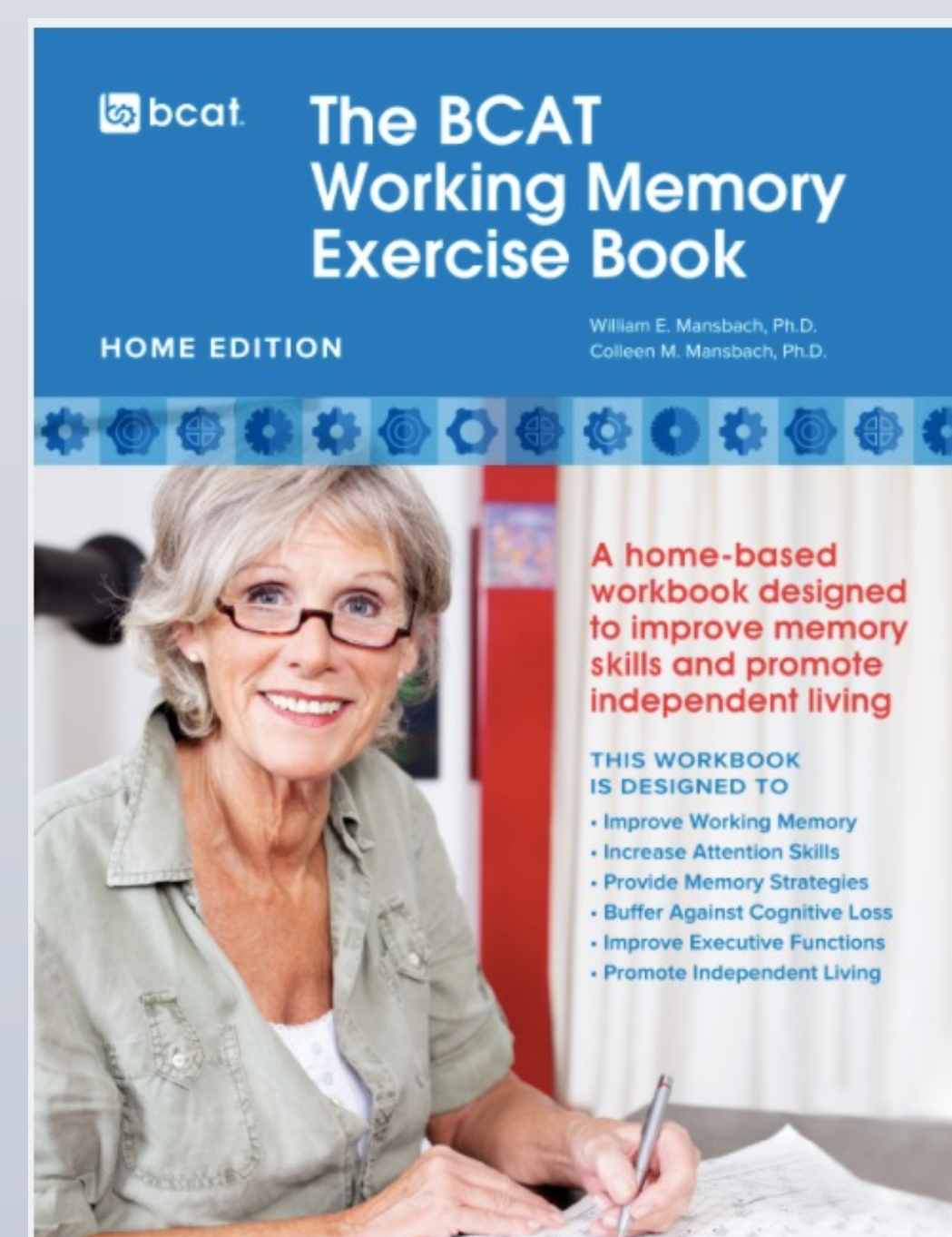


Figure 1: Chart displaying the relationship of modifiable risk factors play on brain health

## Capstone Project Description

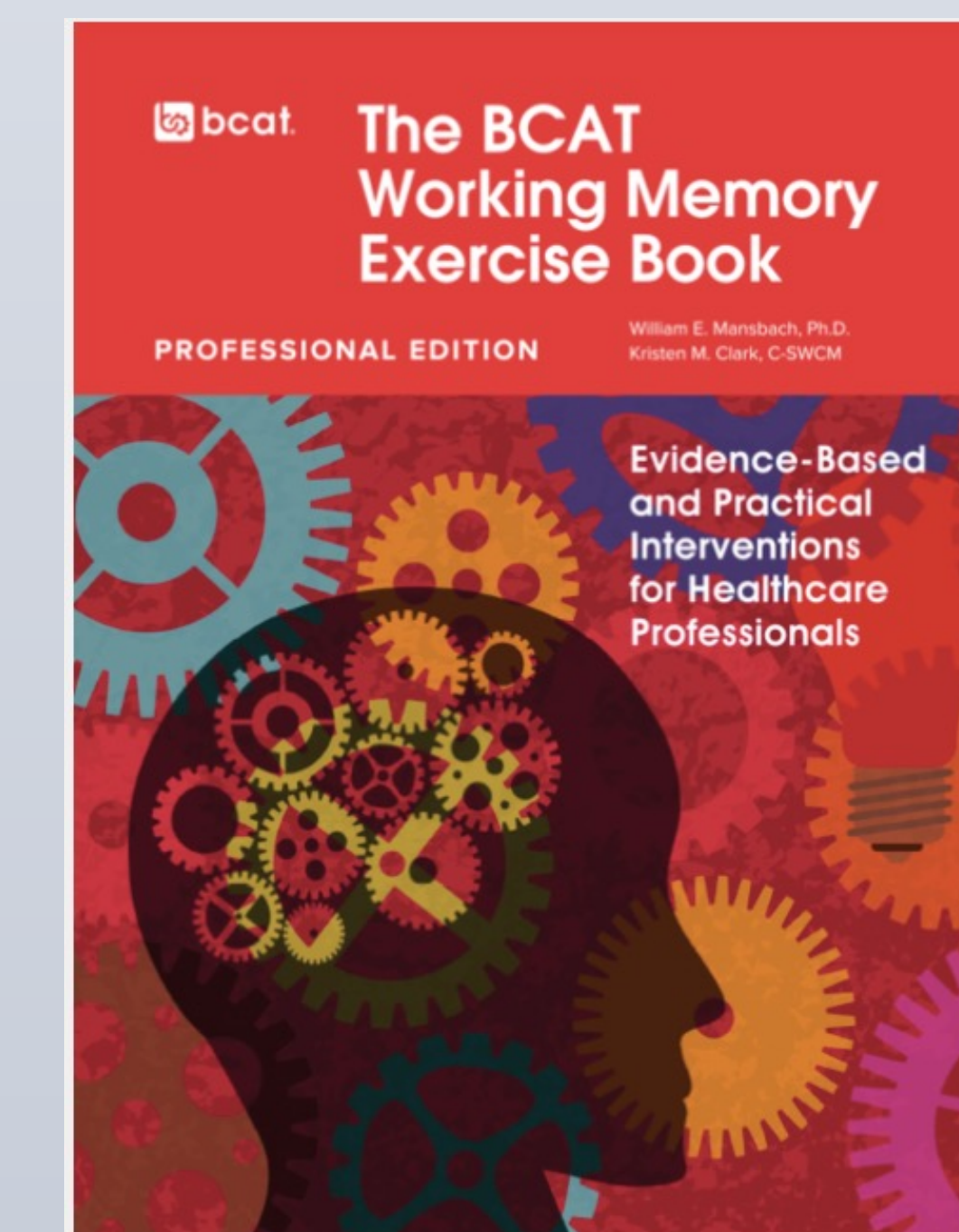
- 8-week group program that meets for one hour once a week.
- Cost: \$275 for 8 weeks and including BCAT Working Memory Exercises Book
- Licensing: Brief Cognitive Assessment Tool (BCAT)
  - Evidence based tool for predicting cognitive status and ADL/IADL functioning.
  - BCAT Brain Rehabilitation Modules



{Photograph of the covers of The BCAT Working Memory Exercise Book: Home Edition}. (n.d). <https://enrichvisits.com/healthcare-professionals-bookstore>

### Weekly Session Outline

- Discuss Weekly Topics
- Supplemental Resources
  - Week specific BCAT Supplemental Education Handouts
- BCAT Working memory exercises
  - Activities as per clinician recommendation and client's cognitive level
- Brain Rehab supplemental Activities - Computer Based
  - Activities as per clinician recommendation and client's cognitive level
- Assign home exercises
  - Activities as per clinician recommendation and client's cognitive level



{Photograph of the covers of The BCAT Working Memory Exercise Book: Professional edition}. (n.d). <https://enrichvisits.com/healthcare-professionals-bookstore>

Figure 2: Structured course outline for each for each week

### Topics Covered

- What does normal aging vs. atypical aging look like?
- What is Mild Cognitive Impairment, Dementia, and Alzheimer's disease?
- How to live a brain healthy lifestyle
- Cognitive engagement activities

### Program Goals

- Clients will understand what normal aging vs. atypical aging looks like.
- Provide clients with strategies to promote positive cognitive functioning through engagement in cognitive activities.
- Empower clients to take their health into their own hand and improve their quality of life.

### Learning Objectives

- Research evidence based and peer reviewed articles that addressed brain health and wellness and caregiver burn out.
- Create a presentation that highlights brain health and wellness to market the benefits of the Brain Fitness course at community events.
- Familiarize myself with community resources available for the aging population and their caregivers.

## Summary of Needs Assessment

- The number of individuals with ADRD is estimated to increase from 6 million to 14 million within the next thirty years (Marcum, 2019)
- There is an estimated 76,000 in CO over the age of 65 with ADRD (CO Alzheimer's Association, 2021)
- 158,00 family caregivers in Colorado who spend 184 hours caring for their loved ones, which totals \$3,657,000,000 of unpaid care (CO Alzheimer's Association, 2021).
- Globally \$818 billion is spent on dementia care each year (Marcum, 2019)

## Implications for OT

### Brain Rehabilitation Modules

- Target attention, memory and executive functioning (BCAT Interventions, 2019).

### Positive Cognitive Functioning

- The course promotes positive cognitive functions to increase self-esteem and self efficacy.

### Working Memory

- BCAT workbooks are designed to target working memory.
- Working memory plays a significant role in IADL/ADLs
- Deficits with working memory inhibit formation of new memories, which impedes performance with daily tasks (BCAT Interventions, 2019).

## REFERENCES & ACKNOWLEDGMENTS

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References Available Upon Request