

# Non-Pharmaceutical Approach to Dementia and Alzheimer's Disease

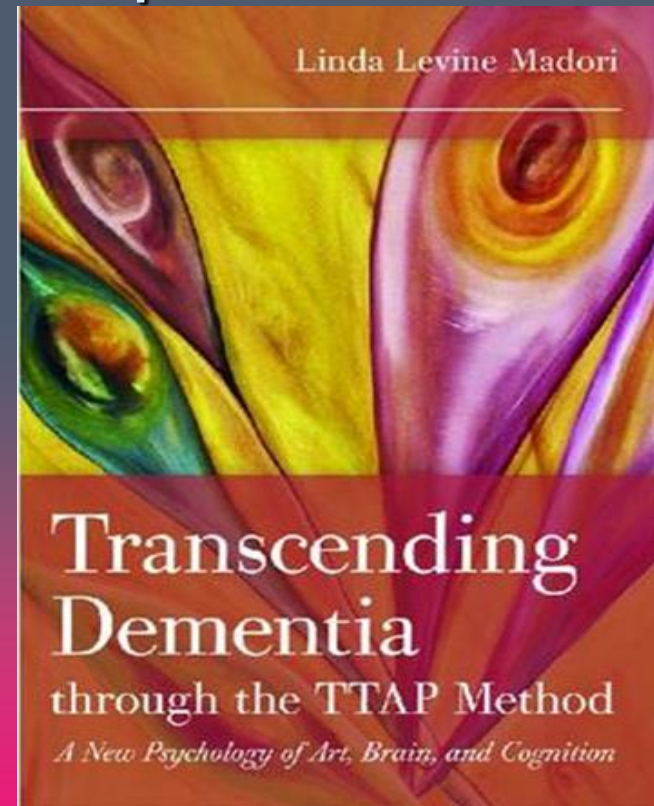
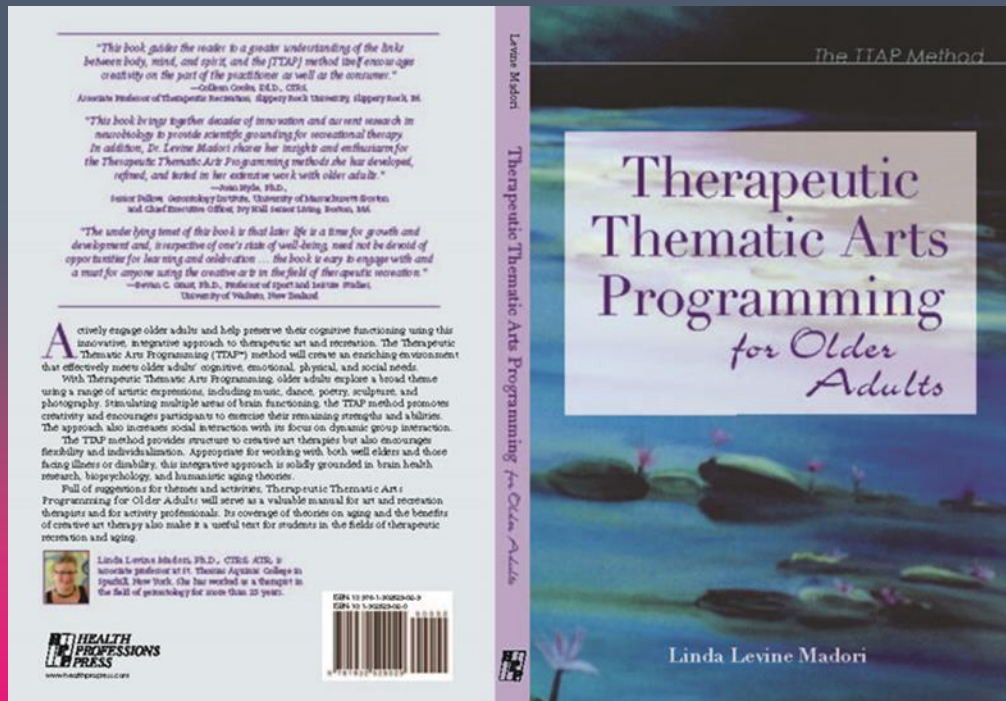
- **3<sup>rd</sup> International Conference on Alzheimer's Disease  
& Dementia**
- **September 02, 2015**
- **Toronto, Canada**
  
- **By, Linda Levine Madori, Professor & Author**

# Cutting Healthcare Costs through the TTAP Approach

\*Cornell, New York- early onset

\*Buffalo, New York- Community

\*Edward Hospital, Ill. - Inpatient



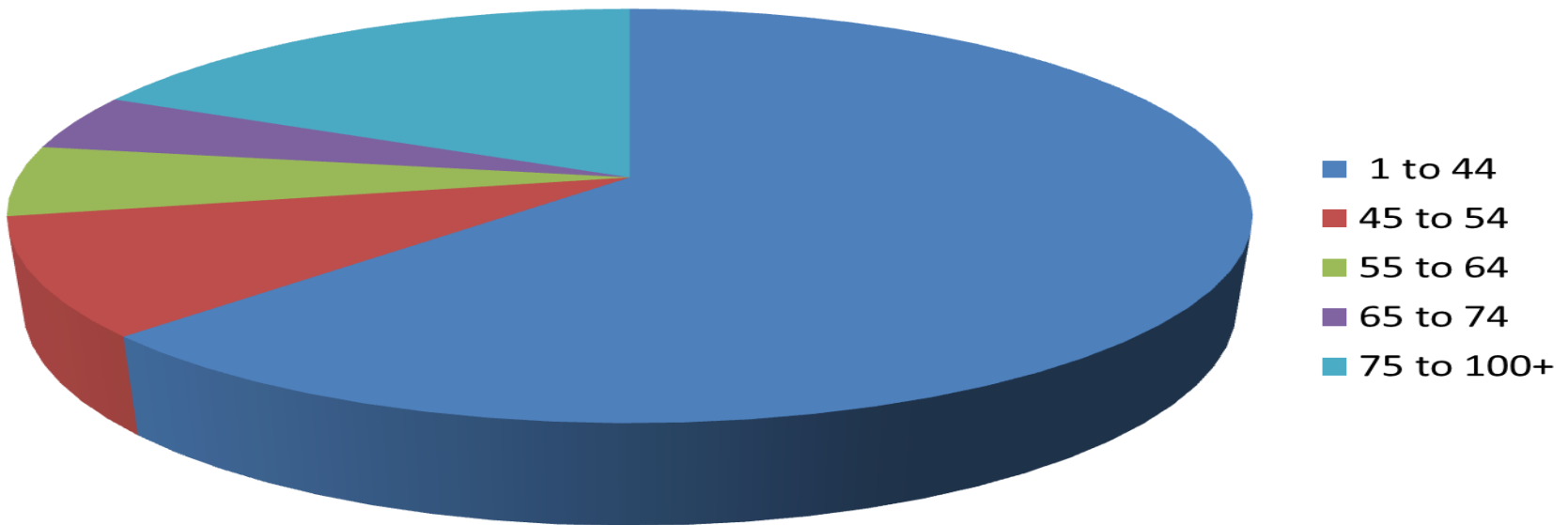
Today 5.4 million people in the US have Alzheimer's Disease.

Everyday 10,000 Baby Boomers hit 65.

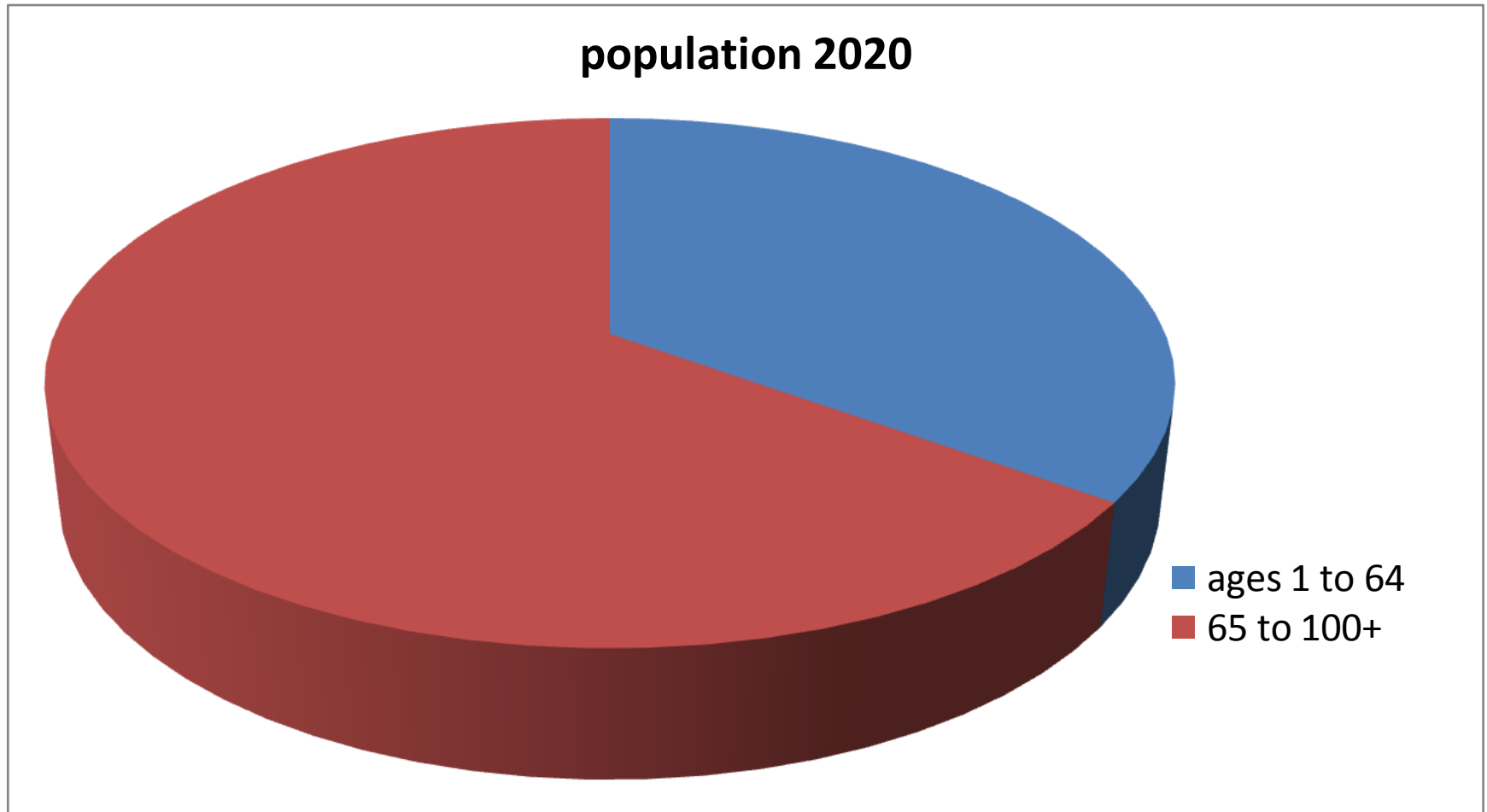
The National Alzheimer's Association estimates that 10 million individuals will be afflicted over the next decade.

# 2015

**Population**



# 70% of our population will be over over 64 by 2020

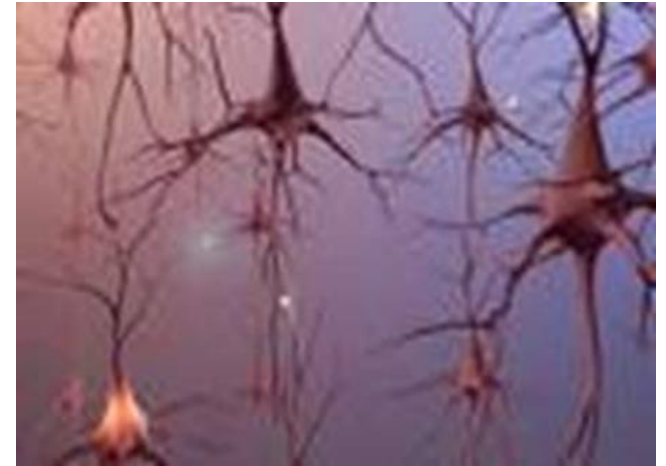


# Our Aging World

- Today 33 % of the total population is above the age of 45.
- By 2023, baby boomers will make up 65 % of the entire population.
- It is estimated by the American Alzheimer's Foundation that 1 out of every 10 will get cognitive impairment by the age of 75.
- More people needing mental health than ever before!

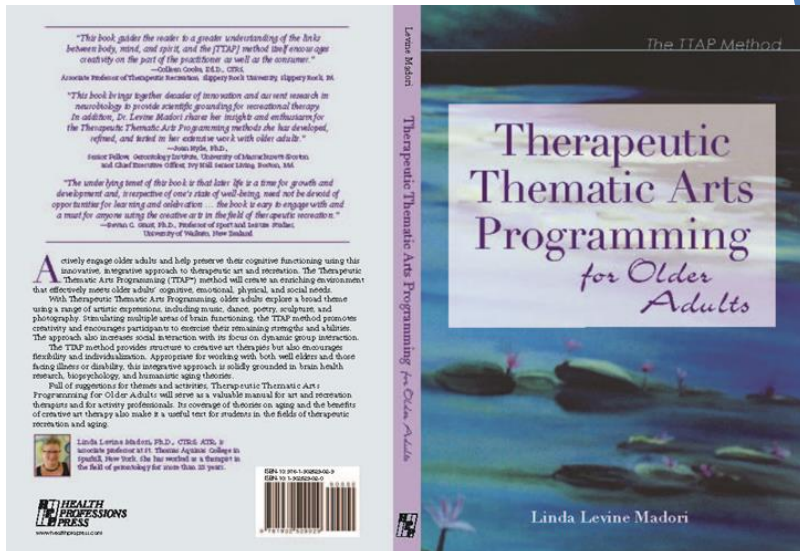
# Cognitive Reserve effect, Dr. Yacov Stern

- **Cognitive reserve**
- **A:** Memory- recall ability
- **B: Speed** of Processing information
- **C: Executive functioning**
  - category identification
  - word usage
  - number usage



# TTAP Method for Older Adults-2007

## Structures self expressive activities



"This book guides the reader to a greater understanding of the links between body, mind, and spirit, and the TTAP method helps encourage creativity on the part of the practitioner as well as the consumer."

—Galen Cook, Ph.D., CDE, Associate Professor of Therapeutic Recreation, Slippery Rock University, PA

"This book brings together decades of innovation and current research in neurobiology to provide scientific grounding for recreational therapy. In addition, Dr. Linda Madori shares her insights and enthusiasm for the Therapeutic Thematic Arts Programming methods she has developed, refined, and tested in her extensive work with older adults."

—Wanda Rife, Ph.D., Associate Professor, University of Massachusetts Lowell, and Chair, Executive Council, Therapeutic Recreation Society, MA

"The under lying intent of this book is that later life is a time for growth and development and, irrespective of one's state of well-being, need not be devoid of opportunities for learning and celebration... the book is easy to engage with and a must for anyone using the creative arts in the field of therapeutic recreation."

—Maura C. Smith, Ph.D., Professor of Speech and Hearing, Indiana University of Indiana, New England

Actively engage older adults and help preserve their cognitive functioning using this innovative, integrative approach to therapeutic art and recreation. The Therapeutic Thematic Arts Programming (TTAP) method will create an enriching environment that effectively meets older adults' cognitive, emotional, physical, and social needs.

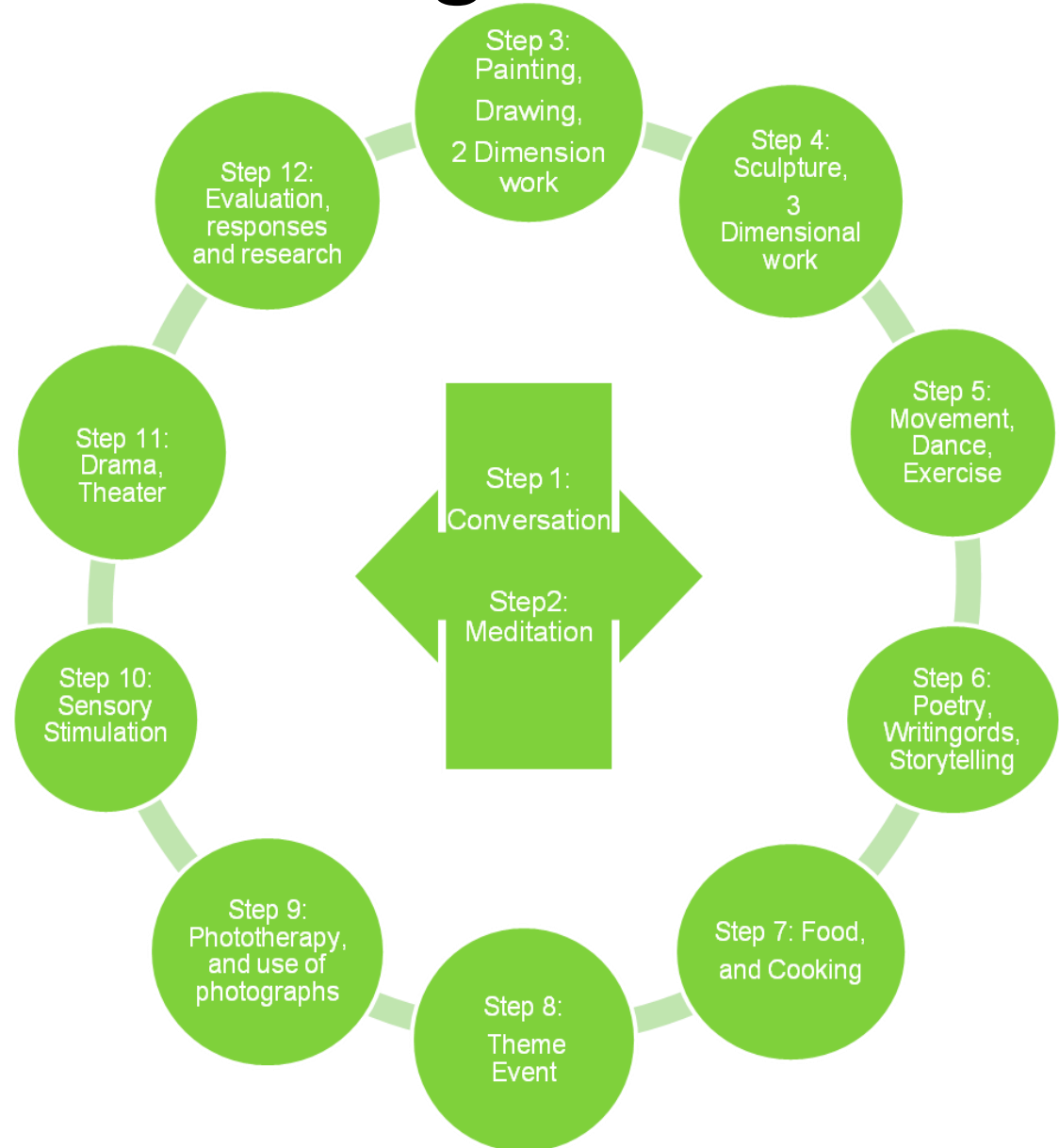
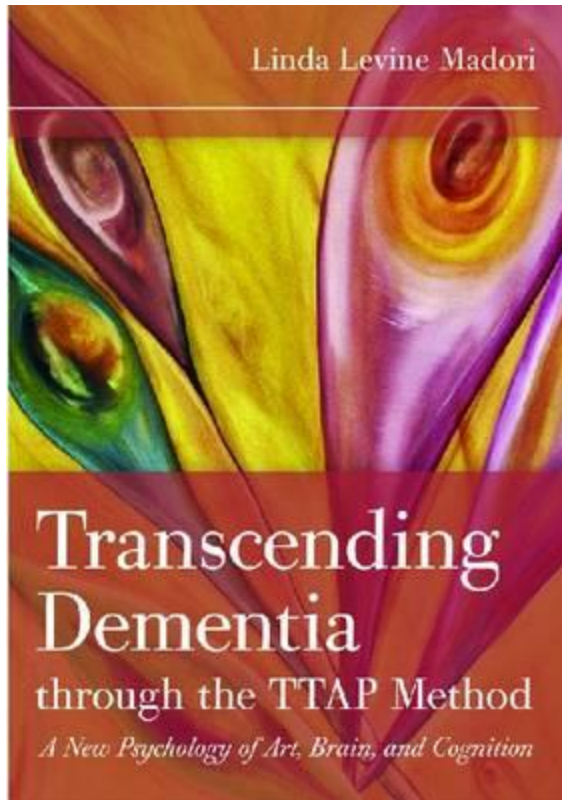
With Therapeutic Thematic Arts Programming, older adults explore a broad theme using a range of artistic expressions, including music, dance, poetry, sculpture, and photography. Stimulating multiple areas of brain functioning, the TTAP method promotes creativity and encourages participants to maximize their remaining strengths and abilities. The approach also increases social interaction with its focus on dynamic group interaction. The TTAP method provides structure to creative art therapies but also encourages flexibility and individualization. Appropriate for working with both well older and those facing illness or disability, this integrative approach is solidly grounded in brain health research, neuropsychology, and humanistic aging theories.

Full of suggestions for themes and activities, Therapeutic Thematic Arts Programming for Older Adults will serve as a valuable manual for art and recreation therapists and for activity professionals. Its coverage of theories on aging and the benefits of creative art therapy also make it a useful text for students in the fields of therapeutic recreation and aging.

Linda Levine Madori, Ph.D., CTRC, ACS, is a senior professor at Ft. Tilden College in South Plainfield, NJ. She worked as a manager in the field of gerontology for more than 20 years.



# 2012, Transcending Dementia





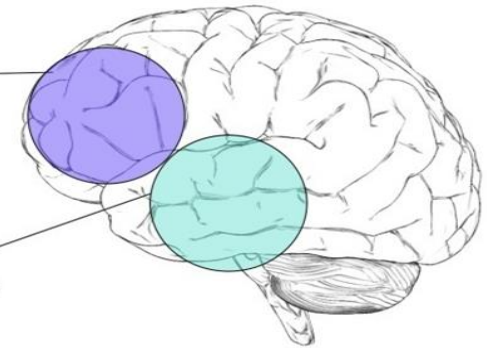
# Activities affect the brain through language usage, emotions and learning



## Protocol One: Meditation and music

**Prefrontal cortex**- thicker in meditating participants- meditation may offset cortical thinning.  
[www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1361002](http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1361002)

**Right temporal lobe**- active when listening to emotionally significant music.  
[www.ncbi.nlm.nih.gov/pubmed/15590350](http://www.ncbi.nlm.nih.gov/pubmed/15590350)



*image created by Amanda Alders*

*image created by Amanda Alders*

## 7 Protocol Total Stimulation: Areas of the brain

**Frontal lobes**-may mediate composition of space in visual art making.

**Temporo-parietal regions**-recruited for "theory of mind" tasks.

**Posterior parietal cortex**- translates visual information into motor commands.

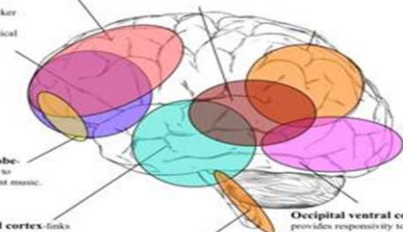
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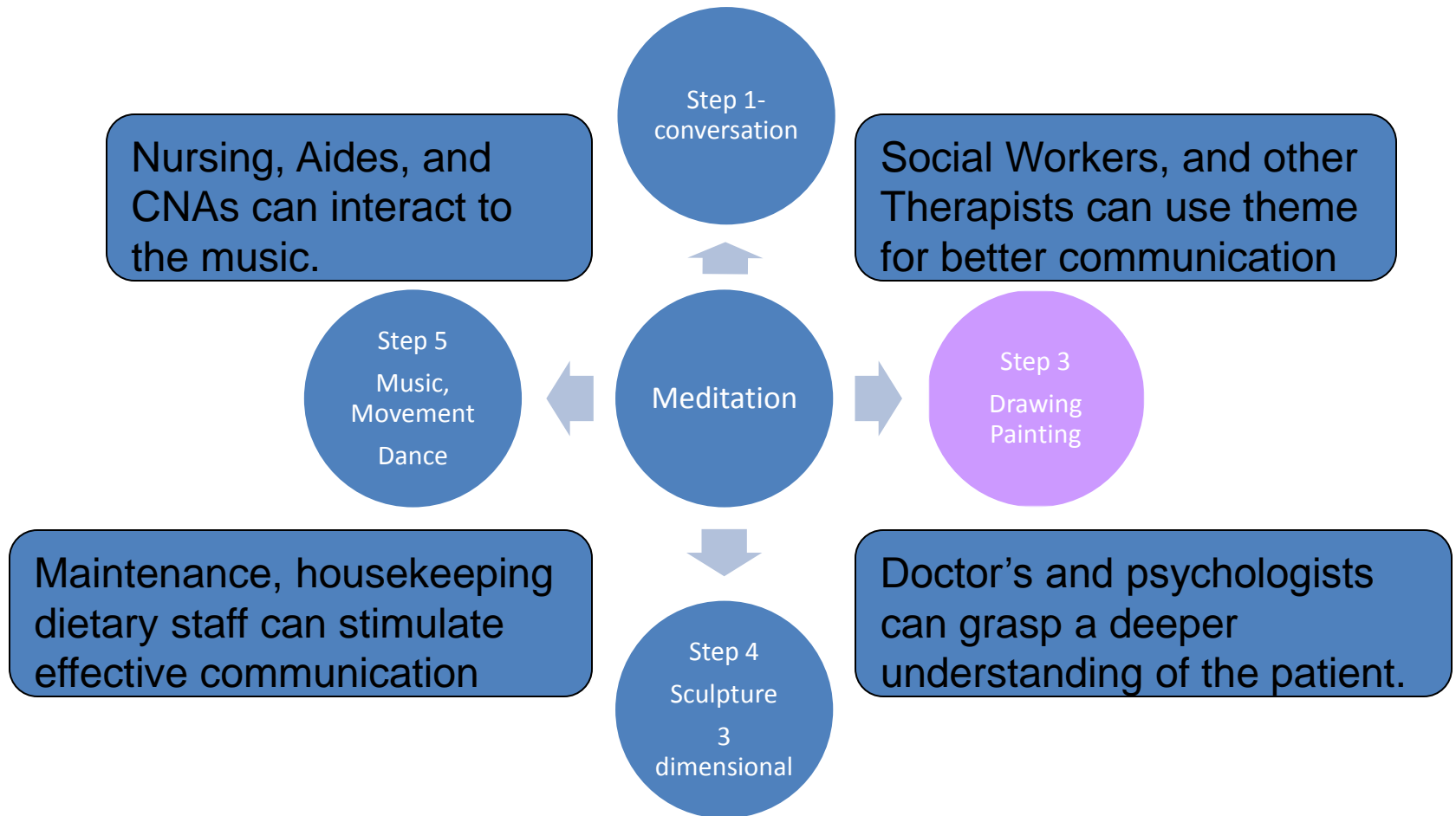
**Orbitofrontal cortex**-links food to pleasurable experience.

**Reticular formation**- controls eating behaviors, and is the among the last regions effected by Alzheimer's disease.

**Occipital ventral cortex**- provides responsivity to color, objects and faces from visual stimuli.



# Supports Interdisciplinary Approach to care



# 3 published studies in US prove enhanced cognition and social interaction

- 2010, Spanish Day Center in Rochester, New York (N 22)
- 2011, Cornell Memory and Evaluation Center, Westchester, New York (N 8)
- 2012-2013 Edward Hospital, Naperville, Illinois 2012 (N 800)
- 2014 Early results (N1836)

# Centro De Oro, 18 weeks (2010)

- 100 % Hispanic Population with cognitive issues, NOT diagnosed
- English as second language
- All sessions conducted in Spanish



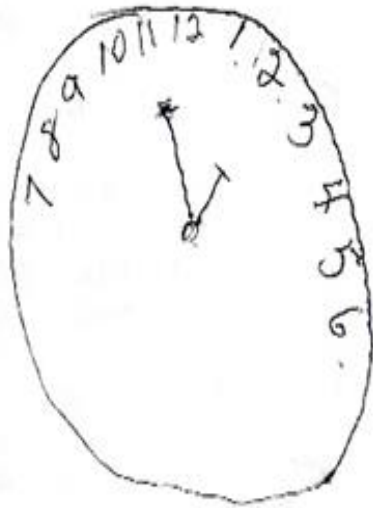
# Increases in cognition in Pre –Post Clock Drawing-

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Pre-test score: 5

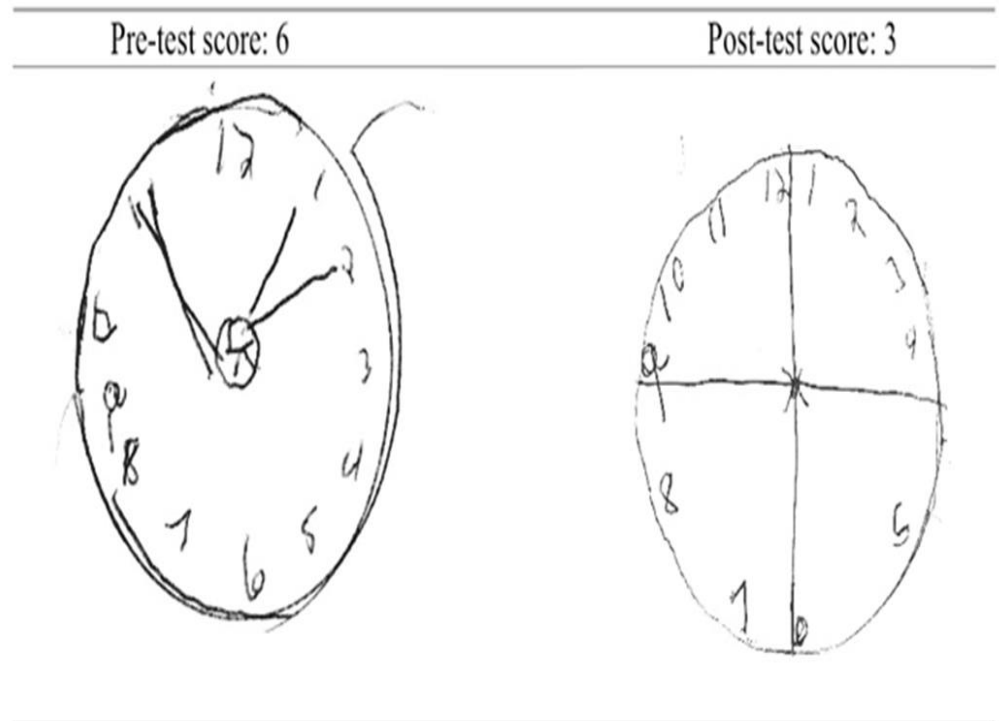
Post-test score: 6.67

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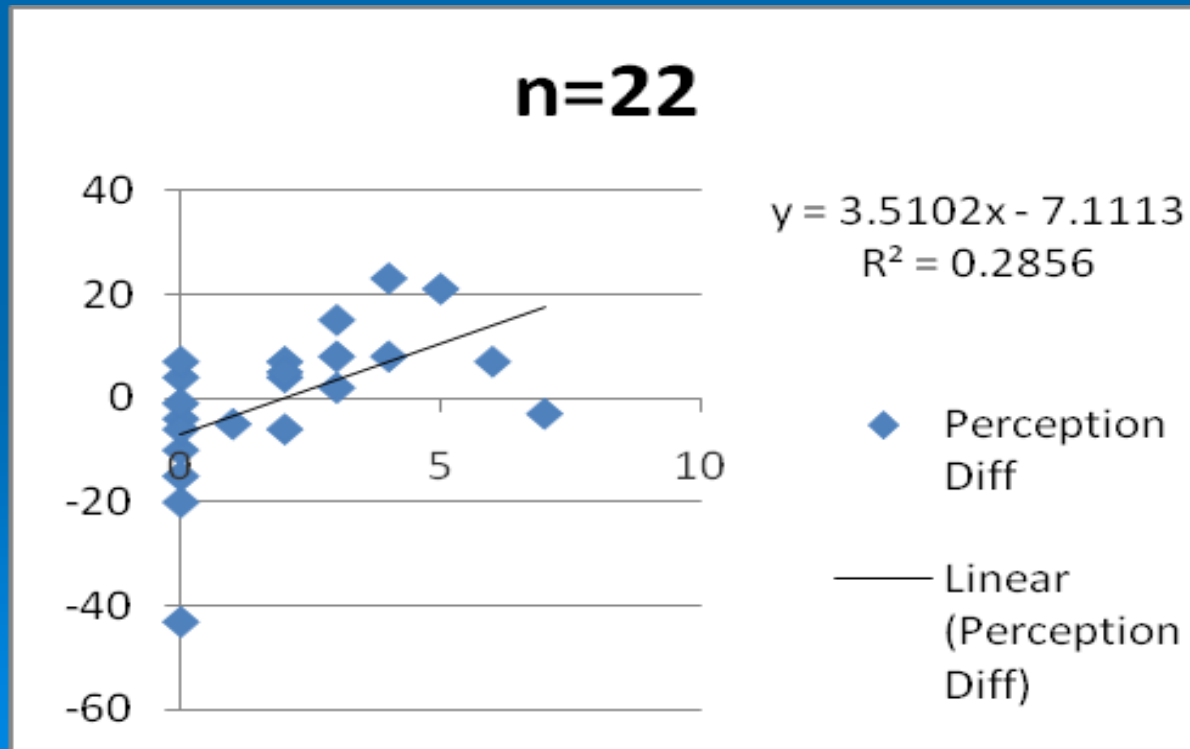
# Deterioration in Cognition, over 18 weeks

- Participants who did not attend the art therapy sessions had an average decrease of 0.5 points in their CDT score and an average increase of 7.5 points in their CFQ score.
- (Alders & Levine- Madori, 2010. American Art Therapy Journal, Sept. )



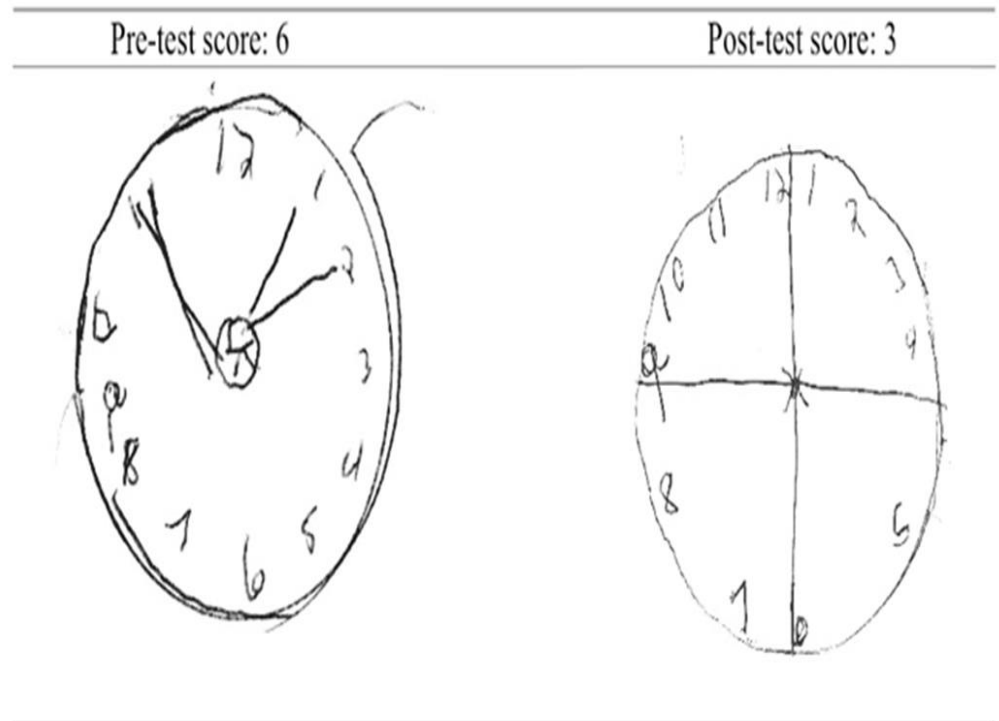
# Results of Cognitive Failures Questionnaire

Participants were given a pre and post self-report pertaining to the frequency of everyday deficits in attention, perception, memory, and motor coordination.



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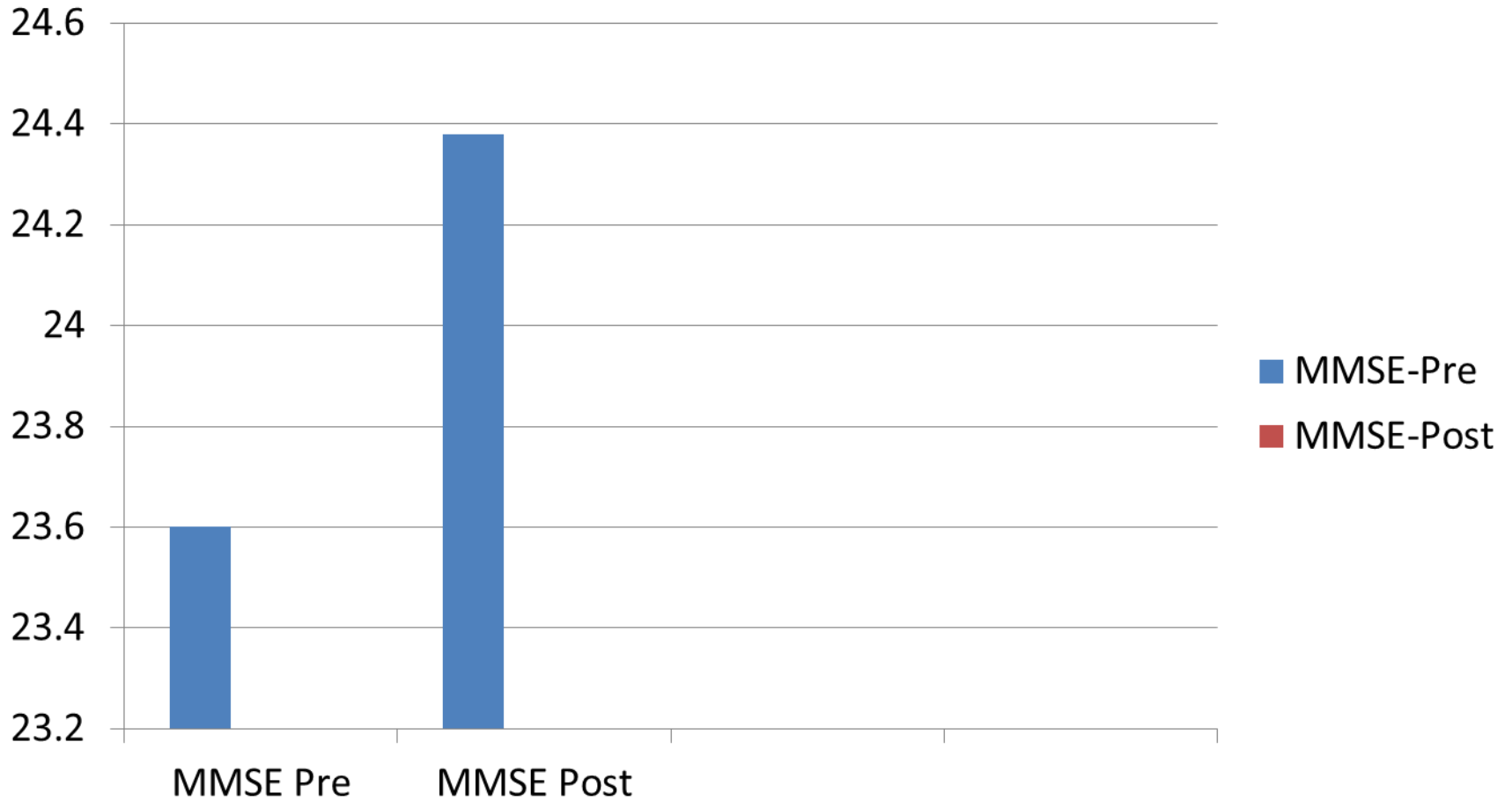


# Cornell Memory and Evaluation Clinic, NY

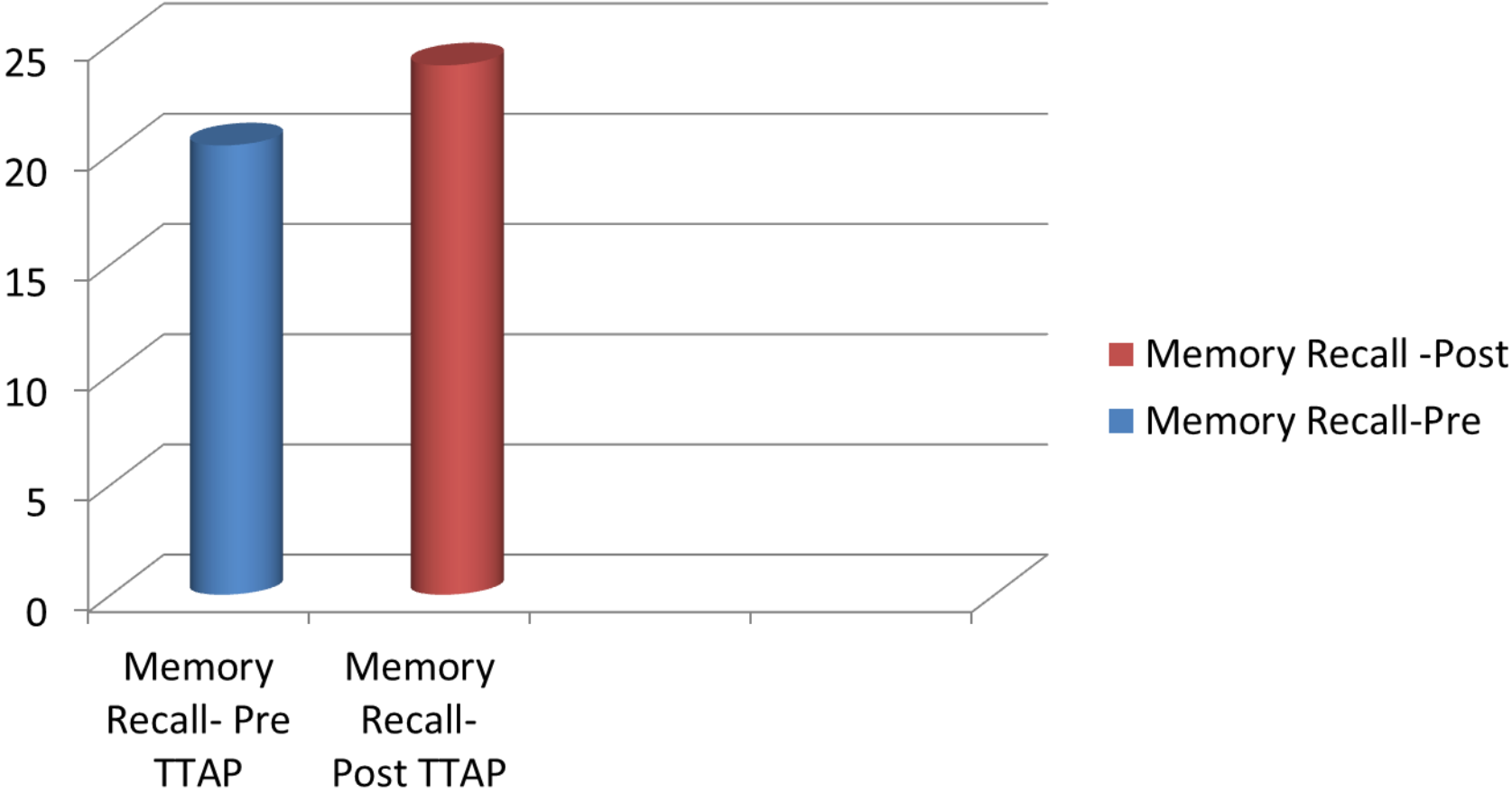
8 Self selected individuals Recently Diagnosed  
early onset Alzheimer's Disease



# Changes in MMSE



# Memory Recall



# TTAP on the Linden Oaks Hospital GeroPsych Unit

Improving patient care and decreasing costs



# Linden Oaks 2012-2013

- ◆ An 20 bed GeroPsych Unit with patients ranging in age from 60 to 100 (Average length of stay 7 -11days)
- ◆ Level of function ranges from high functioning patients with depression to low functioning patients with severe dementia
- ◆ Staffed by interdisciplinary team including RN, MHC, MHT, PCT, RD , Art Therapy, Music therapy& Rec. Therapy



# Unit Characteristics

- ◆ Acute care setting-ADC of 11 days (n=800)
- ◆ All patients meet criteria for inpatient stay including danger to self, others or inability to care for self.
- ◆ Mixture of low to high functioning patients
- ◆ Therapeutic concerns associated with intrusiveness and safety of lower functioning patients.



# Why TTAP Approach? Improve quality of care and decrease cost !

- ◆ Acuity issues-the Gero-Psych unit was averaging 7 falls per month.
- ◆ Gero-Psych was averaging 40 1:1 shifts per month in 2011.
- ◆ Employee engagement well below national average. Staff concerned about acuity and managing diverse populations.



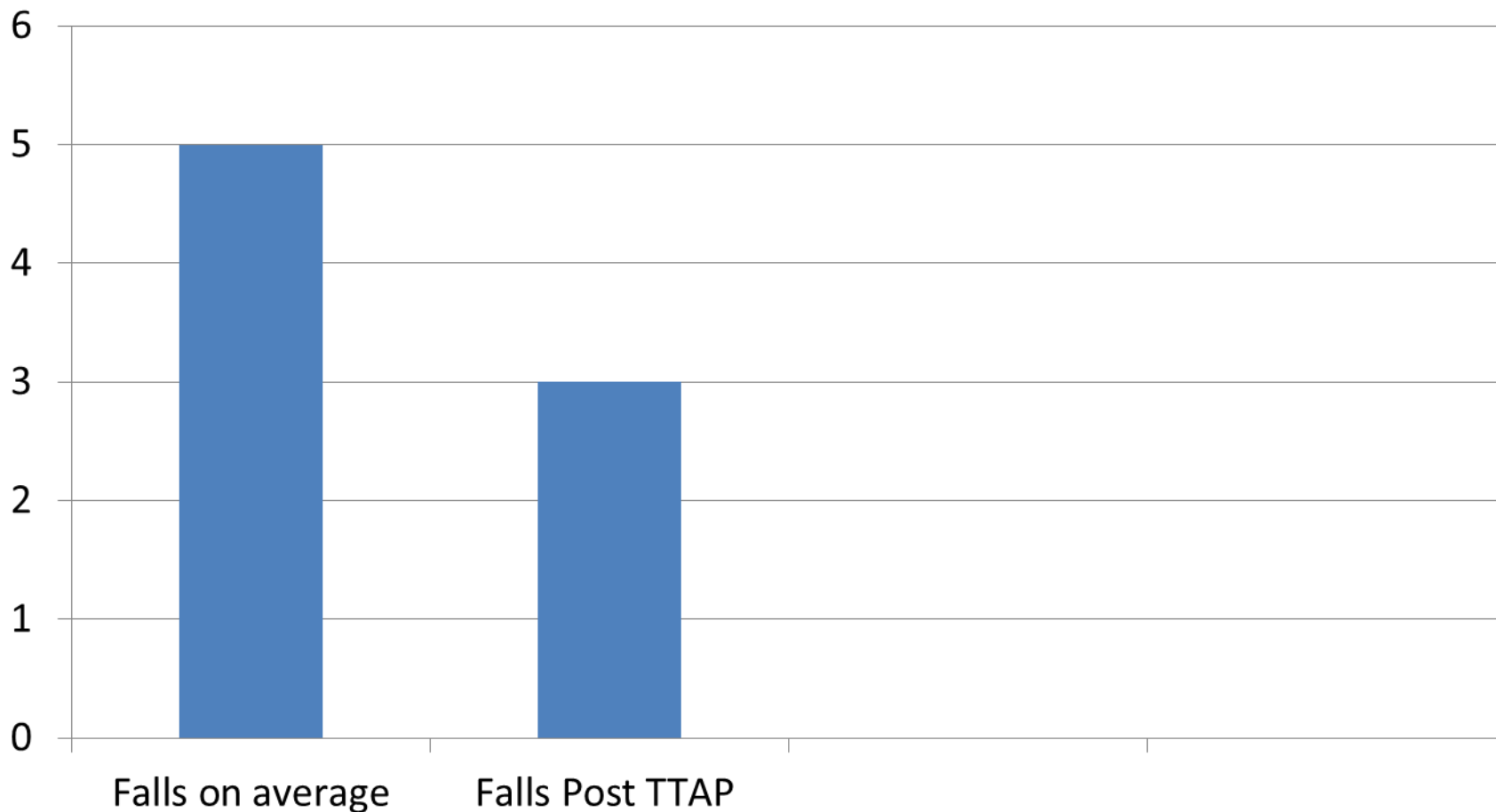
# Certification Training in TTAP Approach to all employees working on Unit

- ◆ Over 70 staff received certification in the TTAP method, including all of the OT, RT and AT staff
- ◆ TTAP was implemented on the GeroPsych program.

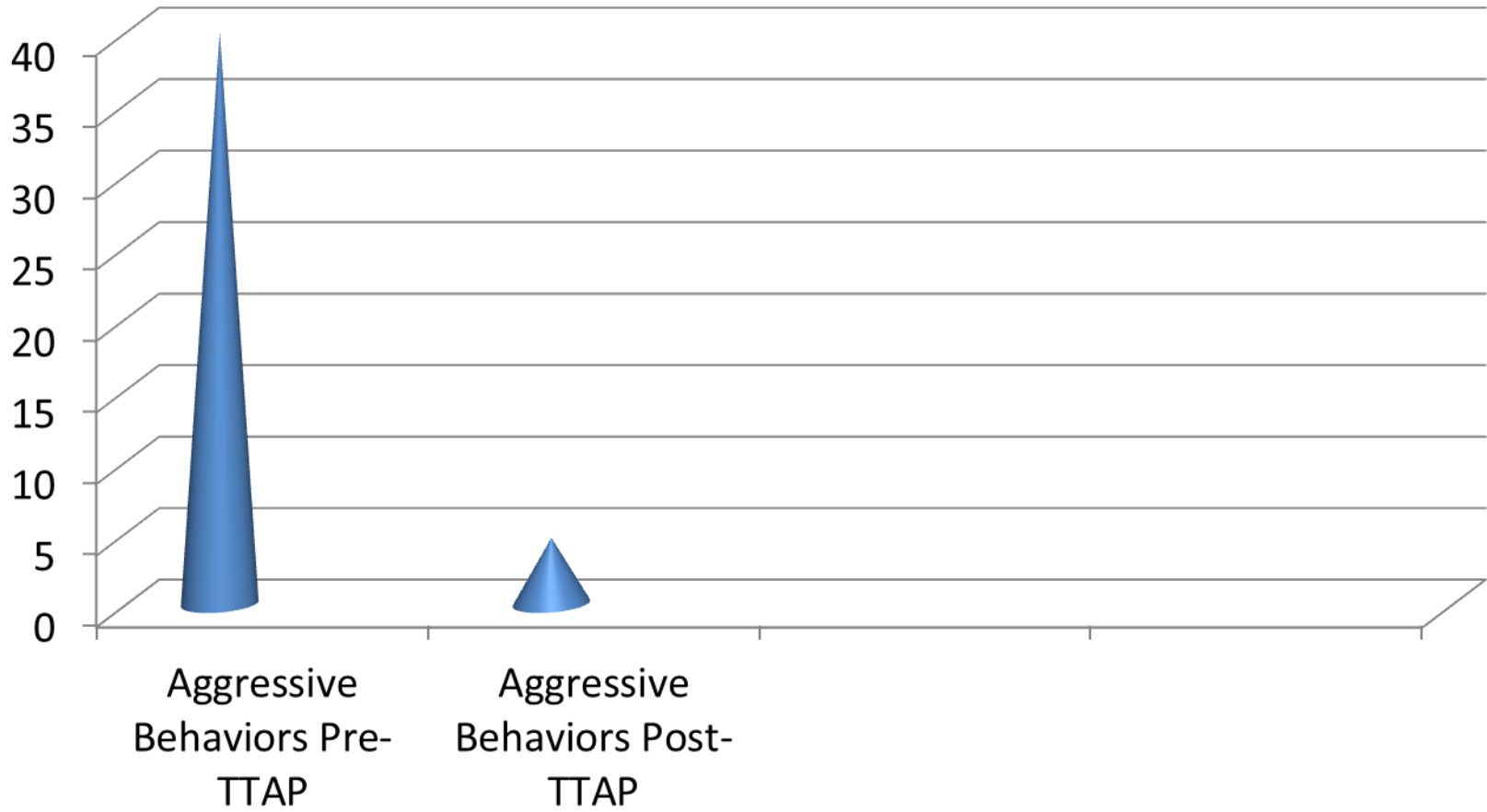




# Decrease in Falls on Unit from 5 falls monthly to 3 Falls Monthly (2012-2013)



# Decrease in Aggressive Behaviors saves 160,000.00 in direct healthcare costs!



# Staff Outcomes

## ◆ Employee engagement prior to TTAP implementation

	Pre TTAP	Post TTAP
◆ Engaged	20%	50%
◆ Content	38.9%	40%
◆ Ambivalent	28%	11.1%
◆ Disengaged	12%	0%



# Next Steps

- ◆ Received Grant for year long study in 2014
- ◆ TTAP training and consultation over a 12 month period, quarterly visits.
- ◆ Plan to formalize an outcome monitoring/research protocol in N=1800 +
- ◆ Staff received quarterly training and brainstorming educational sessions.



# Nursing TTAP

## Assessment

### Tool

(Gero/Generations)

### Variables:

1. Staff date/Shift

\*Patient Identification  
REMOVED-HIPPA

2. \*Patient MOOD

PRE - INTERVENTION

\*Patient MOOD

POST-INTERVENTION

3. LENGTH OF TIME IN  
ENGAGEMENT

<p><b>STAFF NAME</b></p> <p><b>DATE:</b>      <b>Shift:</b></p>	<p><b>Patient identification number</b></p> <hr/>	<p><b>THEME of engagement:</b></p>
<p><b>TIME: _____ Minutes</b></p> <p><b>LENGTH OF ENGAGEMENT in minutes ( ex. 5 min)</b></p>	<p><b>Rate the mood pattern 12345</b></p> <p>Mood rating before interaction:</p> <p>___ Flat:0 ___ Negative:1 ___ Positive-2</p> <p>Mood rating after interaction:</p> <p>___ Flat:0 ___ Negative:1 ___ Positive-2</p>	<p><b>THEME Conversation and Engagement:</b></p> <p>Engagement rating before interaction:1 2 3 4 5</p> <p>Engagement rating after interaction:1 2 3 4 5</p>

# Statistical Analysis

## MOOD RATING

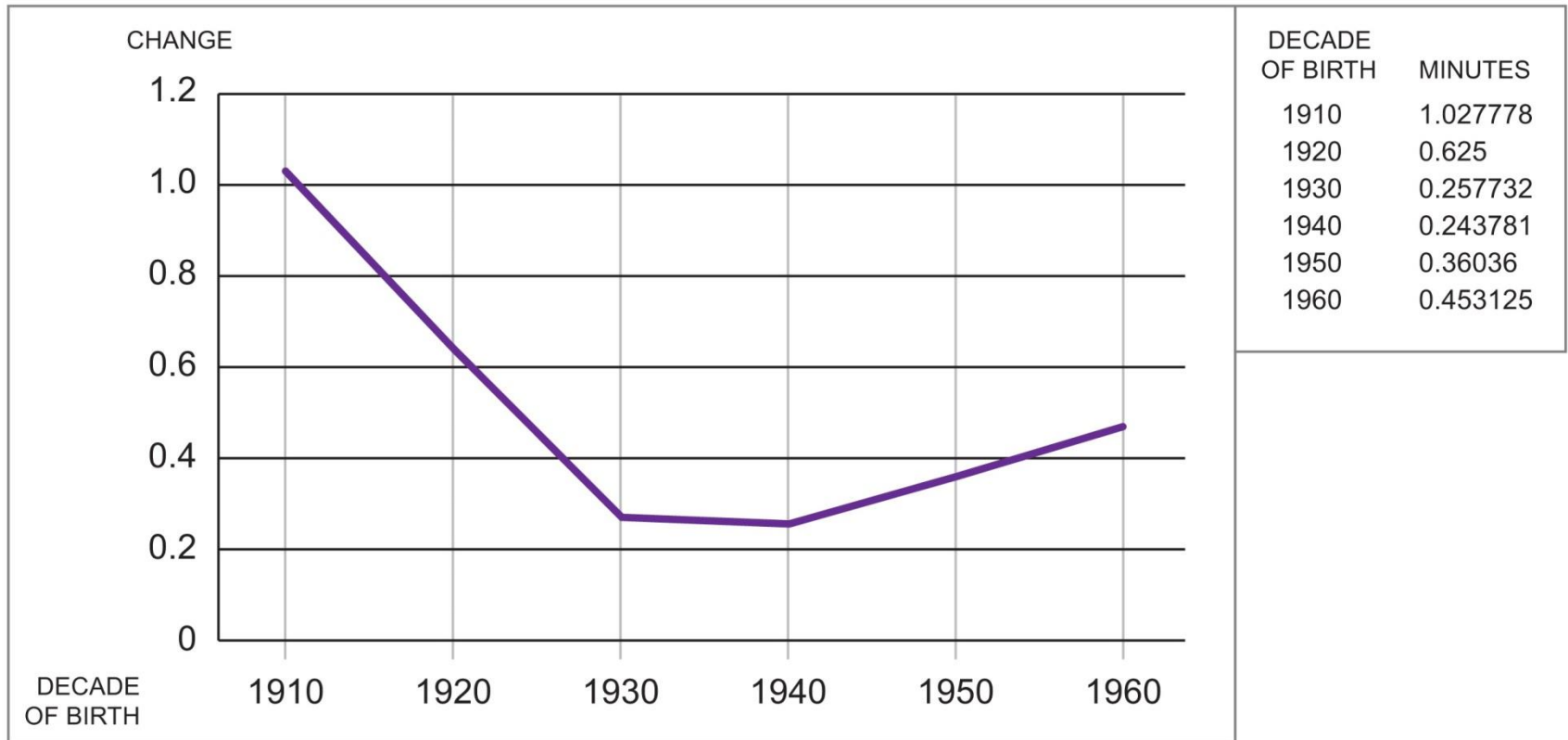
- ◆ Positive # 2
- ◆ Positive # 1
- ◆ Neutral # 0
- ◆ Negative # -1
- ◆ Negative # -2



# Average Mood Change per Decade

Based on 1,850 resident interactions  
Linden Oaks Behavioral Health Center during 2013-2014

Series 1



Correlation Between Decade and Average Mood Change

-0.66326

# TTAP ACTIVITY ASSESSMENT/ Steps & Learning

TTAP Method Research study 2013-2014

Property of Dr. L.Levine Madori

## Activity Assessment Form –(2 sided page for each activity)

Date of Program

(Month)\_\_\_\_\_ (Day)\_\_\_\_\_ (Year)\_\_\_\_\_

Duration of program (time)\_\_\_\_\_

Name of Program\_\_\_\_\_

TOTAL Number of Steps used: \_\_\_\_\_

(Circle):

- |              |                        |                |
|--------------|------------------------|----------------|
| 1-Conver.    | 6-Movement             | 11-Drama/Props |
| 2-Music/med. | 7-Write/story/poetry   | 12-Feedback    |
| 3-Draw       | 8-Theme event          |                |
| 4-Paint      | 9-Phototherapy         |                |
| 5-Sculpt     | 10-Sensory Stimulation |                |

Activity can encompass more than one learning styles (check):

- Linguistic learner (the word player)
- Logical learner (the questioner)
- Spatial learner (the visualizer)
- Musical learner (the music lovers)
- Kinesthetic learner (the mover)
- Interpersonal learner (the socializer)
- Intrapersonal learner (the individual)

Give a brief description of activity:

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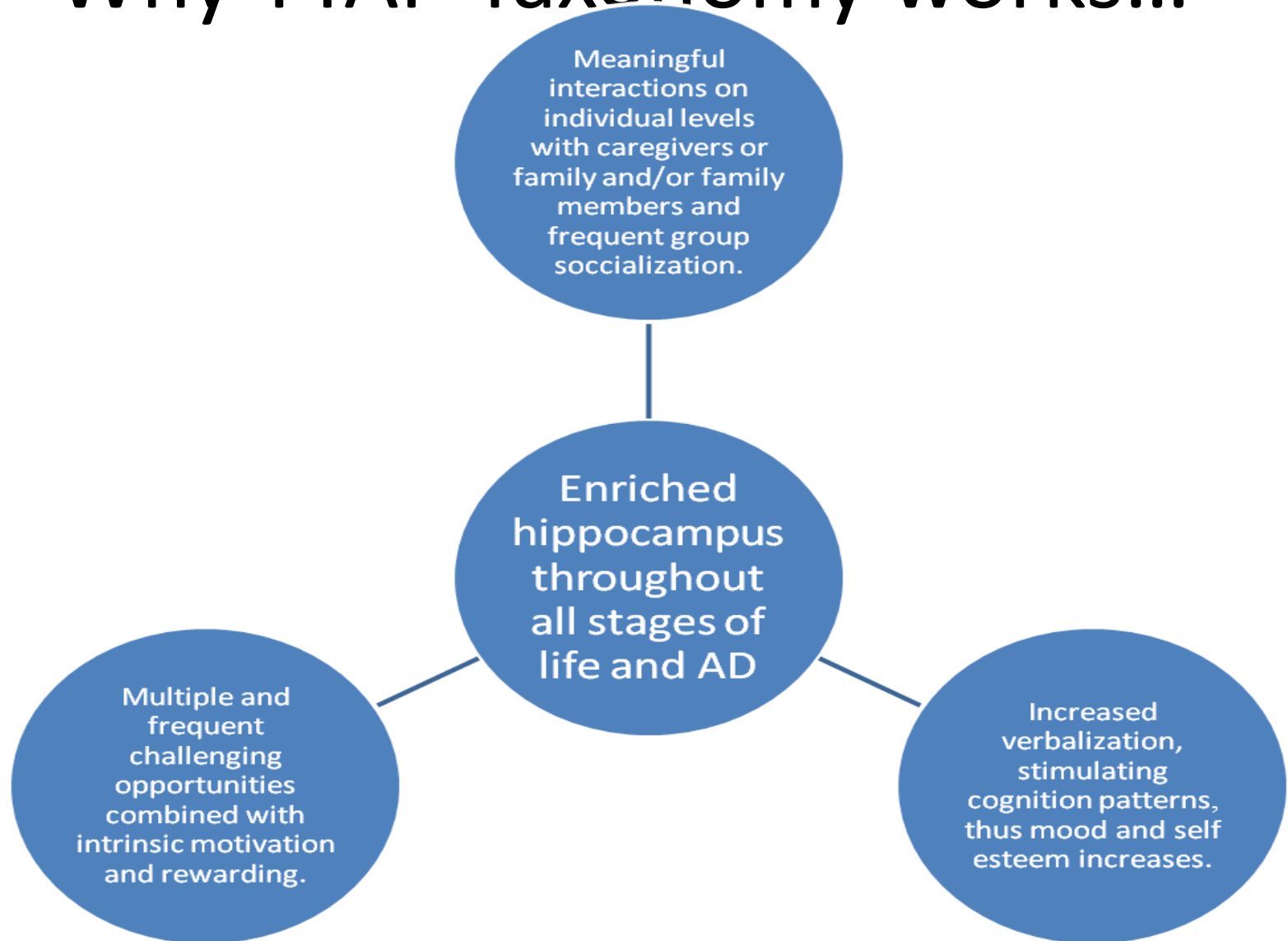


# TTAP proven to...

- To provide a system in which the individual can reintegrate into a supportive social group to foster feelings of safety and support
- To engage the participant in a multitude of creative arts experiences including music, drawing, movement, poetry and special theme events
- To provide programming that enables the flow to flourish



# Why TTAP Taxonomy works...



# Certification Trainings

