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## StrongerMemory Report

March 1, 2021

### Introduction

George Mason University Department of Social Work and Goodwin House partnered during Fall, 2020, to begin examining the impact of the StrongerMemory program from the perspective of Goodwin House and Goodwin House at Home participants. A team of George Mason University gerontology researchers and students interviewed a total of **21**

***StrongerMemory participants with 3 caregivers*** also participating in the interviews. One caregiver was the primary respondent and the other two caregivers participated with their family members, offering extra feedback at various points during the interview.

In addition to the StrongerMemory program, Mason and Goodwin House are connected in other ways, including Goodwin House serving as a placement site for Mason's social work students. The George Mason gerontology research team is implementing research focused on non-pharmacological interventions for persons with dementia, specifically the Mason Music & Memory program and TimeSlips. Goodwin House is currently working with Mason to set up a TimeSlips program.

**The Development of the StrongerMemory Program.** The StrongerMemory program is an intervention that the Mason Gerontology Research Team enthusiastically embraces. Evidence in the literature indicates positive trends toward the effectiveness of reading aloud and math calculations for individuals with dementia (Kawashima et al., 2005). One study found that reading in pairs was as effective as music interventions at producing positive effects on behavior in people with various neurological conditions (Latchema & Greenhaigh, 2014) which would be interesting to examine in our own Mason Music & Memory work. The StrongerMemory program was created by Rob Liebreich, after observing his mom's challenges with mild cognitive impairment and after attending a Leading Age session that explored the impact of the SAIDO Learning® program. This program provides evidence that residents in nursing facilities diagnosed with dementia who practiced exercises involving math, writing and reading aloud for 20-30 minutes a day showed a plateau, or even an improvement in cognitive functioning. Rob was unable to obtain the rights to this particular program, so he developed and implemented his own program for his mom.

Rob and his family saw significant changes in his mom and share their story with others who are interested in participating in the StrongerMemory program. The premise around StrongerMemory, supported with some evidence in the literature, is that prior to a diagnosis or even with a diagnosis of mild cognitive impairment, a decline can be slowed and possibly prevented by participating in a program like StrongerMemory. The Mason gerontology research team is on board to continue evaluating the StrongerMemory program, providing evidence of its impact. This report will present overall results of this exploratory study based on the specific interview questions that were asked. Recommendations for future

collaborations are also provided.

## **Interviews**

The current research was approved by the George Mason University Institutional Review Board. Each respondent gave their verbal consent to be interviewed and recorded over Zoom by a member of the George Mason gerontology research team. Demographic information was not formally collected, though many of the participants shared this data as part of their interview. The respondents were mostly female with reported ages ranging from 65 years old to approximately 90 years old. Many of the respondents reported having advanced degrees and were participating in the program on their own, with a spouse or friend.

A semi-structured interview was implemented with each participant and the interviews took about 15 to 30 minutes to complete. Each interview was coded by at least two members of the Mason team.

The following general questions were asked to each participant who volunteered to be interviewed. See Appendix 1 for additional probing questions.

**Motivation:** Why did you choose to participate in the StrongerMemory program? What did you hope to gain from it?

**Perceptions and Reactions to the Exercises:** What was the experience of doing the exercises like?

**Routine:** What did your exercise routine look like?

**Challenges Experienced/Lessons Learned:** What challenges did you experience? What did you learn?

**Evaluation/Reflection:** Did you notice changes? Will you continue the program? Would you recommend StrongerMemory to a friend?

## **Outcomes**

**Motivation.** There were some common themes focusing on reasons why participants were motivated to participate in the StrongerMemory program. **Fearing** memory loss because of experiences of family members and friends, or because of a proven family history of cognitive decline and dementia were common responses. **Witnessing** a family member or friend challenged with behaviors and emotions associated with dementia correlated with fear for many of the respondents. Others came from a self-perception that becoming forgetful was increasing whether it was due to normal aging or another reason:

"...My father had this same issue. I'm doing pretty well now, but that's the reason I want to stick with the program."

"I do have friends that do have dementia and Alzheimer's and everything. It's very scary; scary to see them deteriorate, like they did, so I don't want that to happen to me."

"...It's best to start now before it gets worse. Dementia does run in my family so it is definitely a fear."

"Challenged to understand why my brain power is not the same."

Other respondents perceived "being cognitively fit" as just as important as being "physically fit" to prevent cognitive impairment.

It was rare that a respondent did not mention that a motivating factor was **hearing** from Rob and his mom about their experiences and **listening** to the impact of the StrongerMemory program for Rob's mom and her family. This is a significant indicator of the importance of being able to relate to someone who has similar characteristics (age, gender, education level, etc.); not a fictional character or someone in the popular media, but someone who potential participants find relatable:

"RL told us about it and of course, his mother is so inspiring. I don't know if any of us would have done it without his mother."

**Perceptions and Reactions to the Exercises.** Participants generally understood the importance of all three types of exercises but often voiced a preference for some over others. After the completion of each activity, participants are instructed to read their answers or writing suggestion responses aloud, as well as to read anything they may be interested in for at least 10 minutes a day. **Questioning** whether or not the activities would make a difference was common initially for many of the participants but after a short period of time participating in the program, questioning the impact was less of an issue. Many participants reported **enjoying** the exercises. In addition, **tweaking** the exercises to keep their interest, **redoing** the exercises once they completed them and often **adding** similar exercises such as Sudoku and crossword puzzles were fairly common.

In the StrongerMemory program, the math problems are presented as an activity to help increase focus and participants are instructed to complete the problems as fast as possible and not to worry about getting the right answers. The math problems start off simple and become more challenging:

"I did not find the math problems very stimulating; they talked about timing yourself on it. They are so simple that it was just a matter of how fast I could put the numbers in there."

"Was interesting to see what kinds of standard arithmetic problems can create confusion and has something to do to teach us about the way we learn our three R's in elementary school when we start schooling and life. But anyway, to learn more as we go along."

"Like, a lot of us math isn't necessarily my strongest point but I appreciate it. The activity and being able to do it; but not on a regular basis. I'm sorry."

The writing suggestions include prompts such as *What do you like to do for fun?* and *What is the most unusual thing you have ever done?* Completing the writing suggestions have turned into daily journaling for many participants.

"Early childhood memories have been awakened."

"And I love writing. So that's not a problem. Although I do make my own questions up sometimes..."

"Deferring from prompts – writing about the virus."

Participants are instructed to read aloud for at least 10 minutes per day to themselves or to someone in their family/friend networks. Most respondents **enjoyed** reading aloud and commented on the cognitive benefits as well as the benefits of using your voice more for those who live alone:

"I've decided I am going to read out loud for the rest of my life."

"I live alone. I don't have anybody to talk to with reading out loud. And I've tried it, I probably will try some more and see if it is beneficial."

**Routine.** When describing their cognitive exercise routine, most respondents preferred **structuring** their time for the StrongerMemory program. Being consistent with doing the exercises **regularly** also had value for some participants.

"Sporadic – no particular time of day to complete the exercises. Looking back, it would have worked better for me if I carved out 20-30 minutes each day."

"Usually right before dinner. We're pretty rigid. He's pretty much of a stickler for getting this done."

**Challenges Experienced/Lessons Learned.** Respondents reported very few challenges with the StrongerMemory program. **Finding the time** to complete the program during the holidays was a common response as well as understanding whether or not there could be **flexibility** in the program.

"Well, I learned that what is important is what you are doing not the order you are doing it in. It is important to do math, reading and writing, but I don't have to keep it in the same order. It's using your mind in different ways. I think what I learned is I need to make sure that I do more of that on a regular basis; that I try to do different things which require my attention and some use of my intelligence."

"Read out loud with a friend in the program; started off doing it in the morning then I did it whenever I could."

**Evaluation/Reflection.** Participants are eager to continue the program and some are interested in the next steps. Some participants have begun **infusing** what they have learned from the StrongerMemory program into their daily lives. Some have started from the beginning and are redoing the packets. Some feedback was provided on the weekly check-in sessions. Those individuals interested in **socializing** more seemed to enjoy the weekly check-ins. Some commented they would like to have more guest-lectures so that they could continue learning.

"But if you want my opinion, I think it's a fabulous program and when I do it regularly, I do notice a difference."

"And you know, expand on it when you can with other things. Complement the program with puzzles or whatever and see where it lands you." It's certainly enjoyable for me."

## **Conclusion**

This exploratory study indicates participants' overall satisfaction of the StrongerMemory program and the infusion of what is being learned into other aspects of their lives. For example, a comment like "I enjoy book club much more." Self-perception of being "less foggy" and able to remember differently before starting the program are important data. The next step is to use standardized measures to collect data on memory retrieval, cognitive status and life satisfaction before, during and after implementing the StrongerMemory program to evaluate an objective impact. Collecting demographic data will be valuable to determine if the impact varies depending on gender, age, socioeconomic status, education level, etc. In addition, it is important not to underestimate the value of hearing success stories to encourage participation in the StrongerMemory program. Understanding how much time participants actually spend on the StrongerMemory program each day and whether or not they complete the program is important data to collect as well. Examining how many participants choose doing the supplements that are relatively new to the program, ask for more structure for how to infuse the concepts of StrongerMemory into their daily lives and those who just begin doing similar activities on their own will be beneficial. Some of these suggestions would require a longitudinal study or a post-test several months after participants complete the program. Finally, future studies may benefit from having caregiver interviews done as separate interviews from the StrongerMemory participants.

Report submitted by Cathy Tompkins, PhD on behalf of the following members of the George Mason gerontology research team:

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## References

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- Latchema, J.M., & Greenhaigh, J. (2014). The role of reading on the health and well-being of people with neurological conditions: A systematic review. *Aging and Mental Health*, 731-744. doi: 10.1080/13607863.2013.875125

## Appendix 1

### **StrongerMemory: Participant Questions**

Please tell us about your experiences with the StrongerMemory program.

**Motivation:** Why did you choose to participate in the StrongerMemory program? What did you hope to gain from it?

- *At the start, did you have any concerns about changes in your cognitive functions? If so, describe.*
- *What had you heard about StrongerMemory prior to starting?*
- *Did you discuss this with anyone (e.g., medical providers, family members, friends) prior to starting the exercises?*

**Exercises- Reactions to, Perceptions Of:** What was the experience of doing the exercises like?

- *What did you think of the exercises- the simple math, reading aloud, and journaling?*
- *Were you surprised by the curriculum?*
- *Which one did you like best? Least?*

**Routine:** What did your exercise routine look like?

- *How often do you complete the exercises (#/week)? How long does it take?*
- *Do you complete them at the same time of day or does it vary? Where do you work on the exercises? Who did you do them with?*

**Challenges Experienced/Lessons Learned:** What challenges did you experience? What did you learn?

- *Did you have difficulty with completing the exercises?*
- *Did you find it challenging to maintain consistency?*
- *How did your approach to completing the lessons change from the start to finish?*
- *What advice would you give to someone who was starting the exercises for the first time?*
- *Were you able to utilize social support during the process? How so?*

**Evaluation/Reflection**

- *Have you noticed any cognitive changes since starting the program (such as memory, concentration, alertness)?*
- *Will you continue with the exercises?*
- *Would you recommend this to a friend or loved one?*

**Do you have any questions for us?**

## Caregiver or Family Member Questions

Please tell us about your experiences with the StrongerMemory Program.

**Motivation:** Why did [PARTICIPANT] choose to participate in the Stronger Memory program? What did they hope to gain from it?

- *At the start, did you have any concerns about changes in [PARTICIPANT]'s cognitive functions? If so, describe.*
- *What had you heard about Stronger Memory prior to starting?*
- *Did you discuss this with anyone- medical providers, family members, friends-prior to [PARTICIPANT] starting the exercises?*

**Exercises- Reactions to, Perceptions Of:** What were the exercises like?

- *What did you think of the exercises- the simple math, reading aloud, and journaling?*
- *Were you surprised by the curriculum?*

**Routine:** What did [PARTICIPANT]'s routine look like for the StrongerMemory program?

- *How often do they complete the exercises (#/week)? How long does it take?*
- *Do they complete them at the same time of day or does it vary? Where do they work on the exercises? Who did they do them with?*
- *What was your role?*

**Challenges Experienced/Lessons Learned:** What challenges did you notice [PARTICIPANT] experience? What helpful modifications or habits did they implement?

- *Did they have difficulty with completing the exercises?*
- *Did they find it challenging to maintain consistency?*
- *How did the approach to completing the lessons change from the start to finish?*
- *What advice would you give to someone who was starting the exercises for the first time?*
- *Were they able to utilize social support during the process? How so?*

**Evaluation/Reflection**

- *Have you noticed any cognitive changes in [PARTICIPANT] since starting the program (such as memory, concentration, alertness)?*
- *Will they continue with the exercises?*
- *Would you recommend this to a friend or loved one?*

**Do you have any questions for us?**