Exploring Supported Conversation with Familial Caregivers of Persons with Memory Impairment: A Pilot Study

2016

Arielle Willis

University of Central Florida

Find similar works at: https://stars.library.ucf.edu/honorstheses

University of Central Florida Libraries http://library.ucf.edu

Part of the Speech Pathology and Audiology Commons

Recommended Citation

Willis, Arielle, "Exploring Supported Conversation with Familial Caregivers of Persons with Memory Impairment: A Pilot Study" (2016). Honors Undergraduate Theses. 139.
https://stars.library.ucf.edu/honorstheses/139

This Open Access is brought to you for free and open access by the UCF Theses and Dissertations at STARS. It has been accepted for inclusion in Honors Undergraduate Theses by an authorized administrator of STARS. For more information, please contact lee.dotson@ucf.edu.
EXPLORING SUPPORTED CONVERSATION WITH FAMILIAL CAREGIVERS OF PERSONS WITH MEMORY IMPAIRMENT: A PILOT STUDY

by

ARIELLE WILLIS

A thesis submitted in partial fulfillment of the requirements for the Honors in the Major Program in Communication Sciences and Disorders in the College of Health and Public Affairs and in the Burnett Honors College at the University of Central Florida

Orlando, Florida

Fall Term, 2016

Thesis Chair: Dr. Janet Whiteside
©2016 Arielle Willis
ABSTRACT

Teaching conversational strategies has been effective for a wide array of clients with acquired neurologic disorders and their caregivers. Research indicates positive results for Supported Conversation in adults with Aphasia (SCA) secondary to stroke. Applying this method to work with caregivers of persons with memory impairment could prove to be a valid intervention tool. This investigation will examine the applicability of SCA with persons with memory impairment and their familial caregivers. This pilot study is intended to create a conversation regarding SCA and its implementation with persons with memory impairment who still live in the community with their caregivers. Analysis between the pre-training and post-training scores showed a trend towards significance for Time (F(1, 9) = 0.064), no significance for Measure (F(3, 9) = 0.558), and no significance for the interaction of Time*Measure (F(3, 9) = 0.276). The effect size for Time was 0.732, for Measure was 0.494 and for Time*Measure was 0.956.

Keywords: supported communication in aphasia, aphasia, SCA, memory impairment, caregiver education, communication strategies
DEDICATION

For my great grandmother, Joyce Hathcock, may you rest in peace,

For my mentors, Dr. Michael Willis, Dr. Janet Whiteside, Dr. Joshua Troche, and Dr. Denise Gammonley, for all of the guidance and encouragement during this journey,

And finally, for my mother, Sandra Williams, thank you for being my rock. You’ve made me the woman I am today.
ACKNOWLEDGEMENTS

I would like to express my sincerest gratitude to everyone who made my thesis a reality. Thank you Nelson Hernandez for believing in me and providing a base for my thesis to grow. I’d like to thank Dr. Janet Whiteside for agreeing to become my thesis chair and having the patience to teach and guide me through the process. To my mentor and uncle, Dr. Michael Willis, thank you for all you’ve done for me throughout the years. Thank you to my amazing family, friends, and professors that have allowed me to reach a place I had never imagined during my time here at the University of Central Florida.
# TABLE OF CONTENTS

INTRODUCTION ......................................................................................................................... 1

CHAPTER I: LITERATURE REVIEW ......................................................................................... 1
    Dementia and Memory ............................................................................................................. 1
    Current Communication Methods in Dementia ................................................................. 2
    LPAA and SCA .................................................................................................................... 4
    Bridging the gap Between Aphasia and Dementia ............................................................. 5

CHAPTER II: METHODOLOGY ................................................................................................. 6
    Purpose ............................................................................................................................... 6
    Research Design ............................................................................................................... 6
    Participant Selection ........................................................................................................... 7
    Data Collection Measures ................................................................................................. 7
    Scoring ............................................................................................................................... 8
    Procedure ........................................................................................................................... 9
    Pre-training assessment ................................................................................................... 10
    Didactic training ............................................................................................................... 11
    Experiential training ......................................................................................................... 14
    Post-training assessment ................................................................................................. 14
    Data Collection Procedures ............................................................................................. 14
    Reliability Measures ......................................................................................................... 14
    Statistical Analysis .......................................................................................................... 15

CHAPTER III: RESULTS ............................................................................................................ 16
    Reliability Measures ......................................................................................................... 16
    Multivariate Analysis of Variance .................................................................................... 16
    Effect Size .......................................................................................................................... 16
    Changes in Interactional Communication: MSC and MPC ............................................. 17
    Zarit Burden Interview ..................................................................................................... 20

CHAPTER IV: DISCUSSION ....................................................................................................... 21
    Delivery of SCA Intervention ............................................................................................ 22
    Limitations of the Study .................................................................................................... 24
    Future Research ................................................................................................................. 25

CHAPTER V: CONCLUSION ...................................................................................................... 27

APPENDIX A: IRB APPROVAL LETTER .................................................................................. 28

APPENDIX B: MSC/MPC USAGE APPROVAL LETTER ............................................................ 31

APPENDIX C: MSC/MPC MEASURES AND SCORING ............................................................. 34

APPENDIX D: SHORTENED ZARIT BURDEN INTERVIEW ..................................................... 37
LIST OF FIGURES

Figure 1: Estimated Marginal Means Plot .......................................................................................... 18
Figure 2: Tests of Within-Subjects Effects ....................................................................................... 19
LIST OF TABLES

Table 1: Baseline and post-training mean scores and standard deviations for caregivers and persons with memory impairment ................................................................. 17
Table 2: Total Zarit Burden Interview Scores: Baseline and Post-training ......................... 20
INTRODUCTION

Communication is the foundation of relationships; without it, we could not convey messages, feelings, beliefs, or opinions. Therefore, because communication is so vital to who and what we are, we cannot discount those who have lost this ability due to illness and the familial caregivers who devote themselves to their recovery. There is a growing need for new communication options for familial caregivers for persons with memory impairment (Savundranayagam, 2012). There has been increasing research in communicative intervention tools for persons with memory impairment; particularly, in probable Alzheimer’s disease with the development of the AD Communication Knowledge Test (Williams, 2011). Additionally, Supported Conversation for Adults with Aphasia (SCA) has shown promise, however research investigating the effects of SCA with persons with memory impairment and their caregivers has not yet been pursued. This pilot study seeks to apply this method to work with caregivers of persons with memory impairment to prove whether or not SCA would be a valid interactional communication intervention tool.
CHAPTER I: LITERATURE REVIEW

Dementia is an umbrella term for numerous chronic disorders in cognitive abilities and declines in memory loss caused by either disease or injury to the brain. There are various different secondary etiologies for dementia and, although some causes may be reversible, it is generally regarded as a terminal illness. Currently ranked as the sixth leading cause of death in America, dementia, more specifically Alzheimer’s disease, can range in severity from mild to severe (National Institute on Aging, 2015). In 2007, nearly ten million Americans were caring for someone with dementia, of which the largest proportion were spouses (Brodaty, & Donkin, 2009).

Dementia and Memory

Memory loss that disrupts daily life is the most recognizable early sign of dementia. It is notable that, although memory changes are part of the normal aging process, the type of memory loss associated with dementia is not normal. As the disease progresses, all aspects of memory, including episodic, working, and semantic, becomes impaired. These subcomponents of memory become affected at different stages of the illness (Greene, Hodges, & Baddeley, 1995). Working memory is assumed to be the earliest affected by memory loss in many persons with memory impairment. This may be due to the underlying connections between reasoning and comprehension. According to Morris & Baddeley (1988), mechanisms responsible for primary memory create the nucleus of human information processing.

Within the working memory model of Baddeley & Hitch (1974), three components are proposed each with their own specific purpose: the visuo-spatial scratch pad, the articulatory loop, and the central executive. The episodic buffer was later added to account for a
wider range of data (Baddeley, Allen, & Hitch, 2011). The central executive acts as a system for controlling attention to make sure that working memory resources are used effectively and appropriately. The episodic buffer relies on the central executive and serves as a multidimensional storage space that acts as a binding system (Baddeley, Allen, & Hitch, 2011). Following this, there are two short-term storage systems that feed information to the episodic buffer.

The articulatory loop acts to hold speech-based information whereas the visuo-spatial scratchpad holds spatial and visual information. Both of these storage systems are known as slave subsystems due to their passive functions. An updated version of this model offers some insight into why persons with dementia frequently exhibit a deficit in working memory. Damage to the central executive component was shown to result in learning and scheduling impairments particularly in complex or demanding tasks (Baddeley, Logie, Bressi, Sala, & Spinnler, 1986).

**Current Communication Methods in Dementia**

The majority of persons with dementia live with a family member in the community (Small & Perry, 2012). This means that a couple’s communication style which has been fostered over many years of interaction prior to the onset of dementia will need to be adjusted to accommodate the changes. According to a review by Eggenberger, Heimerl, & Bennett (2013), healthcare professionals and family caregivers typically receive very little to no training and support to meet the specific communicative needs of persons with memory impairment. In fact, for years, family caregivers were seen as the “invisible second patient” while most methods of intervention centered solely on the client (Brodaty, & Donkin, 2009). Only in recent years has the importance of incorporating family caregivers in
interventions grown in the literature to show marked improvement in communication with people with dementia (Haberstroh, Neumeyer, Krause, Franzmann, & Pantel, 2011). However, for these interventions to remain effective, it is pertinent to schedule regular follow-up sessions (Magai, Cohen, & Gomberg, 2002; Purdy, & Hindenlang, 2005; Jensen, Løvholt, Sørensen, Blüdnikow, Iversen, Hougard, & Forchhammer, 2015).

Communication breakdown is listed regularly as one of the top stressors contributing to family caregiver burden (Ripich et al., 1995; Rautakoski, 2011). Caregivers often find themselves unprepared for the declines in communication and its accompaniments (Williams, 2011; Small et al., 2003). Generally there are fewer breakdowns in communication when caregivers employ communication strategies versus when they do not (Small, et al., 2003). Following this point, knowledgeability about changes in communication in regards to dementia must be determined and used to create specific interventions to target knowledge deficits (Williams, 2011).

Ripich, Ziol, Fritsch, & Durand (2000) attempted to accomplish this through a knowledge strategy system known as the FOCUSED program with positive results. The FOCUSED program is a communication training system with an emphasis on correcting misconceptions about Alzheimer’s Disease, providing information about proper communication, and offering techniques to enhance communication potential for persons with dementia and their family members. However, there is still a strong need for an intervention tool that has an organized, communication-centered framework (Eggenberger, Heimerl, & Bennett, 2013).
LPAA and SCA

The Life Participation Approach to Aphasia (LPAA) is a client-driven approach geared towards refocusing clinical knowledge to re-engage the person with aphasia (PWA) with their lives through continuing interventions (American Speech-Language-Hearing Association, 2015; Chapey et al., 2001). LPAA focuses on interaction and transaction in communication and the real-life goals of persons with aphasia (Purdy, & Hindenlang, 2005). Within this approach, Supported Conversation in adults with Aphasia (SCA) is a competence-based intervention tool developed by Kagan et al. (2001), which seeks to facilitate shared conversation in aphasics and their partners through teaching conversational skills to show the inherent competence of the PWA. This is the main difference between the FOCUSED program and SCA because SCA focuses on unveiling and acknowledging the hidden competence of the client.

Interaction and transactional speech are the two components that make up social relationships; SCA focuses on these components and enables the client to express wants, needs, and feelings (Kagan et al., 2001). This is accomplished in SCA by emphasizing social interaction as a collaborative/shared activity between the PWA and their conversation partner. The approach was implemented in a study by Jensen et. al (2015) between nursing assistants and PWAs and again by Sorin-Peters, & Patterson (2014) with spouses of PWAs. Both studies had positive findings on increasing knowledgeability of communication strategies and improved communication.
Bridging the gap Between Aphasia and Dementia

Aphasia is a loss of language secondary to brain damage. That damage can be secondary to a cerebrovascular accident (CVA), such as a stroke, or secondary to loss of neural tissue, as is the case with dementia. According to Cahana-Amitay and Albert (2015), there is an interconnectedness of language and cognition due to “multiple functionally overlapping neural networks.” PWA can have memory issues and persons with dementia will have language loss. With both disorders, there is a degradation of conversation. Conversational treatment for PWA and clients with dementia share the common purpose of providing the opportunity for social interaction, the opportunity to practice communication strategies, and the opportunity to demonstrate preserved cognitive and linguistic abilities (Hinckley, Bourgeois, & Hickey, 2011). Conversational approaches like Conversational Partner Training (CPT) have shown improved communication and participation in PWA. Supported Conversation in adults with Aphasia, a type of CPT, has also shown promising results, but has yet to be explored as a possible treatment for persons with memory impairment.
CHAPTER II: METHODOLOGY

Purpose

This study serves to explore the benefits and effectiveness of Supported Conversation for Adults with Aphasia (SCA) as a communication intervention tool between caregivers and persons with memory impairment. Spouses were chosen as the focus of the study because they constitute a large number of caregivers for persons with memory impairment. Intrinsically, they play the primary role in day-to-day activities. The goal of this research is to examine the possible outcomes in caregiver communication after participating in the training program.

Research Design

A descriptive case series research design was utilized. The proposed research design was a pilot study to explore changes in interactional communication between caregivers and persons with memory impairment. According to Leon, Davis, & Kraemer (2011), the purpose of pilot studies is to examine the feasibility of an approach for future exploration. This study focused entirely on group training sessions. Therefore, the framework for this study followed closely along with that of Sorin-Peters & Patterson (2014). The study was conducted through the University of Central Florida Communication Disorders Clinic. The subject pool came from Brain Fitness, a site affiliated with the UCF Communication Disorders Clinic.
Participant Selection

The subject pool was collected based on IRB specifications that included persons in the early stages of memory impairment capable of activities of daily living (ADLs). This restriction was met based upon intake forms from Brain Fitness. The subject pool consisted of four dyads, each including a spousal caregiver and their partner with memory impairment. The early stages of memory impairment were defined using the cognitive assessment known as the Montreal Cognitive Assessment (MoCA). The MoCA consists of a ten-minute, one-page, 30-point test involving memory, recall tasks, and executive functioning assessments (Nasreddine, Phillips, Bédirian, Charbonneau, Whitehead, Collin, & Chertkow, 2005). A MoCA score between 18 and 26 is the defined range for persons with mild dementia with an average of 16.2 (Nasreddine, 2015). These were the parameters for participant selection. The director of Brain Fitness conducted the MOCA no more than twelve months prior to the study and these scores were not disclosed to the researchers.

Data Collection Measures

The pre-training assessment and post-training assessment conversations were measured using the Measure of Participation in Conversation (MPC) and the Measure of Skill in Supported Conversation (MSC) (Kagan et. al, 2004). The MSC was originally created to assess the conversational skills of the volunteer/caregiver in the following areas: (1) the ability of the caregiver to acknowledge competence in the person with aphasia using natural conversation, (2) the ability of the caregiver to ensure that the person with aphasia understands the conversation, (3) the ability of the caregiver to allow the person with aphasia to respond or express opinions, and (4) the abil-
ity of the caregiver to verify the contents of the conversation with the person with aphasia. In addition to the MSC, the MPC was created to assess the person with aphasia in the following areas: (1) the level of conversational involvement the person with aphasia exhibits, and (2) the level of transaction the person with aphasia provides within the conversation. Both measures were deemed appropriate for use with caregivers and persons with memory impairment. There were no substantial changes to either measure, aside from a change in naming. These measures are complementary and have proven to be effective in gauging the conversational interaction and transaction of information with volunteers and PWAs in other studies similar in nature (Sorin-Peters & Patterson, 2014). In addition to the MPC and MSC measures, the shortened version of the Zarit Burden Interview (ZBI) (Bédard, Molloy, Squire, Dubois, Lever, & O'Donnell, 2001) was used to gauge perceived caregiver burden at the onset and conclusion of the training program.

**Scoring**

The MSC provided an index of the conversation partner’s ability to reveal and acknowledge the competence of a person with aphasia through conversation whereas the MPC provided an index of the level of conversational participation by the person with aphasia (Kagan et. al, 2004). In these measures, categories are scored on a 9-point Likert scale presented as a range of 0–4 with 0.5 levels representing performance level (Kagan, Winckel, Black, Duchan, Simmons-Mackie, & Square, 2004). The scores range from 0, meaning very poor performance, to 4, meaning outstanding performance (See Appendix C). Rating anchors are included and were utilized to create a common standard. A score of 2, or adequate, for both the caregiver and per-
son with memory impairment indicated that some transaction occurred within the conversation without the need for an SLP trainer to supervise either party. All sessions were videotaped and audiotaped for independent inter-rater reliability. The Zarit Burden Interview was scored similarly utilizing a 4-point Likert scale to indicate levels of agreement (See Appendix D). Scores are added to form a final number that can range between 0 and 48 with a higher number suggesting higher perceived stress levels in caregivers.

Procedure

Prior to the onset of the study, IRB approval was obtained (See Appendix A). Two informed consent forms were utilized for this study: one for the person with memory impairment and one for the caregiver. The consent form provided to the person with memory impairment contained pictures to assist in comprehension as per IRB procedure and differed from the form given to the caregiver. These forms were distributed to all interested parties that fit the criteria as judged by the director of Brain Fitness. The undergraduate researcher and the licensed SLP were available during the process to present a short informational PowerPoint explaining the program as well as to answer questions. Upon approval, the caregiver began a comprehensive training program utilizing the training technique, Supported Conversation for Adults with Aphasia, as well as elements of adult learning.

The training program took place once a week for six weeks in hour-long increments. The entire program consisted of a recorded initial assessment session during week one, transitioned into the main training program during weeks two through five, and concluded with a recorded post-assessment session in week six. The training program involved didactic and experiential
training methods. The licensed speech language pathologist in SCA conducted all didactic sessions and lead experiential sessions along with the undergraduate researcher.

**Pre-training assessment**

Two separate IRB consent forms were provided in accordance with IRB procedure to account for the caregiver and the person with memory impairment. Despite the focus of the study being caregiver communication strategies, the persons with memory impairment were used in pre and post-assessment to evaluate changes in communication. Upon completion of the required IRB consent, the first assessment session consisted of each dyad being recorded for baseline data. To achieve this, a ten to fifteen minute transactional and interactional conversation was conducted. A semi-structured interview was utilized to elicit a consistent amount of information from each dyad. Three topics were chosen and placed on a table before each dyad. These topics were chosen to provide a consistent amount of intentional conversation for each dyad for MPC/MSC scoring. The caregiver and the partner with memory impairment were given freedom to choose whether to speak about one or all three topics listed.

Interactional communication sample: The focus of this sample was emotional and social connection. Each dyad was given the following scenario and asked to convey that scenario to one another. The prompt for the scenario was: “Describe the first time you met.”

Immediately following this, the transactional communication sample was provided to observe the ability to exchange information and opinions. The topics were: “Do you remember your first home together?” and “Do you have any vacation plans coming up?” The communication behaviors of the caregiver and the person with memory impairment was videotaped and au-
diotaped by the undergraduate student trained in SCA. Both samples were assessed using the Measure of Participation in Conversation (MPC) and the Measure of Skill in Supported Conversation (MSC) (Kagan et. al, 2004) as outlined above.

During these videotaped interviews, each dyad was placed in a room with the licensed speech pathologist and the undergraduate researcher. A video camera was placed in clear view of all participants and was not turned on until the dyad indicated a full understanding of the purpose of the study and had given consent to be filmed. The undergraduate researcher controlled the camera and monitored the session to ensure the person with memory impairment did not indicate distress.

*Didactic training.*

Materials used in this study were taken from the learning modules provided in Supported Conversation in Adults with Aphasia. Open discussions amongst the group regarding prior knowledge about communication strategies and competence-based strategies were encouraged to establish what was common knowledge and what needed to be explained by the trainers in SCA. This created a basis on which to modify the learning modules to better suit the population. Training sessions were broken up into two components similarly to the original materials used in SCA: (1) acknowledging competence and (2) revealing competence. Revealing competence was further broken down into three sub-components: Getting the message in, getting the message out, and verifying the message. The undergraduate trained in SCA and the certified, licensed speech language pathologist provided information about Supported Conversation in Adults with Aphasia as a communication technique and explained the similarities in treatment between aphasia and dementia to provide a rationale for the purpose of the study.
The first training session began with the distribution of the Zarit Burden Interview (ZBI). The ZBI was not provided during the baseline data collection to protect the integrity of the caregiver’s responses given that both the caregiver and the person with memory impairment were present during this time. Upon collection of the ZBIs, the first training session formally began.

The training session addressed the goal of the program: To examine SCA as a valid training technique in interactional communication for caregivers of individuals with memory impairment. During this session, the first learning module was introduced. This module focused on the first component of SCA: acknowledging competence in the person with memory impairment. Taken heavily from the original materials provided for use in training SCA, several changes were made to account for the target demographic.

All videos were removed due to specificity to PWAs; introductory examples pertaining to persons with aphasia were also adjusted (See Appendix E). Roleplaying was also removed due to time restraints. The addition of a brief summarization of common symptoms of persons with probable dementia was deemed necessary to provide perspective for the caregivers. Information to combat common grievances in persons with memory impairment was appended. Some of these issues included avoiding quizzing the person with memory impairment and appropriate ways in which to assume the lead in a conversation. Another example of this was framing the conversation through techniques to express the person with memory impairment’s inherent competence. After this initial training session, each subsequent session was lead with a review of the module from the week prior to reinforce key concepts.

Module two was presented during the second week of the training program and introduced the second component of SCA: revealing the inherent competence of persons with
memory impairment. This session focused on creating opportunities to get the message across to the person with memory impairment. Changes made to the material included the inclusion of concerns shared by the group during the first training session. Possible solutions to these issues were expanded upon during the session. In addition to the methods provided in the SCA materials, information about sharing the floor, eliminating distractions, and framing conversations to highlight competence were added.

During week three of the training program, another sub-component was introduced in module three: getting the message out with persons with memory impairment. Adjustments made to the original material in this section included providing a context and focusing on the present when communicating with a person of memory impairment. Using a hierarchy of questions was added and expanded to provide a loose guideline in interactions with persons with memory impairment. The caregivers were taught to use open-ended questions first, followed by multiple-choice questions, and finally, asking simple ‘yes or no’ questions based upon how well their partners with memory impairment responded.

In the final week of the training program, the caregivers were presented with the last SCA sub-component in revealing competence: getting verification from persons with memory impairment. No adjustments to the material were necessary for this learning module. Emphasis was placed on three main ideas in this module: reflecting, expanding, and summarizing. The caregivers were taught to repeat the message to their partner, explain what the perceived idea of the message was, and then summarize the conversation with their partners with memory impairment to ensure that they were understood. The Zarit Burden Interview was distributed and collected for a second time towards the conclusion of the session for post-assessment.
Experiential training.

Concurrently, during the training program, the caregivers were asked to actively engage in using SCA with their spouses at home as “homework”. The caregivers were asked to relay feedback at the beginning of each session to provide a meaningful discussion regarding what was and was not successful. The certified, licensed speech language pathologist addressed concerns and aided in identifying behaviors that either facilitated or hindered effective communication. In later sessions, the group was directed to self-reflect on these behaviors. Questions were encouraged during this time.

Post-training assessment.

Upon completion of the program, a second assessment session was conducted for week six. The same set of transactional and interactional conversation questions were videotaped and audiotaped for post-assessment using the quantitative measurements of the MSC and MPC.

Data Collection Procedures

Reliability Measures

Nine graduate students trained in Supported Conversation for Adults with Aphasia were recruited to review and score the recorded interviews using the MSC and MPC measures for data analysis. The MSC and MPC measures were utilized for each of the eight total videos. The students were not made aware of which videos were taken before the training and which were taken after and order in which they were viewed was randomized. The graduate students, licensed speech language pathologist, and the undergraduate researcher rated all conversation videos sim-
ultaneously to account for inter-rater reliability. The undergraduate researcher re-evaluated all samples to assess intra-rater reliability.

**Statistical Analysis**

In light of the small sample size in this pilot study, a repeated measures MANOVA was deemed most appropriate in data analysis for each of the scores on the MSC and MPC. The criterion for statistical significance was set at the 0.05 alpha level. The MANOVA accounted for changes between pre-training and post-training conversation samples of the four dyads. Descriptive statistics were implemented in describing these changes and all Zarit Burden Interview variables. All statistical analysis was done in SPSS.
CHAPTER III: RESULTS

Reliability Measures

Inter-rater reliability for the MSC and MPC scoring was calculated. The intraclass correlation was $r = 0.577$ which, according to Cicchetti (1994), is a fair amount of inter-rater reliability.

Multivariate Analysis of Variance

A repeated measures MANOVA was employed to determine if there were significant differences between pre-test and post-test scores (Time), between the measures regardless of time (Measure), and to determine if there were significant differences between specific measures from pre-test to post-test (Time*Measure). Analysis between the pre-training and post-training scores showed a trend towards significance for Time ($F(1, 9) = 0.064$), no significance for Measure ($F(3, 9) = 0.558$), and no significance for the interaction of Time*Measure ($F(3, 9) = 0.276$). Figure 1 illustrates the upward trend of scores from pre-test to post-test.

Effect Size

Effect size was calculated using partial eta squared. As indicated in Figure 2, the effect size for Time was 0.732, for Measure was 0.494 and for Time*Measure was 0.956. The partial eta squared of 0.732 indicated a large effect size. This also leads us to believe that while Time does not reach significance this is still an important result and would likely reach significance if we increased the power of our study by adding more participants.
Changes in Interactional Communication: MSC and MPC

Table 1 expresses the standard deviations and means of the caregivers’ aggregate MSC scores alongside the aggregate MPC scores for persons with memory impairment prior to the program and upon its conclusion. In comparison to baseline scores, there was a marked improvement in interview scores upon the conclusion of the study for both acknowledging and revealing competence. Furthermore, seventy-five percent of the caregivers in this study showed improvement in more than one rated category encompassed in these measures. The remaining outlying caregiver remained constant, receiving consistent scores of 3-4 during both assessment periods. All caregivers of persons with memory impairment experienced higher ratings post-training as indicated in Table 1.

Table 1: Baseline and post-training mean scores and standard deviations for caregivers and persons with memory impairment

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Post-training</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSC Acknowledging Competence</td>
<td>2.5 ± .7</td>
<td>3.1 ± .4</td>
</tr>
<tr>
<td>MSC Revealing Competence</td>
<td>2.3 ± .7</td>
<td>3.2 ± .6</td>
</tr>
<tr>
<td>MPC Interaction</td>
<td>2.2 ± 1</td>
<td>2.8 ± .8</td>
</tr>
<tr>
<td>MPC Transaction</td>
<td>2.3 ± 1</td>
<td>3.0 ± .7</td>
</tr>
</tbody>
</table>

\(a\) MSC = Measure of Supported Conversation for Adults with Aphasia  
\(b\) MPC = Measure of Participation in Conversation for Adults with Aphasia  
\(c\) The numbers refer to mean ± standard deviation.  
\(d\) The differences in baseline and post-training interview scores was not statistically significant (MANOVA; p < .064)
Figure 1: Estimated Marginal Means Plot
Table 2: Tests of Within-Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sphericity Assumed</td>
<td>3.772</td>
<td>1</td>
<td>3.772</td>
<td>8.205</td>
<td>.064</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>3.772</td>
<td>1.000</td>
<td>3.772</td>
<td>8.205</td>
<td>.064</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>3.772</td>
<td>1.000</td>
<td>3.772</td>
<td>8.205</td>
<td>.064</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>3.772</td>
<td>1.000</td>
<td>3.772</td>
<td>8.205</td>
<td>.064</td>
</tr>
<tr>
<td><strong>Error(Time)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sphericity Assumed</td>
<td>1.379</td>
<td>3</td>
<td>.460</td>
<td></td>
<td>.697</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>1.379</td>
<td>3.000</td>
<td>.460</td>
<td></td>
<td>.558</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>1.379</td>
<td>3.000</td>
<td>.460</td>
<td></td>
<td>.594</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>1.379</td>
<td>3.000</td>
<td>.460</td>
<td></td>
<td>.534</td>
</tr>
<tr>
<td><strong>Measure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sphericity Assumed</td>
<td>.410</td>
<td>3</td>
<td>.137</td>
<td>.491</td>
<td>.697</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>.410</td>
<td>1.190</td>
<td>.344</td>
<td>.491</td>
<td>.558</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>.410</td>
<td>1.525</td>
<td>.269</td>
<td>.491</td>
<td>.594</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>.410</td>
<td>1.000</td>
<td>.410</td>
<td>.491</td>
<td>.534</td>
</tr>
<tr>
<td><strong>Error(Measure)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sphericity Assumed</td>
<td>2.504</td>
<td>9</td>
<td>.278</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>2.504</td>
<td>3.570</td>
<td>.701</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>2.504</td>
<td>4.574</td>
<td>.547</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>2.504</td>
<td>3.000</td>
<td>.835</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Time * Measure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sphericity Assumed</td>
<td>.153</td>
<td>3</td>
<td>.051</td>
<td>1.735</td>
<td>.229</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>.153</td>
<td>1.168</td>
<td>.131</td>
<td>1.735</td>
<td>.276</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>.153</td>
<td>1.459</td>
<td>.105</td>
<td>1.735</td>
<td>.268</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>.153</td>
<td>1.000</td>
<td>.153</td>
<td>1.735</td>
<td>.279</td>
</tr>
<tr>
<td><strong>Error</strong> (Time*Measure)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sphericity Assumed</td>
<td>.265</td>
<td>9</td>
<td>.029</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>.265</td>
<td>3.505</td>
<td>.076</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>.265</td>
<td>4.377</td>
<td>.060</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>.265</td>
<td>3.000</td>
<td>.088</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Zarit Burden Interview**

The shortened ZBI distributed to the caregivers in the initial and final stages of the program revealed a great deal of variance in perceptual burdens. Figure 1 represents the total scores for caregivers during pre-training and post-training. Upon on-set of the program, the caregivers’ responses to the twelve-item questionnaire placed all participants in the category for severe caregiver burden. At the conclusion of the program, the ZBI was re-administered providing insight into the variance specified above. In comparison between the two time intervals, two caregivers remained unchanged and within the severe category of caregiver stress with scores of 23 and 26 respectively, the third caregiver marked a noticeable four-point decrease from 25, and the final participant had the greatest change at a sixteen-point decrease resulting in a final, low burden score of 9.

<table>
<thead>
<tr>
<th>Table 2: Total Zarit Burden Interview Scores: Baseline and Post-training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregiver 1</td>
</tr>
<tr>
<td>Caregiver 3</td>
</tr>
<tr>
<td>Caregiver 4</td>
</tr>
</tbody>
</table>

* The 12-item ZBI questions are added to form a final number that can range between 0 and 48; a higher number suggests higher perceived stress levels in caregivers.
CHAPTER IV: DISCUSSION

This pilot study is the first attempt at adapting Supported Conversation for Adults with Aphasia to caregivers of individuals with memory impairment. The aim of this study was to examine SCA as a valid training technique in interactional communication for caregivers of individuals with memory impairment. The program relied entirely upon learning modules to guide the direction of the study. In order to provide effective strategies to the caregivers, some issues expressed were utilized in later learning modules as weeks progressed. Some of these issues included: “I worry that my partner cannot have new thoughts,” and “I want people to speak to my partner instead of deflecting to me.”

During the videotaped pre-training session, the spouses all similarly carried the majority of the conversation with little input from their partners with memory impairment. Due to this imbalance in the conversation, both the caregiver and the person with memory impairment implemented unproductive coping measures. The majority of caregivers resorted to counter-measures such as making light of the situation through joking, speaking at an elevated volume to their partners or ‘quizzing’ their partners to elicit a response. As a consequence, on several occasions it was observed that the persons with memory impairment would become frustrated and respond by hastily answering questions with “I don’t know.” This is indicated in the pre-assessment scores, wherein, three out of the four dyads rated consistently in the 1-2 range on both the MSC and MPC.

The last remaining dyad scored in the 3-4 range during pre-training assessment due to the caregiver’s high involvement and active use of strategies from prior knowledge. This caregiver provided numerous opportunities for the partner with memory impairment to feel included in the
conversation and created a positive environment by providing time for the partner to respond before aiding them in providing a response.

*Delivery of SCA Intervention*

The first week of the program was centered on teaching the caregiver how to acknowledge the competence of the person with memory impairment. The caregivers for individuals with memory impairment differed from those of PWAs in respect to the absence of stigma around the perceived competence level of their partners. All caregivers were expressly aware of their partners’ competence. Initially how one speaks to difference people was explored; for example someone in a position of authority vs. grandchildren. An exercise on speaking to people at different levels in life put into perspective the way the caregivers spoke to their spouses. Quiz-zing was an issue presented during pre-training and proved to be an important aspect of week one’s module. Caregivers admitted to partaking in this coping mechanism and showed a great deal of interest in learning to frame the conversation through initiating and leading conversations. The caregivers provided feedback on possible ways to do this such as: asking for permission, giving choices, preparing ahead of time for events and acknowledging their spouse by inclusion.

Learning module two began the ‘Revealing Competence’ component of SCA and focused on getting the message across to the person with memory impairment. Using simple sentences, eliminating distractions, writing key words in bold print, and allowing time for their partners with memory impairment to process the message were among the most notable aspects in this module. Reinforcing the model of framing the conversation created a dialogue about how to cope in different settings and how to effectively communicate without embarrassing the person with
memory impairment. Caregivers were asked to allow twenty seconds of silence for the person with memory impairment to process the message and respond.

Module three consisted of the second topic in revealing competence: Getting a response from the individual with memory impairment. In direct response to the issues raised by the caregivers during pre-training regarding how to effectively give their partners choices, module three focused on asking questions based on gestures and facial expressions. The caregivers were taught to ask open-ended questions first. If no response was given or the person with memory impairment showed distress, the caregiver would move on to asking multiple choice style questions. In the event that there was still no response, the caregivers could ask “yes or no” questions. Talking about the “present” was also emphasized. Lastly, providing contextual clues for the person with memory impairment to follow and providing a pen and paper to write key words in bold to help facilitate conversation. These concepts were additive to the SCA training, but were identified as meaningful to the demographic.

In the final week of the program, the third aspect of revealing competence was introduced: verifying the message and checking understanding. Module four provided a basic guide to ensuring the caregiver understood the message as the person with memory impairment intended through the following: repeating the message, expanding on what the perceived message was, and summarizing the conversation. Referring back to keywords was also deemed appropriate for the demographic.

During the post-assessment session, the caregivers exhibited greater control in each of the three topics provided to them. The caregivers were not given any instruction on how to interact with their partners with memory impairment. One dyad showed the caregiver providing a wide
variety of questions and utilizing the pen and paper provided to write down key topics during the video recording. The caregiver then went back and summarized the conversation to the partner with memory impairment using the key topics as a guide.

The impact of the program on caregivers’ perceptions and expectations of their partners with memory impairment proved to be the greatest change during this study as is supported in Table 1’s findings. Caregivers benefited from the weekly discussions and spoke freely about any and all issues that presented themselves during the week. The caregivers were not well acquainted prior to the study and one of the primary issues discussed was the loss of friendships due to their partners’ diagnoses. The support group that resulted from this study proved invaluable to the caregivers since they no longer felt alone. This shared understanding of being a caregiver provided a foundation for the caregivers to openly communicate their frustrations and fears in a comfortable environment. During the second week of training, a notable question was asked regarding whether the caregiver’s partner with memory impairment was processing the conversation or having trouble creating new thoughts and ideas. This sparked a discussion that revealed deeper fears in the group and served as a way in which to break down barriers and reservations about persons with memory impairment. By the end of the program, all caregivers had positive comments about the study and were enthusiastic about the possibility of participating in future studies of this nature.

Limitations of the Study

The limitations placed on this study were significant. There was a limited sample size. From an original six interested dyads, two asked to be released from the study during the first few weeks resulting in the final four dyads. Each week of this study built upon prior knowledge
of the preceding week. Because of the structure of the program, we could not allow individuals to continue if they missed more than one week of the training. Additionally, the amount of time allotted each week was proven insufficient for maximum benefit due to the interest of these participants. More discussion time could have been allotted. All four caregivers had partners with different etiologies in memory impairment; due to this, it was imperative that prior knowledge be established in order to create a program that addressed the majority issues presented each week in a coherent manner.

The value of roleplaying was minimal during this study due to time constraints. Considering the wide array of diagnoses, roleplaying proved to be increasingly difficult. It was the decision of the licensed speech pathologist and the undergraduate researcher to forego the roleplaying aspects of SCA because it did not contribute to the issues presented by the population.

Scorer training in SCA could have had a greater impact on the study as reflected in the inter-rater reliability score of $r = 0.577$. The graduate students trained in SCA were not given a refresher course prior to scoring the videos. Due to the obligations of the scorers, two of the graduate students scored the videos on two separate occasions. A brief informational session using a presentation and providing a role-play experience based on persons with probable dementia could have proven beneficial for the scorers by familiarizing them with the symptoms and signs of the persons with memory impairment.

Future Research

In future practice, further adjustments must be made to the structure of the program to address the concerns of the population. An example offered by one of the participants was to focus more on a way to effectively communicate with a partner in high-noise spaces such as restau-
rants without diminishing the confidence of the person with memory impairment. Addressing extended pauses in conversation is another issue that was frequently raised during the discussion periods of each session. The group also cited dealing with the gradual loss of friendships due to the progression of memory impairment and how one should cope with that. Caregivers expressed the need to constantly be prepared for all situations with their partner and struggled with creating a proper environment for them.

All of the dyads had grandchildren and a common scenario given was during the holidays when the children would actively avoid the partner with memory impairment because they did not understand the situation. Caregiver burden was the biggest concern; all caregivers expressed a desire to communicate more effectively with their partner and include them in more activities, however, the methods for achieving this goal were scattered as noted in the Zarit Burden Interview pre-training scores. The want and need to provide the partners with memory impairment with an answer was, perhaps, the most telling aspect of this study. At the onset of this study, a caregiver gave this response when asked what he hoped to gain during the program, “We’ve been married a long time. She asks me questions and I believe she deserves a dignified response.” All of these issues must take precedence in future studies.

In addition to these adjustments, a greater time allotment should be considered. In view of the emphasis on caregiver burden and effective communication strategy, the establishment of prior knowledge and weekly discussions proved invaluable to the outcome of this pilot study. Implementation of a feedback system could prove beneficial for successfully quantitatively assessing components of each module from week to week.
CHAPTER V: CONCLUSION

In review, this study represents the first attempt to adapt Supported Conversation for Adults in caregivers for adults with memory impairment. Furthermore, this investigation provides the groundwork for future studies and provides a platform for discussion in regards to bringing about positive change to interactional communication strategies utilized in individuals with memory impairment. The results suggest an upward trend towards significance in communication between a person with memory impairment and their caregiver after the training program. This study serves as a basis for future exploration in Supported Conversation for Adults with Aphasia with caregivers of persons with memory impairment, a topic that is lacking in evidence-based interactional communication interventions.
APPENDIX A: IRB APPROVAL LETTER
Approval of Human Research

From: UCF Institutional Review Board #1
FWA000000351, IRB 00001138

To: Janet D. Whiteside and Co-PI: Arielle R. Willis

Date: May 12, 2016

Dear Researcher:

On 05/12/2016 the IRB approved the following human participant research until 05/11/2017 inclusive:

Type of Review: UCF Initial Review Submission Form
Expedited Review

Project Title: Exploring Supported Conversation with Familial Caregivers of Persons with Memory Impairment.

Investigator: Janet D. Whiteside

IRB Number: SBE-16-12158

Funding Agency:
Grant Title: n/a

Research ID: n/a

The scientific merit of the research was considered during the IRB review. The Continuing Review Application must be submitted 30 days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form cannot be used to extend the approval period of a study. All forms may be completed and submitted online at https://iris.research.ucf.edu.

If continuing review approval is not granted before the expiration date of 05/11/2017, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in IRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a signed and dated copy of the consent form(s).

All data, including signed consent forms if applicable, must be retained and secured per protocol for a minimum of five years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained and secured per protocol. Additional requirements may be imposed by your funding agency, your department, or other entities. Access to data is limited to authorized individuals listed as key study personnel.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Page 1 of 2
APPENDIX B: MSC/MPC USAGE APPROVAL LETTER
27 January 2016
Arielle Willis
University of Central Florida
4000 Central Florida Blvd
Orlando, FL 32816
U.S.A.

USE OF MSC/MPC SCALES
Letter Agreement between the
Aphasia Institute ("TAI")
and
Arielle Willis ("Licensee")
For the use of the
work entitled “MSC/MPC SCALES”
(referred to herein as the “THE WORK”)

Dear Arielle,

This letter agreement sets forth the rights and obligations relating to Licensee’s use of “The Work”, as well as confirms TAI’s exclusive right, title and interest in and to “The Work”. The parties hereby agree as follows:

1. TAI hereby grants to Licensee a non-exclusive, revocable, non-transferable license to use “The Work” for Licensee’s internal operations and only with respect to the realization of the following purpose by Licensee for use in pre and post-training assessments in a research project with persons with probable memory impairment. The foregoing license may not be sublicensed or otherwise be exploited for the benefit of any third party.

2. Licensee acknowledges and agrees that TAI retains all right, title and interest in the “The Work”, including, without limitation any and all copyrightable elements thereof, any trade-marks owned by or licensed to TAI that are shown therein and any inventions, procedures, processes and the like shown therein designs.

3. Licensee acknowledges and agrees that TAI reserves all rights not expressly granted hereunder and may request Licensee to discontinue the use of “The Work” or any part thereof at any time in its sole discretion upon providing Licensee with written notice.

4. Licensee shall not make any copy of “The Work” without the prior written permission of TAI. In the event such permission is granted, Licensee shall maintain a detailed and up-to-date inventory of all copies of “The Work” that it has made.

5. Upon termination of the license in this letter agreement, Licensee shall return or, if requested by TAI, destroy all copies of “The Work” in its possession.

(over)
If you are agreeable to the foregoing terms, kindly execute and return this letter agreement.

Yours truly,

Marisca Baldwin
Education and Learning Coordinator
Aphasia Institute

I agree to the terms and conditions of this letter agreement. Please sign and return one copy by mail, email or fax to the Aphasia Institute at 73 Scarsdale Rd., Toronto, ON, M3B 2R2 Canada, Fax: 416-226-3706, training@aphasia.ca

Name: Arielle Willis
Title: 
Date: 01/23/16

I have authority to bind Arielle Willis
APPENDIX C: MSC/MPC MEASURES AND SCORING
Rating Support and Participation in Conversation

Measure of Skill in Supported Conversation (MSC)

Name of conversation partner: _________________________
Date: ____________________________________________
Rated by: _________________________________________

A. Acknowledges Competence
B. Reveals Competence
   1. Ensures that partner with aphasia understands
   2. Ensures that partner with aphasia has a means of responding
   3. Verifies

Score

Average of B1, B2, B3

Measure of Participation in Conversation (MPC)

Name of person with aphasia: _________________________
Date: ____________________________________________
Rated by: _________________________________________

A. Interaction
   1. Verbal/Vocal
   2. Nonverbal/Gesture/Writing/Drawing/Resources

Score

B. Transaction
   1. Verbal/Vocal
   2. Nonverbal/Gesture/Writing/Drawing/Resources

Note: - It is always important to fill out and repeat the scores of both partners even if only rating the person with aphasia or his/her partner
- For comparison across people/time, it is important to keep skill level of the partner more or less constant

### MSC Example of Rating Anchors for Conversation Partner

<table>
<thead>
<tr>
<th>Acknowledge Competence</th>
<th>Reveal Competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Competence of PA not acknowledged; Patronizing; Could cause harm; Should not be working with our members</td>
<td>No use of techniques to reveal competence</td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Needs a lot of supervision or needs to volunteer with experienced co-leader</td>
<td>Needs a lot of supervision or needs to volunteer with experienced co-leader</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Competence of PA acknowledged implicitly and explicitly as appropriate; Volunteer is ok; You do not have big concerns; Moderate level of supervision e.g., 1 x per month</td>
<td>Volunteer is able to get some information; You do not have big concerns re leaving them with this member</td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Doesn’t need much supervision, e.g., 1 x per term (4 months)</td>
<td>Doesn’t need much supervision, e.g., 1 x per term (4 months)</td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Peer-trainer level; Interactionally outstanding; Just needs motivation and ongoing opportunity to learn as opposed to supervision</td>
<td>Technically outstanding; May not always succeed but as good as any well-trained professional</td>
</tr>
</tbody>
</table>

### Example of Rating Anchors for Partner with Aphasia

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>No participation at all; No attempt to engage CP or respond to interactional attempts; Would be very concerned for the volunteer; Would definitely not feel comfortable to leave the volunteer (CP) alone with this member (PA) unless volunteer is highly skilled</td>
<td>No evidence of being able to understand or get a message across; Would be very concerned for the volunteer; Would definitely not feel comfortable to leave the volunteer alone with this member unless volunteer is highly skilled</td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PA beginning to take some responsibility for interaction; Still concerned about the volunteer, and would feel obliged to observe frequently and provide support, unless volunteer is highly skilled</td>
<td>AP beginning to show evidence of being able to understand and convey content; Still concerned about the volunteer, and would feel obliged to observe frequently and provide support, unless volunteer is highly skilled</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Clear attempts to be part of the conversation; Feel ok to leave this member with the volunteer, but would need to check in</td>
<td>Evidence of ability to understand and get a message across in some way at least 50% of the time; Feel ok to leave this member with the volunteer, but would need to check in</td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PA taking increased responsibility for interaction; Very little concern for volunteer, but would still check in from time to time, e.g. 1 x per term (4 months)</td>
<td>Able to understand and convey content most of the time; Very little concern for the volunteer, but would still check in from time to time, e.g. 1 x per term (4 months)</td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Full and appropriate participation; Takes responsibility for conversational interaction; Full confidence in the member - no concerns at all for the volunteer</td>
<td>Able to understand and get a message across; Full confidence in the member - no concerns at all for the volunteer</td>
</tr>
</tbody>
</table>

Note: PA = partner with aphasia; CP = conversation partner
APPENDIX D: SHORTENED ZARIT BURDEN INTERVIEW
Please circle the response that best describes how you feel. The scores are as follows:
0 = never, 1 = rarely, 2 = sometimes, 3 = quite frequently, 4 = nearly always.

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you feel that, because of the time you spend with your relative, you don’t have enough time for yourself?</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>2. Do you feel stressed between caring for your relative and trying to meet other responsibilities (work/family)?</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>3. Do you feel angry when you are around your relative?</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>4. Do you feel that your relative currently affects your relationship with family members or friends in a negative way?</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>5. Do you feel strained when you are around your relative?</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>6. Do you feel that your health has suffered because of your involvement with your relative?</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>7. Do you feel that you don’t have as much privacy as you would like because of your relative?</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>8. Do you feel that your social life has suffered because you are caring for your relative?</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>9. Do you feel that you have lost control of your life since your relative’s illness?</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>10. Do you feel uncertain about what to do about your relative?</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>11. Do you feel you should be doing more for your relative?</td>
<td>0 1 2 3 4</td>
</tr>
<tr>
<td>12. Do you feel that you could do a better job in caring for your relative?</td>
<td>0 1 2 3 4</td>
</tr>
</tbody>
</table>
APPENDIX E: LEARNING MODULES
IDENTIFYING AND ADDRESSING COMMUNICATION ISSUES IN PERSONS WITH MEMORY IMPAIRMENT.

WHAT CAN I EXPECT IN THIS STUDY?
- There will be a strong emphasis on group exercises in this study.
- Roleplaying will make up a big part of checking your understanding and improving on the concepts introduced to you during the next few weeks.
- There will be a few simple assignments given to you to ensure that there is continuing education and understanding.

WHAT IS SCA?
SCA, also known as Supported Conversation for Adults with Aphasia, is a communication tool that was designed to ease the strains in conversing with an individual with difficulties expressing themselves and understanding what is being said or asked of them.

HOW CAN I HELP?
The basis of Supported Conversation.
- Acknowledging Competence
- Revealing Competence
  - In
  - Out
  - Verify

ADDRESSING PRIOR KNOWLEDGE
Please share what you know regarding communicating with your partner with memory impairment. Any and all information is welcome.

HAS THIS HAPPENED TO YOU?
- Have you ever forgotten what you were trying to say? If so, then you know how frustrating the experience can be. It is important to acknowledge your partner’s frustrations and fears of being seen as a burden.

How do you feel?
Would it have helped if...?
**HOW CAN I ACKNOWLEDGE COMPETENCE?**

- How would you speak to a superior? E.g. a boss, a person of faith (clergy, rabbi)

- How would you speak to your young grandchild?
  > Since you’re the adult, you probably give a lot of advice.

- How would you speak to your adult grandchild?
  > Imagine you need help with your computer, how does that change the dynamic? You’re now in the position where you ask for advice.

- During the last meeting, someone said “You’re smarter than I am.” A good example of how to acknowledge competence in that situation is to respond with “I know you’re smart too.”

---

**HOW DO I ACKNOWLEDGE COMPETENCE?**

**Good examples of acknowledging competence:**

- **Reassure your partner**
  - “I know that you are a smart person”

---

**HOW DO I ACKNOWLEDGE COMPETENCE?**

**Good examples of acknowledging competence:**

- **Avoid quizzing, this isn’t Jeopardy.**
  - Try to frame the conversation.
    - Framing the conversation is
    - Using techniques that show
    - Your partner’s competence.

---

**ASSUMING THE ‘LOAD’ OF A CONVERSATION**

- **Take the lead.**
  - Similar in a way to directing ‘traffic flow’
  - Guide the conversation

- **Initiating the topic.**

---

**ASSUMING THE ‘LOAD’ OF A CONVERSATION**

- **Interject:**
  - “I know you’re competent.”
  - “I know you’re smart.”
  - “I know you’re having a problem with your memory.”

- Understand your importance and assume your role.
  - “Let me be your memory bank. I get to help you and that’s okay.”
DO ANY OF THESE SOUND FAMILIAR?

Your spouse:
- Disorients time and place
- Has difficulty finding words
- Cannot process information quickly
- Has difficulty completing familiar tasks
- Has a hard time organizing words logically

WHAT IS EFFECTIVE COMMUNICATION?

Effective communication addresses the needs of your spouse with memory impairment.

The need:
- to feel connected
- to feel appreciated
- to feel loved
- to be known
- to be understood
- to experience belonging
- to feel useful
- to feel safe

REMEMBER

Acknowledging competence is the first and most important step towards better communication with your spouse.

HOW CAN I HELP?

The basis of Supported Conversation.

**Acknowledging Competence**
- Using techniques to ensure that your partner feels that he/she is being treated respectfully.
  - Treating your partner as an individual.

**Revealing Competence**
- Using techniques to accurately give and receive information.
  - In
  - Out
  - Verify
GETTING THE MESSAGE IN WITH PERSONS WITH MEMORY IMPAIRMENT.

Module 2.

A QUICK REVIEW.
- Acknowledging Competence
  - Treating your partner respectfully and as an individual.
  - Speaking naturally (at a natural volume as well).
  - “I know you are a smart person.”

- Your participation is entirely voluntary and can be withdrawn at any time. We greatly appreciate your involvement and the dedication of your time. It is a sacrifice we do not take lightly.

REVEALING COMPETENCE.
Techniques to get and give accurate information.
- In
  - Ensuring that the message gets in.
- Out
  - Ensuring your partner can get the message out.
- Verify
  - Checking your understanding.

GETTING THE MESSAGE IN.
Is your message clear?
Are you:
- Using an expressive voice?
- Using short, simple sentences?
- Using easily understood gestures?
- Writing key words in large, bold print?
- Sharing the floor.

FRAME IT!
- Putting a spin to it (think baseball pitches: slow, fast, curveball)
- Frame it to show that you are competent

GETTING THE MESSAGE IN
Try to:
- Eliminate as much distraction as possible
- Observe body posture and facial expressions
- Include gesturing, drawing, writing, or pictures/objects to support your partner in addition to talking
A SHORT EXERCISE.

- Split up into groups of two.
- You have been given a scenario.
- Do not look at your partner’s scenario sheet.
- One person will be the person with memory impairment, the other person will attempt to get and receive information.

HOW WOULD YOU RATE THE EXPERIENCE?

<table>
<thead>
<tr>
<th>0</th>
<th>0.5</th>
<th>1</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
<th>3</th>
<th>3.5</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>Adequate</td>
<td>Outstanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Acknowledging Competence
- Revealing Competence
  - In ______
  - Out ______
  - Verify ______

“HOMEWORK”

- Reflect on this exercise as you go home with your spouse this afternoon. Are you incorporating the things you’ve learned today when you interact with your partner? If not, why?
- We will discuss next week!
GETTING THE MESSAGE OUT WITH PERSONS WITH MEMORY IMPAIRMENT.

SUPPORTING CONVERSATION FOR ADULTS WITH APHASIA

The whole idea is competence!

LET'S REVIEW... HOW DO YOU ACKNOWLEDGE COMPETENCE?

- Acknowledging Competence
  - Treating your partner respectfully and as an individual.
  - “I know you are a smart person.”

LET'S REVIEW... HOW DO YOU REVEAL COMPETENCE?

- Making sure your message gets IN.
  - Have their attention.
  - Use short, simple sentences.
  - Write key words in large, bold print.
  - Allow time for you and your partner to speak.

LET'S REVIEW... HOW DO YOU REVEAL COMPETENCE?

- Making sure your message gets IN.
  - Eliminate distractions.
  - Observe body posture and facial expressions.
  - Include gesturing, drawing and writing
  - Frame the conversation

REVEALING COMPETENCE - OUT.
REVEALING COMPETENCE.

- In
  - Ensure that the message gets in.
- Out
  - Ensure your partner can get the message out.
- Verify
  - Check your understanding.

GETTING THE MESSAGE OUT.

Can your partner respond?

- Are you asking one thing at a time?

GETTING THE MESSAGE OUT.

Can your partner respond?

- Talk about the “Here and Now”
- Provide a context

GETTING THE MESSAGE OUT.

Can your partner respond?

- Are you asking open-ended questions?
- Are you asking multiple choices questions?
- Are you asking “yes or no” questions?

GETTING THE MESSAGE OUT.

Can your partner respond?

- Are you allowing time for them to respond?
- Are you asking your partner for clues by gesturing?
GETTING VERIFICATION FROM PERSONS WITH MEMORY IMPAIRMENT.

SUPPORTING CONVERSATION FOR ADULTS WITH APHASIA

The whole idea is competence!

LET’S REVIEW... HOW DO YOU ACKNOWLEDGE COMPETENCE?

- Acknowledging Competence
  - Treating your partner respectfully and as an individual.
  - "I know you are a smart person."

LET’S REVIEW... HOW DO YOU REVEAL COMPETENCE?

- Making sure your message gets IN.
  - Follow the hierarchy of questions.
    - Open-ended
    - Multiple Choice
    - Yes or No Cards

- Making sure your message gets IN.
  - Have their attention.
  - Use short, simple sentences.
  - Follow the hierarchy of questions.
    - Open-ended
    - Multiple Choice
    - Yes or No Cards
  - Write key words in **large, bold** print.
  - Allow time for you and your partner to speak.

- Making sure your message gets IN.
  - Eliminate distractions.
  - Observe body posture and facial expressions.
  - Include gesturing, drawing and writing
  - Frame the conversation
LETS REVIEW... HOW DO YOU REVEAL COMPETENCE?

- Making sure they get their message OUT.
  - Ask one thing at a time.
  - Allow time for your partner to respond.
  - Ask your partner for clues through gestures.
  - Provide paper and pencil.

LETS REVIEW... HOW DO YOU REVEAL COMPETENCE?

- Making sure your message gets Out.
  - Follow the hierarchy of questions.
    - Open-ended
    - Multiple Choice
    - Provide written choices.
    - Yes or No
    - Provide a "yes" or "no" card.

REVEALING COMPETENCE.

- In
  - Ensure that the message gets in.
- Out
  - Ensure your partner can get the message out.
- Verify
  - Check your understanding.

VERIFYING THE MESSAGE.

Have you checked to make sure you understand the message?

- Reflect: Repeat the message to your partner

VERIFYING THE MESSAGE.

Have you checked to make sure you understand the message?

- Expand: Tell your partner what you think the message is.
VERIFYING THE MESSAGE.

Have you checked to make sure you understand the message?

**Summarize:** Recall the conversation to your partner.

HOW WOULD YOU RATE THE EXPERIENCE?

<table>
<thead>
<tr>
<th>0</th>
<th>0.5</th>
<th>1</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
<th>3</th>
<th>3.5</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Poor</td>
<td>Adequate</td>
<td>Outstanding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Acknowledging Competence
- Revealing Competence
  - In ______
  - Out ______
  - Verity ______
REFERENCES


cation between nursing staff and in-hospital patients with aphasia. *Aphasiology*, 29(1), 57-80.


