



WELLNESS REPORT

2022:

MENTAL FLEXIBILITY

PHYSICAL PERCEPTION

KINESTHETIC AWARENESS

TABLE OF CONTENTS

Introduction	3
Expressive Avenues: Wellness	3
I MENTAL FLEXIBILITY METHODOLOGY	4
Participants	4
Class Requirements	4
Mental Flexibility Assessment: Ball Toss	4
Classroom Preparation	5
SUMMARY OF MAIN FINDINGS-MENTAL FLEXIBILITY	6
Recommendations	8
Conclusion	9
Expressive Avenues: Wellness	10
Physical Perception	10
II PHYSICAL PERCEPTION METHODOLOGY	11
Participants	11
Class Requirements	11
Physical Perception Assessment	11
Classroom Preparation	12
SUMMARY OF MAIN FINDINGS-PHYSICAL PERCEPTION	13
Conclusion	14
Expressive Avenues: Wellness	15
Kinesthetic Awareness	15

Classroom Preparation	16
-----------------------	----

III KINESTHETIC AWARENESS METHODOLOGY 17

Participants	17
--------------	----

Class Requirements	17
--------------------	----

Kinesthetic Awareness Assessment: Coordination/Flow	17
---	----

Kinesthetic Awareness Assessment: Moving Meditation	18
---	----

SUMMARY OF MAIN FINDINGS-KINESTHETIC AWARENESS 19

Conclusion	20
-------------------	-----------

RESOURCES	21
------------------	-----------

INTRODUCTION

Expressive Avenues: Wellness

Expressive Avenues:Wellness philosophy is one of intentional practice, encouraging mental curiosity and improving the quality of life. Based on fMRI brain mapping results and respected doctors and physicians in the fields of neurology, psychology, and kinesthesiology, Expressive Avenues: Wellness synthesized their theories and philosophies, combined them with experiential gaming and awareness exercises used in acting, dance and voice, to develop the program Learning HOW to Age®.

Expressive Avenues :Wellness focuses on three areas of development important to aging adults quality of life and autonomy: mental flexibility, physical perception and kinesthetic awareness. This report includes data from an introductory class in 2022.

One of three areas targeted in Learning HOW to Age® is mental flexibility. Mental flexibility is defined as the ability to move the thought process, or shift concentration from one task to another at will. Retaining and improving ones mental flexibility is critical as we age. The exercise titled Ball Toss determines a baseline for each participants skill level. A reassessment of this exercise occurs throughout the class with a final assessment recorded after ten classes.

The data for this report was gathered during an introductory class of Learning HOW to Age®.

MENTAL FLEXIBILITY METHODOLOGY

Participants

- Members of Adult Ministry for Seniors at St. Paul United Methodist Church
- Average age of a participant was 81.28 years
- Make up of the class was 57% male and 42% female
- Participants met twice a week for 5 weeks

Class Requirements

- Participation limited to 65 years and above
- Class ratio 10:1
- Introductory class is 5 weeks, classes meet 2 times per week, 60-75 minutes per class

Mental Flexibility Assessment: Ball Toss

- Participants stand or sit in a circle in a neutral position.
- Exercise is silent.
- Participants toss and catch a 12 to 14 inch ball without a break in rhythm.
- After one to three practices, participants are assessed.
- Vocal variable introduced
- After one to three practices including variable one, participants are assessed.
- After three classes an audible variable was introduced.
- Participants were assessed and audible variable was subsequently omitted.
- Participants were assessed on the tenth class with vocal variable only.

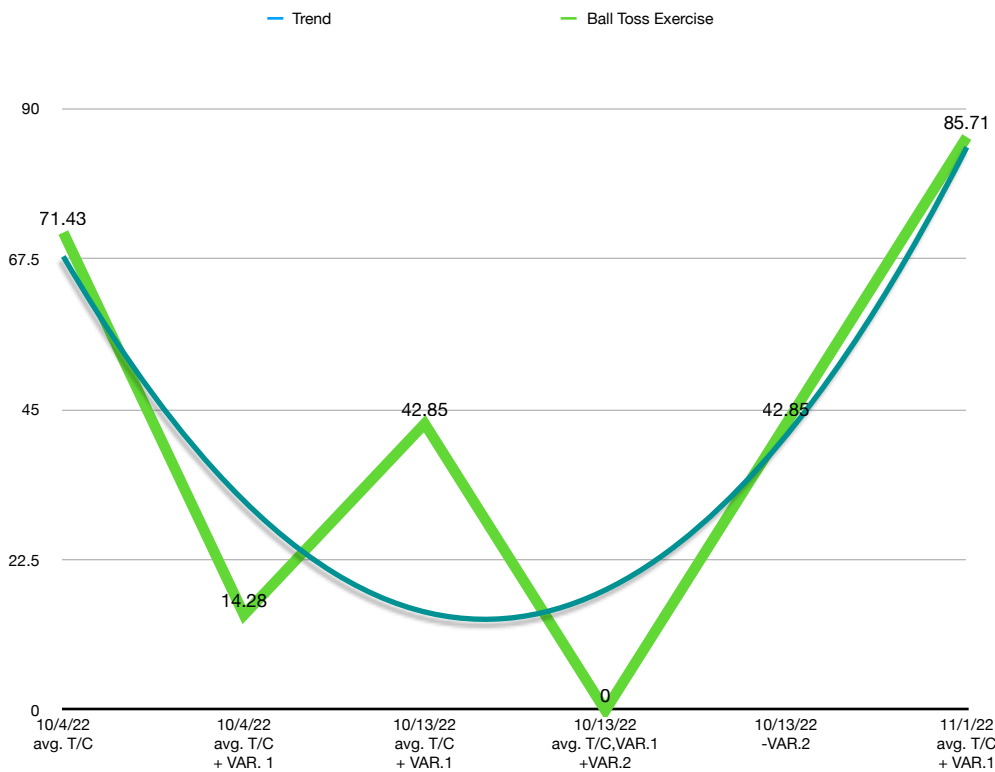
Classroom Preparation



- When standing in a circle for group exercises, chairs are to be placed behind each participant for safety. While standing is preferred, sitting is an option if needed.
- The classroom should be an open space clear of obstacles.
- Class size of 6-10 participants is ideal.

SUMMARY OF MAIN FINDINGS-MENTAL FLEXIBILITY

Variables are introduced to increase participants ability to develop and practice mental flexibility. A percent difference formula is used to determine the increase or decrease in the ability of each participant within a specified period of time. It is important for participants to master the first variable in an exercise before increasing the participants cognitive load by introducing a new variable. A facilitator must resist the temptation to increase the cognitive load too fast. Although the intention to keep a group engaged is understandable, the satisfaction and motivation participants derive from mastering one level before attempting another reinforces participants commitment to and the benefits of the program. The early lessons move slowly and intentionally. The audible variable #2 was introduced on the fourth class. Because variable #1 was still being integrated, cognitive overload was apparent. Variable #2 was then omitted. This allowed participants to continue to practice and experience success with variable #1: **200.07** percent increase in mental flexibility. The participants and the facilitators will reap the benefits of this approach as they move forward through the program. Variable # 2 will be reintroduced when participants from the first class start the second class.



KEY	
<u>T/C</u>	toss and catch
<u>VA</u>	variable assessment
<u>VAR.1.</u>	variable, vocal
<u>CO</u>	cognitive overload
<u>VAR. 2</u>	variable, audible
<u>BA</u>	baseline assessment
<u>VA</u>	variable assessment
Chart depicts averages of the whole class	

- 10/4/22 T/C
 $\frac{5}{7}$ (5 participants out of 7) were successful*. BA set
percentage of successful* participants **71.43%**
- 10/4/22 T/C+ VAR. 1
 $\frac{1}{7}$
percentage of successful* participants **14.28%**
* decrease attributed to addition of VAR.1
- 10/6,11/22- class practice
- 10/13/22 T/C+VAR.1
 $\frac{3}{7}$ successful* **42.85%**
- 10/13/22 T/C+ VAR.2
 $\frac{0}{7}$ successfully added VAR. 2
DROPPED VAR. 2 due to CO
- 10/18,20,/22- class practice
- 10/25,27,Nov.1/2022 NO T/C PRACTICE, Moving Meditation practice
- 11/3/22 T/C+VAR.1
 $\frac{6}{7}$
percentage of successful* participants **85.71%**

*Individual participant success scores of 50% or better.

Percent increase from 10/4/22-10/13/22 with VAR. 1-**200.07%**

Percent decrease after introduction of VAR.2-**100%**

Percent increase from 10/18/22 to 11/3/22 with VAR. 1-**100.023%**

Percent increase from10/4/22 (includes VAR.1) -11/3/22 is **500.21%**

https://www.calculatorsoup.com/calculators/algebra/percentage-increase-calculator.php?v_1=14.28&v_2=42.85&action=solve

Recommendations

Mental flexibility exercises practiced in a group should be included in any cognitive activity for older adults. Working in a small group remains the preferred approach for this program. The value of a small group versus an isolated setting cannot be underestimated. Re-establishing conditions for this kind of participation is necessary for this cohort to thrive.

Meeting twice per week encourages retention and helps to establish familiarity among participants. As the program progresses, participants are encouraged to take skills learned into their everyday lives and keep a journal of the results.

CONCLUSION

A 200.07% increase indicates mental flexibility can be improved with intentional cognitive loading and practice. A flattening of the trend line when additional variables were added

indicate cognitive overload is a risk if new variables are added before participants master and practice previous tasks. Slower processing as we age requires participants and facilitators to manage expectations while maximizing output through engaging and stimulating games.



Expressive Avenues: Wellness

Physical Perception

One of three areas targeted in Learning HOW to Age® is Physical Perception. Habitually lowering your gaze not only effects posture and balance, it skews how we perceive the world around us. At an age when engagement in the physical world naturally contracts, it is within our power to proactively engage in our environment whenever possible. By raising awareness of this habit through physical perception assessments and games, a participant's perception of themselves and their environment increases.



II PHYSICAL PERCEPTION METHODOLOGY

Participants

- Members of Adult Ministry for Seniors at St. Paul United Methodist Church
- Average age of a participant was 81.28 years
- Make up of the class was 57% male and 42% female
- Participants met twice a week for 5 weeks

Class Requirements

- Participation limited to 65 years and above
- Class ratio 10:1
- Introductory class is 5 weeks, classes meet 2 times per week, 60-75 minutes per class
- Final physical perception assessment is administered on class #10

Physical Perception Assessment

- Participants are to estimate the number of steps he/she believes it will take them to walk from point A to point B.
- Facilitator notes the estimate.
- Participant chooses a memorized passage (Pledge of Allegiance, The Lords Prayer, etc.) to recite aloud while walking from A to B.
- This assessment is done individually.
- When the facilitator signals “start”, the participant begins to walk the distance from point A to point B while speaking the passage aloud.
- Facilitator counts participants actual number of steps taken.

- Facilitator logs the actual number of steps taken.
- Repeat for each participant.
- The difference between the participants estimated number of steps and their actual number of steps determines the participant's level of perception.

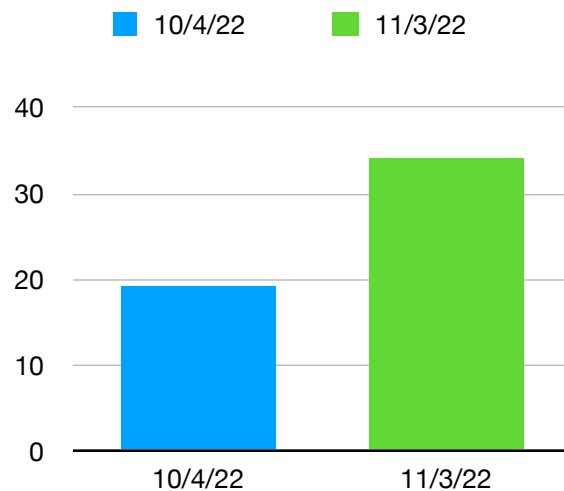
Classroom Preparation

Facilitator marks a distance from point A to point B

SUMMARY OF MAIN FINDINGS- PHYSICAL PERCEPTION

After 5 weeks of perception games and exercises, a **76.91%** increase in the participants ability to perceive themselves accurately has been observed. Anecdotally, a participant using a walker and severely stooped as classes began, stood noticeably taller and often did not rely on the walker or the partner for assistance.

*Note: Any kind of physical activity that expands awareness is to be practiced in the controlled environment of the classroom.



Estimate vs actual	
10/4/22 Average differential	19.22%
11/3/22 Average differential	34.02%

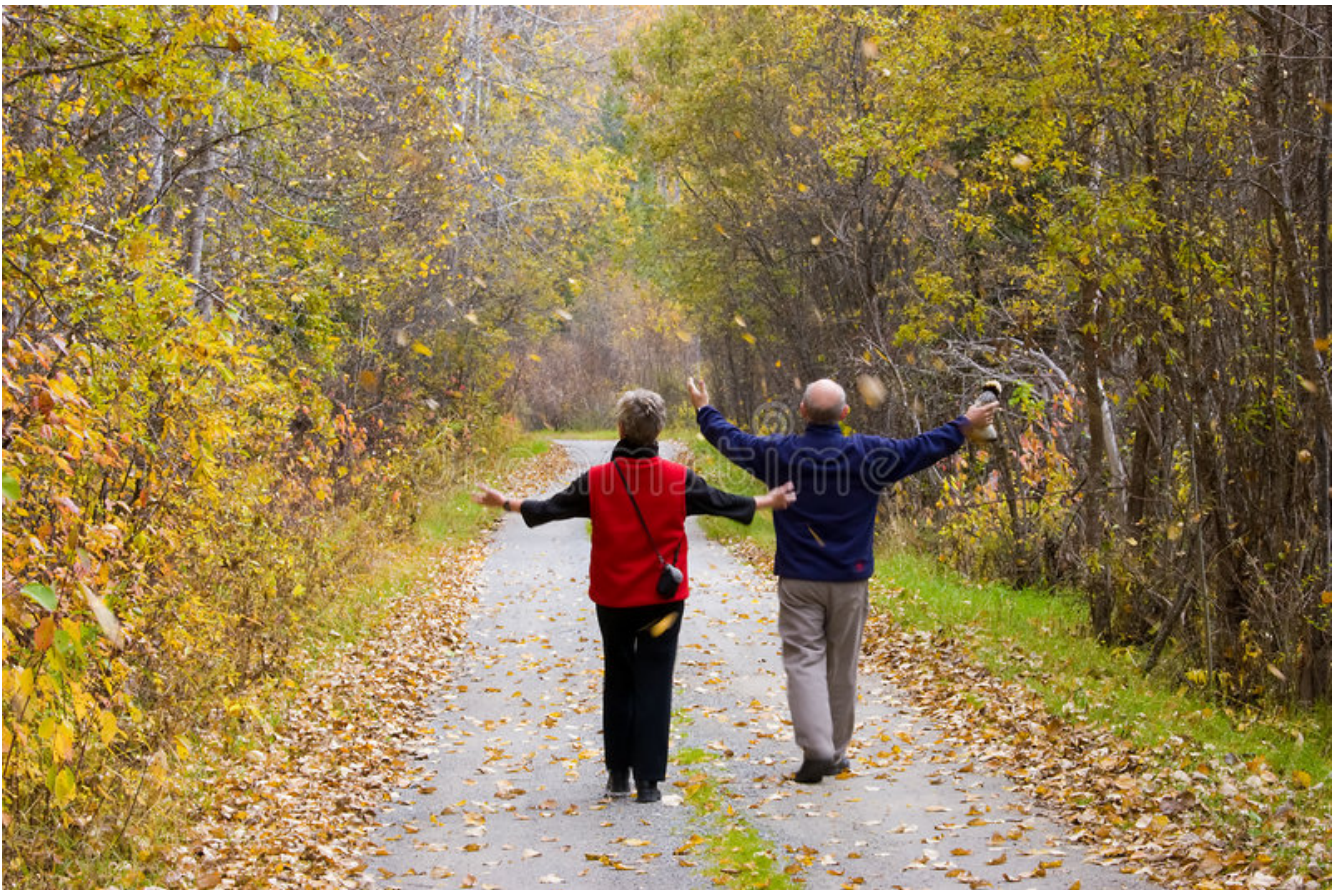
Relevant factors- perceived distance vs actual distance

Percent increase 76.91%

<https://www.calculatorsoup.com/calculators/algebra/percentage-increase-calculator.php>

CONCLUSION

A **76.91%** increase in perception indicates physical perception can be improved with awareness and practice. This data measures the difference between the participant's perception of themselves within a predetermined area and the reality of themselves within the same predetermined area. As the participant's perception and reality more closely align, their sense of wellbeing improves.



Expressive Avenues: Wellness

Kinesthetic Awareness

One of three areas targeted in Learning HOW to Age® is kinesthetic awareness. For the purposes of this report, kinesthetic awareness is defined as identifying efficient movement of muscles and joints. Participants mirror a demonstrated movement correctly and recall the movement independently. First introduced with a simple three part movement, participants progressed to a complex 12 part movement. This progress is indicated by a **22.57%** rate of increase.



Classroom Preparation



- When standing in a circle for group exercises, chairs are to be placed behind each participant for safety. While standing is preferred, sitting is an option if needed.
- The classroom should be an open space clear of obstacles.
- Class size of 6-10 participants is ideal.

III KINESTHETIC AWARENESS METHODOLOGY

Participants

- Members of Adult Ministry for Seniors at St. Paul United Methodist Church
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- Make up of the class was 57% male and 42% female
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Class Requirements

- Participation limited to 65 years and above
- Class ratio 10:1
- Introductory class is 5 weeks**, classes meet 2 times per week, 60-75 minutes per class
- Final kinesthetic awareness assessment is administered on class #14

Kinesthetic Awareness Assessment: Coordination/Flow

- Introduce 3 part Coordination/Flow movement to the group and encourage participants to carefully observe.
- Participants stand or sit in a neutral position.
- Give participants 30-60 seconds to work on their own while assessing skill level.
- A detailed video demonstrating this exercise is available under the *subscriber only* tab at [Learntoage.org](https://www.learntoage.org).

Kinesthetic Awareness Assessment: Moving Meditation

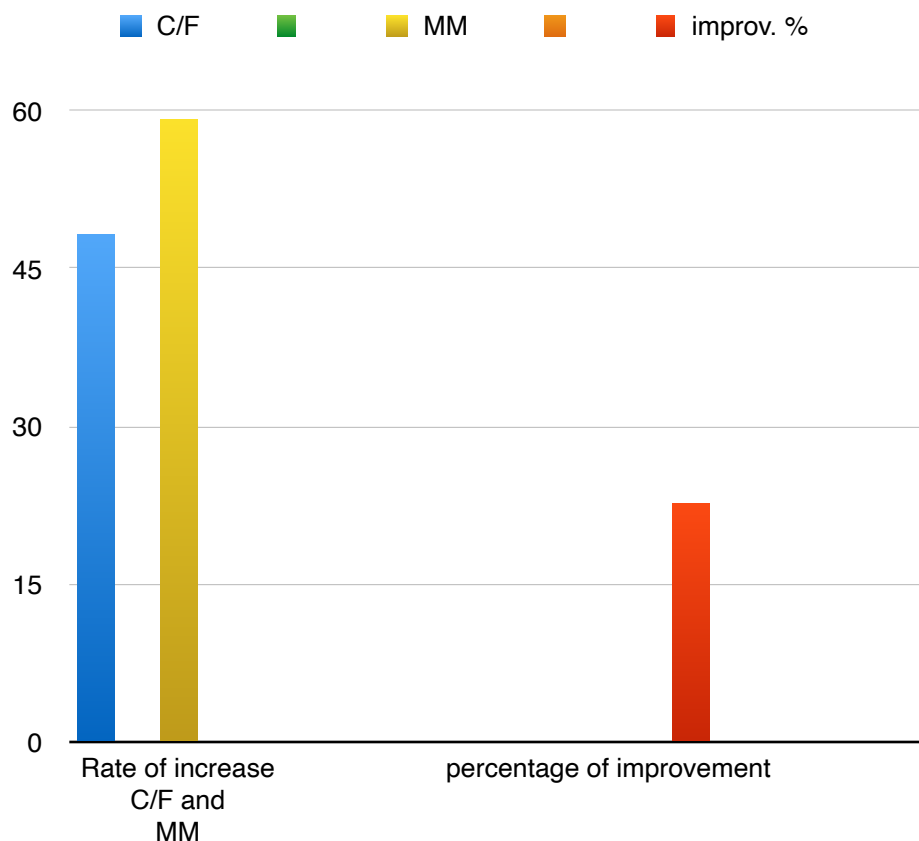
- On the 5th class, 12 part Moving Meditation is introduced and a baseline assessment is made.
- Participants are encouraged to carefully observe.
- Participants stand or sit in a neutral position.
- A detailed video demonstrating this exercise is available under the *subscriber only* tab at [Learntoage.org](https://www.learntoage.org).

Further assessments are compared finding the rate of increased awareness between coordination/flow and moving meditation

***KA assessment over 7 week period*

SUMMARY OF MAIN FINDINGS - KINESTHETIC AWARENESS

Although the demands of the movement pattern became more complex, the rate at which participants improved continued to increase. Participants kinesthetic awareness increased from **48.28%** with the simpler coordination/flow to **59.18%** with the moving meditation, a more complex, multi-step pattern. This data was compiled over a 7 week period in which 2/3 of the



exercises and games introduced required developing physical awareness. Although coordination/flow and moving meditation were the exercises used to assess participants improvement, the cumulative effect of all exercises and games must be taken into account. This is further evidence of the positive impact of a multi-discipline approach.

CONCLUSION

A physical component of a wellness practice for older adults need not be limited to a follow the leader approach only. A multi-discipline approach builds self-confidence and autonomy. Being in control of our lives is a hallmark of having a positive quality of life. Staying connected to our physical body is surely necessary to achieve wellbeing for years to come.



RESOURCES

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2998793/>

mind.nih.org

<http://psychology.about.com/od/psychosocialtheories>

www.quickmedical.com

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Restak, Richard M.D. Optimizing Brain Fitness. The Great Courses, The Teaching Company, 2011.

Spolin, Viola. Improvisations for Theatre. Northwestern University Press, 1963