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Assessing Facilitator Adherence for the Delivery of Cognitive Training Programs to Older Adults

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Table of Contents

Abstract

The majority of psychological research has focused on outcomes of intervention, while there has been relatively little focus on measuring adherence to treatment protocol and how competently interventions are delivered. Issues of adherence and competence apply not only to psychotherapy research, but also in the field of cognitive training. The New England Cognitive Center (NECC) has disseminated manualized cognitive training programs for older adults who may be experiencing varying levels of cognitive decline. The purpose of the current study was to develop measures of adherence and competence for the *Active Mind* cognitive training program created by the NECC as well as to refine the content of the instruments and examine their psychometric properties. The current study found that the Active Mind Adherence Instrument and Global Adherence/Competence Instrument have fair to substantial inter-observer reliability. These data suggest that program facilitators are completing the required tasks at a high level, and are therefore, appropriately adhering to the treatment manual. Reliability data for the measure of competence was somewhat lower, suggesting that assessing competence requires more subjective judgement and improvements to the exiting instrument are needed. Results suggest that the adherence measure can be used to provide detailed, constructive feedback to ensure the proper delivery of the *Active Mind* cognitive training program, while the competency measure requires modifications before it can be used to evaluate program facilitators.

Assessing Facilitator Adherence for the Delivery of Cognitive Training Programs to Older Adults

Treatment integrity, also known as procedural integrity, is defined as the "degree to which treatments are implemented as planned, designed, or intended and is concerned with the accuracy and consistency with which interventions are implemented" (McIntyre et al., 2007). Treatment integrity consists of two components; adherence and competence. Treatment adherence is defined as the "extent to which a therapist used interventions and approaches prescribed by the treatment manual and avoided the use of intervention procedures proscribed by the manual" (Waltz et al., 1993). Adherence can be seen as an objective measure of whether a person did or did not perform specific tasks during an intervention. Competence is defined as the "extent to which the therapists conducting the interventions took the relevant aspects of the therapeutic context into account and responded to these contextual variables appropriately" (Waltz et al., 1993). In contrast to adherence, competence can be seen as a more subjective measure of a persons' knowledge of when to perform specific tasks related to an intervention.

Procedural integrity is an important construct to measure because without proper adherence and competence a causal relationship between the independent variable (e.g., an intervention) and dependent variables is more difficult to establish (Hagermoser, Sanetti, & Kratochwill, 2008). In other words, if it is unclear how well an intervention was implemented, variability in outcomes within an intervention group could be due to variations in treatment adherence or competence. Utilization of structured treatment manuals represent one way by which to improve treatment integrity. A manual provides operationally defined behavioral expectations with simple and easily understood directions for someone to follow in order to properly implement an intervention (Lane et al., 2004). Manuals have made the delivery of interventions more consistent across facilitators and settings.

Although the importance of treatment integrity is known, the majority of the literature in the area of psychotherapy outcome research has neglected the assessment of treatment integrity at the expense of measuring treatment outcomes such as symptom reduction. Perepletchikova, Treat, and Kazdin (2007) reported that within the field of psychotherapy only 3.5% of published articles had adequate implementation of treatment integrity measures. The same researchers also reported that 8.9% of published articles adequately implemented adherence procedures and only 1.5% implemented competency measures. With the established causal relationship between treatment integrity and treatment outcome, measuring adherence and competence levels is critical and requires greater attention in the psychotherapy outcome literature.

Treatment Integrity and Cognitive Training

The failure to measure treatment integrity is not endemic within the field of psychotherapy outcome research. In recent years, there has been a growing interest in the development of cognitive training (CT) programs for older adults. This increase in interest is evident when Googling "cognitive training", which produces links to over 43.5 million website pages. CT is the "non-pharmacological method that aims to help people with early-stage dementia make the most of their memory and cognitive functioning despite the difficulties they are experiencing" with the goal to improve or maintain overall cognitive functioning or functioning in a given cognitive domain such as memory, attention, or problem solving (Bahaer-Fuchs, Clare, & Woods, 2013). CT programs implement standardized and structured tasks that target differing cognitive domains. Tasks or "exercises" increase in difficulty as the individual progresses through the training program. CT can be delivered in a variety of ways, however training has primarily been delivered via computer or mobile devices (Finn & McDonald, 2014; Goghari & Lawlor-Savage, 2018; Hard et al., 2015; Lu, Lin, & Yueh, 2017). Finn and McDonald (2014) as well as Hard et al., (2015) used the highly popular Lumosity program as a CT

intervention. Lu, Lin, and Yueh (2017) created a CT program for mobile devices that mirrored Lumosity.

On the other hand, some researchers have developed cognitive training that are delivered via in-person classes, a situation that ideally involves the utilization of a structured or manualized intervention as well as the measurement of treatment adherence and competence (Cheng et al., 2012; Kuper, Gajewski, Frieg, & Falkenstein 2017). For example, Cheng et al., (2012) had participants complete 24 one-hour sessions that included a 15-minute lecture, 30 minutes of learning a specific cognitive technique or strategy, and 15 minutes devoted to consolidating the newly practiced skill. However, no manual was prepared for this in-person CT program and there was no mention of procedural integrity.

Similarly, Kuper, Gajewski, Frieg, and Falkenstein (2017) had participants complete four weeks of CT programming that consisted of pencil-based exercises such as Sudokus. Facilitators of these exercises also lectured participants on how these exercises are relevant to their cognitive functioning. Similar to Cheng et al., (2012) there was no creation of a program manual and no mention of treatment integrity.

The lack of manualized treatment extends beyond these two studies. In fact, there are currently no CT studies that mention the measurement of treatment adherence or competence (Barah-Fuchs, Clare, & Woods, 2013). Also, the failure to measure treatment integrity is not just occurring within the field of psychotherapy research, but is also present within the research of CT. Without manualized treatments and known treatment integrity of facilitators it is not possible to definitely determine the effect that CT programs have on outcome measures.

The New England Cognitive Center CT Programs

In the absence of manualized training programs in the literature, the New England Cognitive Center (NECC) has created multiple manualized CT programs that are designed for

individuals with varying degrees of cognitive impairment. Each program consists of 24 one-hour sessions facilitated over the course of eight to twelve weeks. Each session has multiple guided activities that focus on cognitive domains such as language, visual-spatial, memory (primarily verbal memory), attention/concentration, and problem solving which gradually get more difficult over the course of the program. Included with each class is a highly structured and detailed sourcebook that serves as a treatment manual. The sourcebook provides instructions and scripts for introducing exercises, example exercises, and instructions for properly assisting participants in completing exercises.

Trained facilitators that work for the organization where programs are implemented deliver the NECC programs. Facilitators help guide participants through each class so individuals understand exercises and complete them to the best of their ability. Before a person is able to facilitate a NECC cognitive training program, one must undergo extensive training. Prospective facilitators are required to attend an in-person training course specific to the cognitive training program that is to be implemented. This in-person training course is taught by a NECC master trainer and lasts one to two full days depending on the number of programs that facilitators are wanting to be trained in. After the in-person training, prospective facilitators then observe the master trainer conduct a cognitive training session.

Purpose of the Study

Given this extensive training and availability of structured treatment manuals, it is important to assess the degree to which facilitators adhere to the manual and how competently they deliver the programs. The purpose of the current study is to develop instruments that measure treatment adherence and competence for a suite of five manualized cognitive training programs developed by the NECC. In addition, the study will examine the psychometric

properties of these instruments, with an emphasis on assessing inter-rater reliability and content validity.

Methods

Participants

The participants were two facilitators of CT programs. The first participant was a 24-year-old female. This participant has been employed as a Life Enrichment Coordinator for one and a half years at a community center for older adults ("Facilitator A"). This participant received and completed NECC cognitive program training in May of 2017. Participant A facilitated three CT classes prior to the current study.

The second participant was a 58-year-old female. This participant has been employed as an Activity Assistant for 17 years at a convent that provides a variety of housing options for retired nuns ("Facilitator B"). Facilitator B has facilitated ten CT classes prior to the current study. Facilitator B also completed the required NECC training. Following training, both facilitators were provided a detailed instruction manual that described the content of each class and instructions for how to complete each activity.

Settings

The organization that Facilitator A was employed at is an adult day services community center for older adults with disabilities. In addition to providing Mind Aerobics courses, the organization also offers health services, fitness services, and many clubs and activities for older adults including hiking club and photography club. The Mind Aerobic sessions themselves were conducted in an activity room with a large table in the center and the older adults participating in the mind aerobics coursed seated around the table.

Facilitator B is employed at a Midwestern convent and living community for Catholic sisters. In addition to providing Mind Aerobics courses, the convent also provides educational

and ministry services to the surrounding community. Similar to the settings of Facilitator A, Facilitator B conducted the Mind Aerobics course in an activity room with a large table in the center with the participants of the mind aerobics course seated around the table.

Materials

The NECC is "a non-profit organization… that develops and disseminates innovative, research-based cognitive fitness programs. NECC combines the latest advances in neuropsychological research with sound educational principles to create effective interventions that enhance brain health, independence and quality of life. The organization's focus is on older adults who wish to maximize mental functioning and individuals with Alzheimer's disease and dementia"(New England Cogntive Center, n.d.). In line with their mission of helping older adults with cognitive decline, the NECC created the Mind Aerobics suite of cognitive training programs. The programs are designed to systematically stimulate six cognitive domains in order to maintain or improve cognitive abilities. The suite of Mind Aerobics courses are designed for individuals with varying degrees of cognitive impairment. These programs include *Mind Sharpener*, *Mind Works*, *Lively Mind*, *Active Mind*, and *Ready Mind*. *Mind Sharpener* has the target population of those with normal to forgetful cognitive decline, *Mind Works* targets those with mild to moderate cognitive decline, *Lively Mind* targets those with moderate cognitive decline, and *Ready Mind* targets individuals with severe cognitive decline.

Active Mind was specifically made for individuals with moderately severe cognitive decline and for those who may have been diagnosed with moderate dementia. This program consists of 24 one-hour sessions over the course of eight to 12 weeks. The program consists of multiple guided exercises with manipulatives to support hands-on learning. For example, all Active Mind sessions start with the exercise Rapid Response. This is an exercise in which participants first use their left hand, then their right hand, and finally both hands to point at

colored numbers called out by the facilitator who progressively call out numbers faster and faster. Other exercises target the following cognitive skills: attention/concentration, language, short-term memory, visuospatial skills, and problem solving. Course content gets progressively more difficult as the course continues such that later classes are more challenging compared ot earlier classes.

Measures

All measures used were created by Dr. Jeff Buchanan under the guidance of Patti Said, Executive Director of NECC and developer of the cognitive programs. During the consent process, participants of the current study filled out the Facilitator Demographic Form (appendix B). This form gathered demographic and background information of the participants including age, years of experience in working with the mind aerobics population, how many Mind Aerobics courses they have facilitated, and when they had completed the NECC Mind Aerobics training.

The Active Mind Adherence Instrument (Appendix D) was created to measure if a facilitator performed all proscribed instructions described in the cognitive training manuals provided by the NECC. This instrument includes sections for all activities and exercises included in the classes. The items in the instrument were developed based on instructions provided in the program "sourcebook", which is a manual that provides detailed instructions concerning how to deliver the programs. When using the instrument, a "+" is recorded if the facilitator properly performed the item in the given activity. However, if the facilitator did not perform a proscribed instruction, a "-" is recorded on the instrument for that specific item. This instrument is scored by calculating the percentage of tasks completed (i.e., number of tasks successfully completed divided by the total number of tasks required for the class).

The Global Adherence and Competence instrument ("GACI"; Appendix C) was also created to measure how well facilitators conducted the classes. While the content of the adherence instruments are specifically designed for each program, the GACI is a global measure of facilitator competence that can be used regardless of which cognitive training program is delivered. The original content of this measure was based on the experience and knowledge researchers had with the Mind Aerobics programs. Content was then validated by having the master NECC facilitator (Ms. Said) review the content of the instrument and make necessary adjustments. The GACI uses a rating scale from 0-2 to evaluate how well the program was delivered by the facilitator, with a rating of two being "excellent", a rating of 1 being "satisfactory", and a rating of zero being an "unsatisfactory" performance. The items on the measure correspond to the universal instructions for facilitators across the five Mind Aerobic instructional manuals. Examples of the universal instructions and items in the GACI are "facilitator regularly used the names of the participants", "facilitator delivered praise and encouragement to participants," and "facilitator enunciated clearly."

After video recordings were completed, participants completed the Post-Observation Facilitator Follow-Up Questionnaire (Appendix H). This questionnaire includes four open-ended questions designed to gather information from the facilitator concerning their opinions about the Minds Aerobics course they facilitated. Example questions include, "Overall, how well did you feel you facilitated the class?", and "Are there any exercises in this class that you believe are more difficult for the participants?"

After observers had completed watching the recorded sessions, they completed the Post-Observation Observer Follow-Up Questionnaire (Appendix I). This questionnaire includes three open-ended questions designed to gather information from the observer concerning their experience using the adherence and competence instruments. Example questions include, "Were

there any programs/activities that were especially difficult to code?" and "Are there any suggestions on improving the assessments?"

Procedure

Prior to data collection, participants received, reviewed, and signed a consent form (Appendix A). After informed consent had be given, participants were given the Facilitator Demographic Form (appendix B) to complete. Also prior to data collection, the researchers mailed the participants GoPro Hero 3 cameras to place in the rooms in which the Mind Aerobic classes were being held. Facilitators then filmed three of the 24 sessions of the class; one of the first three sessions, one of the middle three sessions, and one of the last three sessions in order to get a representative sample of the facilitator conducting different sessions throughout the entire class. Facilitator A directed two Mind Aerobic classes two times a week for a total of 12 weeks in the Spring of 2018 and the Fall of 2018. Facilitator B directed the Mind Aerobic sessions two times a week for a total of 12 weeks in the Fall of 2018. Upon completion of the class, facilitators mailed the GoPro's back to the researchers. Facilitator A completed two classes, which included six videos, and Facilitator B completed one class that included three videos. Therefore, a total of nine video recordings were analyzed for the current study. The facilitators also completed the Post-Observation Facilitator Follow-Up Questionnaire at the end of the *Active Mind* course.

After video recordings were received by the researchers, two observers watched the videos and scored the videos using the Active Mind adherence and competence instrument and the GACI. The author of this paper served as the primary observer. Secondary observers were undergraduate research assistants that were trained to use the adherence and competence measures prior to video coding. This training first consisted of an explanation of the operational definitions of the task items in the instrument. Next, the observers were required to watch

training videos and received feedback regarding their performance. The training videos consisted of two 30-minute segments provided by Facilitator A for the current study. The first training video consisted Facilitator A delivering the first half of the first *Active Mind* session. The second training video consisted of the second half of the second *Active Mind* session provided by Facilitator A. This allowed observers to be trained on the Active Mind adherence and competence instrument for all exercises in the Active Mind course. Finally, training also involved recalibration. Recalibration involved adjusting item content when there were disagreements between the primary and secondary observers. When disagreements occurred, the disagreement was discussed to determine what changes should be made to the instrument. The training videos were then viewed again in order to come to agreement on the given task items. Training and recalibration continued until a kappa of at least .80 was obtained. Additionally, Ms. Said watched four of the nine video recordings using both the Active Mind adherence measure and the GACI. Ms. Said served as a "master observer" given her intimate knowledge of the programs and her involvement in the development of the adherence and competence instruments. After video coding had ended for all nine videos, all observers completed the Post-Observation Observer Follow-Up Questionnaire.

For data analysis, IBM's Statistical Package for the Social Sciences (SPSS) was used to calculate Kappa between the primary observer, secondary observers, and the master observer to establish IOA reliability and validity values.

Results

Revisions to the Instruments

As mentioned previously, both instruments were reviewed by the NECC Executive Director who developed the cognitive training programs. This was done as an informal way to establish content validity of the instruments. This review resulted in some changes to the

instruments. In regards to GACI, Ms. Said formatted the page layout of the instrument and re-worded the items in order for them to better correspond to the wording of the NECC Mind Aerobics sourcebooks. In addition, Ms. Said added items 12 and 15. Item 12 states, "Facilitator reviewed correct answers and solicited feedback in a timely manner prior to moving on to the next activity." Item 15 states, "Facilitator reminded participants as necessary that while correct answers are nice, the purpose of the program is to strengthen cognition through challenge. Attempting to get the correct answer is more important than the correct answer."

In regards to the Active Mind Adherence Instrument, Ms. Said again formatted the page layout of the instrument and as well as re-worded the instrument to be identical to the wording of the *Active Mind* sourcebook. For example, Ms. Said changed the word "class" to "session." She also re-worded task items. For example, Ms. Said changed the task item, "The rationale for the activity was provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)" to "Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)." Additionally, Ms. Said changed the order of the task items to better correspond to the order in which the items occur within the session.

During the course of training the undergraduate secondary observers, additional changes were made to the Active Mind Adherence Instrument and the GACI. Regarding the Active Mind Adherence Instrument, the number of trials required for each activity were added given that the secondary observers were less familiar with the program. For example, the task item of, "Facilitator delivered appropriate number trials" for the "Cube It! Adherence Criteria" the addition of, "(sessions 1-7 require 2 trials, 8-12 require 1 trial)" was made. In regards to the GACI, the anchors corresponding to each rating were changed. Originally, a rating of 0 corresponded to "unsatisfactory", 1 corresponded to "satisfactory", and 2 corresponded to

"excellent". To better anchor these items for those who are not master observers, a more descriptive anchor was added. This addition consists of 0 corresponding to the anchor, "item was completed almost never", 1 corresponding to the anchor, "item was completed most of the time", and 2 corresponding to the anchor, "item was always completed."

Inter-Observer Agreement

Inter-observer agreement (IOA) was calculated by using Cohen's kappa. Cohen's kappa was used as it takes chance agreement into account. As shown in *Table 1*, reliability between the primary observer and secondary observers for the Active Mind Adherence Instrument averaged .77 and had a range of .455-.954. Reliability between the primary observer and the NECC master observer averaged .63, with a range of .38-.875. In general, these Kappa values represent substantial agreement between observers.

As shown in *Table 2,* reliability between the primary observer and secondary observers for the GACI averaged .3 and had a range of .103-.694. Reliability between the primary observer and the NECC master observer averaged .391 with a range of .25-.667. In general, the Kappa values represent fair agreement between observers.

Post-Observation Qualitative Data

In the Post-Observation Observer Follow-Up Questionnaire, all observers suggested that overall the observations went well and that the instruments were easy to use. For example, the master trainer (Ms. Said) stated, "observations went well and forms seem to be appropriate and easy to use". Observers also suggested that there were no specific *Active Mind* activities/exercises that were more difficult to code compared to others. Observers offered no suggestions on how to improve the assessments, only that it is recommended to watch a maximum of two videos in one sitting to prevent fatigue.

In the Post-Observation Facilitator Follow-Up Questionnaire, Facilitator A and B felt that they had facilitated the classes well. In the questionnaire, both facilitators pointed out that the activities involving adding numbers were the most difficult to facilitate because participants sometimes became confused during these activities. Facilitator B stated, "The add'em exercise, even though it's rather simple, was a bit difficult to get them to understand the concept of them having to add up vertically and horizontally, for some reason that was difficult for them to understand." In addition, the facilitators believe that the activities requiring participants to add numbers, answer questions after listening to a story, and activities requiring participants to sequence events were most difficult to perform. In regards to suggestions the facilitators had to improve training for new facilitators, Facilitator A suggested having better explanations of why they are teaching the class, whereas Facilitator B suggested having strategies to keep the courses light hearted, fun, and encouraging.

Discussion

Real World Implications

The results of this study suggest that the Active Mind Adherence Instrument has excellent reliability and the GACI has fair/adequate reliability. In addition, content validity of the instruments was established through expert review completed by an NECC master trainer and developer of the *Active Mind* program. The results of the current study have implications for the NECC, particularly with regard to how they train and evaluate facilitators of the *Active Mind* program. Specifically, NECC staff will be able to use these instruments while training new facilitators to ensure that they are performing all required tasks before they are able to facilitate the *Active Mind* course. This allows the NECC master trainer to ensure that new facilitators are truly adhering to the *Active Mind* protocol, as well as ensure that the new facilitators are competent in the delivering protocols in the intended manner.

The NECC will also be able to use these instruments in follow up booster training sessions. It is common for the NECC master trainer to travel to the facilities that are providing CT programs to older individuals in order to conduct refresher trainings. The instruments examined in this study will provide a structured method by which to evaluate facilitators and provide constructive feedback to ensure the NECC courses are being properly administered. With the reassurance that courses are being facilitated properly, the NECC will better be able to state with confidence that the CT outcomes for individuals are due to the activities and exercises of the CT programs and not confounding variables due to the delivery of the programs. For example, the level of attention a facilitator gives to participants of a CT program may have an effect on the outcomes participants' experience (Bahar-Fuchs, Clare, & Woods, 2013). If a facilitator does not follow the proscribed level attention as described in the NECC sourcebooks either by increasing or decreasing the level of attention paid to the participants, the facilitator is now acting as a confounding variable to CT program outcomes.

The potential increase in adherence and competence of facilitators may also increase the positive outcomes of individuals participating in the cognitive training programs. It has been shown that a reduction in adherence to an intervention protocol reduces the positive outcomes experienced by those involved (McIntyre et al., 2007). Positive outcomes experienced by those who have participated in CT programs include maintaining and improving cognitive function in many domains such as memory, attention, and problem solving (Barha-Fuchs, 2013). Having facilitators who are properly trained to comprehend and adhere to the Mind Aerobics sourcebooks and who receive feedback during follow up booster training may improve outcomes for participants.

Limitations

There are several limitations associated with the current study. The first is reactivity. Reactivity is the change in behaviors of participants due to being observed (Lipinski, & Nelson, 1974). The facilitators who served as participants in the current study may have had reactive behaviors, as well as the individuals participating in the *Active Mind* courses may also have had reactive behaviors as all involved were aware of the observations taking place. For example, facilitators may have been more adherent or behaved in different ways knowing that they were being videotaped and that these video recordings would be observed by research staff. Additionally, the potential change in behaviors of the individuals participating in the *Active Mind* program may have also affected the facilitators' ability in performing the prescribed task items of the class. Prior to starting data collection, reactivity was taken into account and minimized. Reactivity was reduced by using small GoPro cameras placed in the corners of the room so as to be as unobtrusive and unnoticeable as possible.

Another limitation to the current study was the lack of consistent and coordinated training between the master observer and the primary and secondary observers. Although, the primary observer did train the secondary observers in the use of the Active Mind Adherence Instrument and GACI, the primary observer did not receive any training by the master observer. In addition, there was no communication with the master observer in terms of defining different components of competence and providing examples and non-examples of the task items in the measures. This lack of training between the master and primary observers may have resulted in lower IOA for the measure of competence than what would have been possible.

Future Research

For future research, it would be beneficial to address and increase the agreement between observers using the GACI. Most of the disagreement between observers was due to task items 16

through 18 that are only scored "if applicable." The clarity of the task items are not in question, as none of the observers had suggestions for clarifying and increasing the understanding of the measures. Thus, it is assumed that determining when a task item is applicable or not is the determining factor in the disagreements that occurred. Agreement can be increased between these three task items by receiving training by the master observer as to when these items are most applicable and providing more examples and non-examples of when the task items would and would not be scored.

It is also imperative that future research determines the IOA levels of the *Lively Mind, Mind Sharpener,* and *Ready Mind* adherence assessments (Appendix E-G, respectively). Similar to the Active Mind Adherence Instrument, these instruments were revised by the NECC master trainer in order to informally establish content validity, so their content mirrors the Active Mind Adherence Assessment. Given that the current study found excellent IOA for the Active Mind Adherence Assessment and due to the likeness of the additional assessments, it is reasonable to suggest that these other adherence instruments will have similarly high IOA. However, it cannot be assumed that these other instruments with have equally high IOA, so they must be systematically evaluated in future research. Determining the IOA reliability of all of the adherence instruments will allow the NECC to train, follow up, provide feedback, and assess adherence/competence for facilitators who are not just facilitating the *Active Mind* class but to those who are also facilitating the other NECC programs.

References

Bahar-Fuchs, A., Clare, L., & Woods, B. (2013). Cognitive training and cognitive rehabilitation for mild to moderate Alzehimer's disease and vascular dementia (review). *The Cochran Library 6,* 1-103.

Hagermoser Sanetti, L.M., & Kratochwill, T.R. (2008). Treatment integrity in behavioral consultation: Measurement, promotion, and outcomes. *International Journal of Behavioral Consultation and Therapy 4*(1), 95-114.

Hsu, L.M., & Field, R. (2003). Interrater agreement measures: Comments on $kappa_n$, Cohen's kappa, Scott's π, and Aickin's α. *Understanding Statistics, 2*(3), 205-219.

Lane, K.L., Bocian, K.M., MacMillan, D.L., & Gresham, F.M. (2004). Treatment integrity: An essential-but often forgotten-component of school-based interventions. *Preventing School Failure, 48,* 36-43.

Lipinski, D., & Nelson, R. (1974). Problems in the use of naturalistic observation as a means of behavior assessment. *Behavior Therapy, 5,* 341-351.

Luborksy, L., & DeRubeis, R.J. (1984). The use of psychotherapy treatment manuals: A small revolution in psychotherapy research style. *Clinical Psychology Review, 4,* 5-14.

McIntyre, L.L., Gresham, F.M., DiGennaro, F.D., & Reed, D.D. (2007). Treatment integrity of school-based interventions with children in the journal of applied behavior analysis 1991-2005. *Journal of Applical Behavior Analysis 40*(4), 659-672.

New England Cognitive Center (n.d.) Who we are. Retrieved from http://cognitivecenter.org/who-we-are

Newman, C.F. (2010). Competency in conducting cognitive-behavioral therapy: Foundational, functional and supervisory aspects. *Psychotherapy Theory, Research, Practice, Training 47*(1), 12-19.

Oltra-Cucarella, J., Perez-Elvira, R., Espert., R., & McCormick, A.S. (2016). Are cognitive interventions effective in Alzheimer's disease a controlled meta-analysis of the effects of bias. *Neuropsychology 30*(5), 631-652.

Perepletchikova, F., Treat, T.A., & Kazdin, A.E. (2007). Treatment integrity in psychotherapy research: Analysis of the studies examination of the associated factors. *Journal of Consulting and Clinical Psychology 75*(6), 829-841.

Stauffer, M.D., & Pehrsson, D.E. (2012). Mindfulness competencies for counselors and psychotherapists. *Journal of Mental Health Counseling 34*(3), 227-239.

Waltz, J., Addis, M.E., Koerner, K., & Jacobson, N.S. (1993). Testing the integrity of a psychotherapy protocol: Assessment of adherence and competence. *Journal of Consulting and Clinical Psychology 61*(4), 620-630.

Weeasekera, P., Antony, M.M., Bellissimo, A., Bieling, P., Shurina-Egan, J., Spencer, A., Whyte, R., & Wolper-Zur, A. (2003). Competency assessment in the McMaster psychotherapy program. *Academic Psychiatry 27*(3), 166-173.

Tables

Table 1

Calculated IOA for the Active Mind Adherence instrument

Observers	Kappa Value	Range
Primary observer and undergraduate secondary observers	.77**	.455-.954
Primary observer and master observer, Ms. Said	.63**	.38-.875

Note: ** denotes substantial agreement, * denotes fair agreement

Table 2

Calculated IOA for the GACI

Observers	Kappa Value	Range
Primary observer and undergraduate secondary observers	.30*	. 103-.694
Primary observer and master observer, Ms. Said	.391*	.25-.667

Note: ** denotes substantial agreement, * denotes fair agreement

Appendix A

Informed Consent for Participation in the Research Study

Concise Summary: This research is designed to learn about how cognitive training programs are delivered. You will be asked to videotape three of the cognitive training classes you deliver. The researchers will then use two instruments to measure how thoroughly you complete the tasks for each class. Participation will take approximately three hours, which is the time needed to complete three cognitive training classes.

The risks of this study are minimal, but could include feeling uncomfortable while being filmed.

If you are interested in participating in this study, please continue reading below.

Purpose
I understand that the purpose of the research study is to evaluate how facilitators deliver New England Cognitive Center (NECC) cognitive training programs. In addition, the researchers want to determine if the NECC cognitive training programs are delivered as they are intended to be delivered as outlined in the NECC program sourcebooks (i.e., instruction manuals).

Participants
I understand that I have been asked to participate because I am at least 18 years of age and a facilitator of NECC cognitive training programs.

Procedure
I understand I will be asked to complete a short demographics form. I also understand I will be asked to videotape three of the 24 cognitive training classes I will be delivering (one of the first three sessions; one of the middle three sessions, and one of the last three sessions). Each class take about 1 hour to complete, so the total amount of time required to participate in the study is about 3 hours. However, if I deliver more than one NECC cognitive training program, I will have the option of videotaping three classes from each additional program I choose to run. I understand that the films will be saved onto a flash drive and mailed to Dr. Buchanan. Once the researchers have received videotapes, the researchers will use two checklists to measure how the class was delivered (e.g., were instructions read before each activity, were all class activities completed, were participants given enough time to complete each class activity).

Risks
I understand that there are minimal risks associated with participation in this study. It is possible that I may become uncomfortable or self-conscious while being filmed. It is also possible class participants may be uncomfortable with videotaping. If either of these situations occur, I may stop videotaping at any time.

Benefits
I understand that I will not be compensated for my participation. Results may provide beneficial information for improving facilitator training or improving the program sourcebooks (i.e., instruction manuals) so adherence to program rules and procedures is easier.

Confidentiality
I understand that the findings of this study will be completely confidential. Confidentiality will be protected in that no identifying information will be included on any records collected during this study, including videotapes. If you agree to participate, you will be assigned an alpha-numeric code that will be used to identify you on all forms (e.g., the demographics form, the checklists used measure how you delivered the classes). All information collected during this study, including videotapes, will be used for research purposes only and will only be accessible to the researcher and his research team of graduate students in clinical psychology. All information will be kept in a locked cabinet or on a password-protected computer in the principal investigator's office and will be destroyed after three years.

Right to Refuse or Withdraw
I understand that my participation in this research is voluntary. I understand that I may refuse to participate or withdraw from the study at any time without penalty by emailing or calling the principal investigator. The decision whether or not to participate will not affect your relationship with Minnesota State University, Mankato, and refusal to participate will involve no penalty or loss of benefits.

Questions
I have been informed that if I have any questions, I am free to ask them. I understand that if I have any additional questions later, I may contact the office of the principal investigator Jeffrey Buchanan, Ph.D. at (507) 389-5824 or if you have questions or concerns about the treatment of human subjects, please contact the IRB Administrator and Associate Vice President of Research and Dean of Graduate Studies at (507) 389-1242.

Closing Statement
My signature below indicates that I have decided to participate in a research study; that I am at least 18 years of age; that I have read this form and that I understand it; that I have had all my questions answered; and that I have received a copy of this consent form.

_____ _____
Signature of Participant Date

_____ _____
Signature of Investigator Date

MSU IRBNet LOG # 868952

Appendix B

Facilitator Demographic Form

Age:_____

Job title:_____

Years of work experience current job:_____

Name of the program you will be delivering: _____

Have you delivered any NECC Mind Aerobics programs before? Yes No

When was NECC training completed: _____

If yes, how many times have you delivered each program?

Mind Sharpener:_____

Lively Mind:_____

Active Mind:_____

Ready Mind:_____

Appendix C

Global Adherence/Competence Instrument

For the items 1-15 below, use the following scale to rate the facilitator's performance during the one-hour Mind Aerobics session you are observing. Please circle your rating for each item in the right-hand column.
0 = performance was unsatisfactory (item was completed almost never)
1 = performance was satisfactory (i.e., competent/acceptable performance) (item was completed most of the time)
2 = performance was excellent/outstanding (item was always completed)

Item	Rating		
1. Facilitator continually moved around the room to monitor progress and to determine if participants needed assistance.	0	1	2
2. Assistance was provided in the form of least intrusive, yet helpful, prompts (i.e., facilitator used strategies such as cues, prompts, modeling, simplifying the activity as opposed to giving the participant correct answers or doing the activity for the participant).	0	1	2
3. Facilitator regularly used the names of participants.	0	1	2
4. Facilitator enunciated clearly.	0	1	2
5. Facilitator spoke at an appropriate volume for the group.	0	1	2
6. Facilitator spoke with an appropriate pace (i.e., not too fast or too slow).	0	1	2
7. Facilitator displayed enthusiasm as indicated by smiling or pitch of voice.	0	1	2
8. Facilitator made appropriate eye contact with participants.	0	1	2
9. The pace of the session was appropriate (i.e., demonstration of activities was not too fast or too slow; enough time was provided for participants to complete all session activities).	0	1	2
10. Facilitator delivered praise and encouragement to participants.	0	1	2
11. Transitions between exercises were smooth and efficient (i.e., not a lot of time was spent removing manipulatives or other materials for one activity and then setting up the next activity).	0	1	2
12. Facilitator reviewed correct answers and solicited feedback in a timely manner prior to moving on to the next activity.	0	1	2
13. Facilitator completed a 2-5 minute "wrap-up" at the end of the session to allow participants to provide feedback.	0	1	2
14. Facilitator was prepared and remained organized throughout the session.	0	1	2
15. Facilitator reminded participants as necessary that while correct answers are nice, the purpose of the program is to strengthen cognition through challenge. Attempting to get the correct answer is more important than the correct answer.	0	1	2
Complete ratings for the items below only *if they are applicable* to the session you observed.	0	1	2
16. Facilitator appropriately adjusted the activities for participants with special needs (e.g., hearing impairments, mobility limitations, vision problems, etc.)	0	1	2
17. Facilitator adjusted the difficulty of tasks (i.e., made them more or less challenging) based on performance of participants.	0	1	2
18. Facilitator appropriately handled disruptive behaviors (e.g., falling asleep, non-compliance, belligerence) that occurred during the session.	0	1	2

Appendix D

Active Mind™ Adherence/Competence Instrument

Site: _____ Session #: _____ Date: _____

Primary observer: _____ IOA observer (if applicable):_____

Time start: _____

Time end: _____

Program facilitator code(s): _____

NOTES:

Instructions: For each of the items below, place in the right-hand column a "**+**" for each behavior that was completed and a "**-**" for each behavior that was not completed.

Rapid Response Adherence Criteria (sessions 1-24)	+/-
Facilitator introduced the activity (i.e., name of activity was provided)	
Rationale for the activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Facilitator used progressive speed during the activity until all participants had stopped	
Facilitator appropriately used two cards for the activity	
Three trials were completed (right hand, left hand, both hands)	
Activity was completed in approximately 5-7 minutes	
Facilitator elicited participant feedback during transition to next activity	
Cube It! Adherence Criteria (visual-spatial task for sessions 1-12)	+/-
Facilitator introduced the activity (i.e., name of activity is provided)	
Rationale for the activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Facilitator delivered appropriate number of trials (sessions 1-7 require 2 trials, 8-12 require 1 trial)	
Facilitator delivered successively more challenging trials as appropriate to individual participant skill level (e.g., matching blocks to figure, next to figure, from memory)	
Activity was completed in 9-11 minutes	
Facilitator elicited participant feedback during transition to next activity	
Geo Board Adherence Criteria (visual-spatial task for sessions 13-24)	+/-
Facilitator introduced the activity (i.e., name of activity is provided)	
Rationale for the activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Activity was completed in 13-15 minutes	
Facilitator elicited participant feedback during transition to next activity	
Sound Discrimination Adherence Criteria (attention/concentration task for sessions 1-12)	+/-
Facilitator introduced the activity (i.e., name of activity is provided)	
Rationale for the activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Facilitator selected target response for sound discrimination	
A short practice set was conducted	
Facilitator presented a beat approximately every two seconds	
Facilitator used a privacy screen	
Correct answers were given and discussed as necessary	
Activity was completed in 6-8 minutes	
Facilitator elicited participant feedback during transition to next activity	
"How Many" Adherence Criteria (attention/concentration task for sessions 13-24)	+/-
Facilitator introduced the activity (i.e., name of activity is provided)	
Rationale for the activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	

Correct answers were given and discussed as necessary	
Activity was completed in under 6-8 minutes	
Facilitator elicited participant feedback during transition to next activity	
Recognition Recall Adherence Criteria (memory task for sessions 1-15)	+/-
Facilitator introduced the activity (i.e., name of activity is provided)	
Rationale for the activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Facilitator gave participants appropriate time to study stimuli (e.g., cards, 3D objects, up to two or more minutes of study time)	
Correct answers were given and discussed as necessary	
The activity was completed in 10-12 minutes	
Facilitator elicited participant feedback during transition to next activity	
At the end of the session, the facilitator prompts the session to recall the items	
Actual Factual Adherence Criteria (memory tasks for sessions 16-24)	+/-
Facilitator introduced the activity (i.e., name of activity is provided)	
Rationale for the activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Facilitator made appropriate accommodations as necessary (e.g., re-reading passages if participants had difficulties)	
Correct answers were given and discussed as necessary	
Activity was completed in 7-9 minutes	
Facilitator elicited participant feedback during transition to next activity	
Language Activity Adherence Criteria (language tasks for sessions 1-24)	+/-
Facilitator introduced the activity (i.e., name of activity is provided)	
Rationale for the activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Correct answers were given and discussed as necessary	
Activity was completed in 8-12 minutes	
Facilitator elicited participant feedback during transition to next activity	
Problem Solving Activity Adherence Criteria (tasks for sessions 1-24)	+/-
Facilitator introduced the activity (i.e., name of activity is provided)	
Rationale for the activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Correct answers were given and discussed as necessary	
Facilitator elicited participant feedback during transition to next activity	
Activity was completed in 8-11 minutes	
Wrap up Adherence Criteria	+/-
Facilitator prompted recall of material from memory tasks	
Facilitator prompted the participants to discuss and review the activities completed	
Review was completed in 3-5 minutes	

Appendix E

Lively Mind™ Adherence/Competence Instrument

Site: _____ Session #: _____ Date: _____

Primary observer: _____ IOA observer (if applicable):_____

Time start: _____

Time end: _____

Program facilitator code(s): _____

NOTES:

Instructions: For each of the items below, place a "+" in the right-hand column for each behavior that was completed and a "-" in the right-hand column for each behavior that was not completed.

Rapid Response Adherence Criteria	+/-
The facilitator introduced the activity (i.e., name of exercise is provided)	
How the activity is to be completed was explained (verbally or by demonstrating the activity) in a manner that was simple and understandable	
The rationale for the activity was provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)	
Facilitator used progressive speed during the exercise until all participants have stopped	
Facilitator used two cards for the exercise	
Three trials were completed (right hand, left hand, both hands)	
If necessary, the facilitator adapted the activity to participants' abilities (+/-/NA)	
The activity was completed in approximately 5-7 minutes	
Maze Master Adherence Criteria (visual-spatial task for classes 1-12)	+/-
The facilitator introduced the activity (i.e., name of exercise is provided)	
How the activity is to be completed was explained (verbally or by demonstrating the activity) in a manner that was simple and understandable	
The rationale for the activity was provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)	
If necessary, the facilitator adapted the activity to participants' abilities (+/-/NA)	
The activity was completed in 3-5 minutes	
Size 'Em Up Adherence Criteria (visual-spatial task for classes 1-12)	+/-
The facilitator introduced the activity (i.e., name of exercise is provided)	
How the activity is to be completed was explained (verbally or by demonstrating the activity) in a manner that was simple and understandable	
The rationale for the activity was provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)	
If necessary, the facilitator adapted the activity to participants' abilities (+/-/NA)	
The activity was completed in 3-5 minutes	
Geo Board Adherence Criteria (visual-spatial task for classes 13-24)	
The facilitator introduced the activity (i.e., name of exercise is provided)	+/-
How the activity is to be completed was explained (verbally or by demonstrating the activity) in a manner that was simple and understandable	
The rationale for each activity is provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)	
If necessary, the facilitator adapted the activity to participants' abilities (+/-/NA)	
The activity was completed in 11-13 minutes	
Listening (attention/concentration task for classes 1-12) Adherence Criteria	+/-
The facilitator introduced the activity (i.e., name of exercise is provided)	
How the activity is to be completed was explained (verbally or by demonstrating the activity) in a manner that was simple and understandable	
The rationale for the activity was provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)	
The facilitator spoke at an appropriate pace (1 to 2 second pause between each word)	
If necessary, the facilitator adapted the activity to participants' abilities (+/-/NA)	
The activity was completed in 5-7 minutes	

Concentration (attention/concentration task for classes 13-22) Adherence Criteria	+/-
The facilitator introduced the activity (i.e., name of exercise is provided)	
How the activity is to be completed was explained (verbally or by demonstrating the activity) in a manner that was simple and understandable	
The rationale for the activity was provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)	
If necessary, the facilitator adapted the activity to participants' abilities (+/-/NA)	
The activity was completed in 5-7 minutes	
Scanning (attention/concentration task for classes 23-24) Adherence Criteria	+/-
The facilitator introduced the activity (i.e., name of exercise is provided)	
How the activity is to be completed was explained (verbally or by demonstrating the activity) in a manner that was simple and understandable	
The rationale for the activity was provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)	
The activity was completed in 5-7 minutes	

Recognition Recall (memory task for classes 1-12) Adherence Criteria	+/-
The facilitator introduced the activity (i.e., name of exercise is provided)	
How the activity is to be completed was explained (verbally or by demonstrating the activity) in a manner that was simple and understandable	
The rationale for the activity was provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)	
Facilitator gives participants appropriate time to study stimuli (e.g., cards, 3D objects)	
If necessary, the facilitator adapted the activity to participants' abilities (+/-/NA)	
The activity was completed in 3-12 minutes	
Auditory Recall (memory tasks for classes 13-24) Adherence Criteria	+/-
The facilitator introduced the activity (i.e., name of exercise is provided)	
The rationale for the activity was provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)	
Before starting the activity, the facilitator states "I will be reading something to you aloud. We will review and practice the material together. After that, you will be asked to write down what you recall or will be asked some questions. So listen carefully."	
The facilitator read the entire passage twice	
The facilitator elaborated or described each item or component of the text	
Auditory strategies for remembering the specific material were discussed	
The facilitator allowed the participants to practice and repeat the material aloud together for 2-5 minutes	
After participants has finished writing, facilitator allowed participants to read what they have written	
The facilitator read the auditory target again and discussed the activity with the participants	
The facilitator told the participants that they may be asked to recall what they practiced later in the session	
If necessary, the facilitator adapted the activity to participants' abilities (+/-/NA)	
The activity was completed in 8-10 minutes	
Language Exercise Adherence Criteria (includes rhyming, name it, word retrieval, recognition)	+/-

The facilitator introduced the activity (i.e., name of exercise is provided)	
How the activity is to be completed was explained (verbally or by demonstrating the activity) in a manner that was simple and understandable	
The rationale for the activity was provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)	
If necessary, the facilitator adapted the activity to participants' abilities (+/-/NA)	
The activity was completed in 8-14 minutes	
Problem Solving Exercise Adherence Criteria (includes exercises of: Compare and Contrast/Matching/Paired Associates/Sequences)	+/-
The facilitator introduced the activity (i.e., name of exercise is provided)	
How the activity is to be completed was explained (verbally or by demonstrating the activity) in a manner that was simple and understandable	
The rationale for the activity was provided (i.e., a short explanation and/or example of why is the skill important or necessary in everyday life)	
If necessary, the facilitator adapted the activity to participants' abilities (+/-/NA)	
The activity was completed in 9-13 minutes	
Wrap up Adherence Criteria	+/-
The facilitator prompted the participants to discuss and review the activities completed	
The facilitator prompted recall of material from session (i.e., questions from auditory recall were re-questioned)	
Review was completed in 3-5 minutes	

Appendix F

Mind Sharpener™ Adherence/Competence Instrument

Site: _____ Session #: _____ Date: _____

Primary observer: _____ IOA observer (if applicable):_____

Time start: _____

Time end: _____

Program facilitator code(s): _____

NOTES:

Instructions: For each of the items below, place in the right-hand column a "**+**" for each behavior that was completed and a "**-**" for each behavior that was not completed.

Warm Up Adherence Criteria (sessions 2-24)	+/-
Facilitator introduced "When Last We Met" activity and prompted participants to discuss and review the activities completed at the previous session. Note: this is a supplementary activity and should be run as time allows.	
Review was completed in 3-5 minutes	
Rapid Response Adherence Criteria (sessions 1-24)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally or by demonstrating the activity	
Facilitator used progressive speed during the activity until all participants had stopped	
Facilitator appropriately used two cards for the activity	
Three trials were completed (right hand, left hand, both hands)	
Activity was completed in approximately 5-7 minutes	
Facilitator elicited participant feedback during transition to next activity	
Cube Count Adherence Criteria (visual-spatial task for sessions 1-8)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally or by demonstrating the activity	
Correct answers were given and discussed as necessary	
Activity was completed in 8-12 minutes	
Facilitator elicited participant feedback during transition to next activity	
Overlapping Figures Adherence Criteria (visual-spatial task for sessions 9-16)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally or by demonstrating the activity	
Correct answers were given and discussed as necessary	
Activity was completed in 8-10 minutes	
Facilitator elicited participant feedback during transition to next activity	
Reflections Adherence Criteria (visual-spatial task for sessions 17-24)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally or by demonstrating the activity	
Correct answers were given and discussed as necessary	
Activity was completed in 8-11 minutes	
Facilitator elicited participant feedback during transition to next activity	
Listening Adherence Criteria (attention/concentration task for sessions 1-24)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally or by demonstrating the activity	

Facilitator spoke at an appropriate pace (1 to 2 second pause between each word)	
Correct answers were given and discussed as necessary	
Activity was completed in 5-7 minutes	
Facilitator elicited participant feedback during transition to next activity	

Memory Message Adherence Criteria (sessions 1-24)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally or by demonstrating the activity	
Facilitator passed out question sheets upside down to each participant	
Before reading the passage, facilitator stated, "I am going to read a message to you. Please listen closely. When I am finished reading, you will be asked to answer questions about what you have heard."	
After reading the passage once or twice, facilitator prompted participants to turn over the question sheet and to answer the questions	
Correct answers were given and discussed as necessary	
Activity was completed in 5-7 minutes	
Facilitator elicited participant feedback during transition to next activity	
Recognition Recall Adherence Criteria (memory task for sessions 1,3,5,7,9,11,13,14)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally or by demonstrating the activity	
Facilitator gave participants appropriate time to study	
Correct answers were given and discussed as necessary	
Activity was completed in 5-7 minutes	
Facilitator elicited participant feedback during transition to next activity	
Verbal Memory Adherence Criteria (memory tasks for sessions 2,4,6,8,10,12)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally or by demonstrating the activity	
Facilitator allowed 2-3 minutes for the participants to study	
Correct answers were given and discussed as necessary	
Activity was completed in 2-7 minutes	
Facilitator elicited participant feedback during transition to next activity	
Memory Works Adherence Criteria (memory tasks for sessions 14 – 24)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally or by demonstrating the activity	
Facilitator gave participants appropriate time to study	
Correct answers were given and discussed as necessary	
Activity completed in 5-7 minutes	
Facilitator elicited participant feedback during transition to next activity	

Language Activity Adherence Criteria	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally or by demonstrating the activity	
Facilitator provided brief opportunity for participants to share activity responses	
Activity was completed in 8-12 minutes	
Facilitator elicited participant feedback during transition to next activity	
Problem Solving Activity Adherence Criteria	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally or by demonstrating the activity	
Facilitator provided brief opportunity for participants to share activity responses	
Activity was completed in 9-12 minutes	
Facilitator elicited participant feedback of activity	
Wrap up Adherence Criteria	+/-
Facilitator prompted recall of material from session (i.e., questions from auditory or recognition recall, or if time permitted, facilitator ran “If There Is Time…” activity appearing in every other session when there is no other verbal memory activity.)	
Facilitator prompted the participants to discuss and review the activities completed	
Review was completed in 3-5 minutes	

Appendix G

Ready Mind™ Adherence/Competence Instrument

Site: _____ Session #: _____ Date: _____

Primary observer: _____ IOA observer (if applicable):_____

Time start: _____

Time end: _____

Program facilitator code(s): _____

NOTES:

Instructions: For each of the items below, place in the right-hand column a "**+**" for each behavior that was completed and a "**-**" for each behavior that was not completed.

Rapid Response Adherence Criteria (sessions 1-24)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Facilitator used progressive speed during the activity until all participants had stopped	
Facilitator used two cards for the activity	
Three trials were completed (right hand, left hand, both hands)	
Facilitator adapted the activity to participants' abilities as necessary (+/-/NA)	
Activity was completed in approximately 5-7 minutes	
Facilitator elicited participant feedback during transition to next activity	
Target Word of the Week (sessions 1-24)	+/-
Facilitator introduced target word of the week using large target card	
Facilitator lead practice and repetition of target word of the week to help with memory	
Facilitator covered card and questioned participants regarding target	
Activity was completed in 5-7 minutes	
Facilitator lead review and practice of target word of the week during transition to next activity	
Cube It! Adherence Criteria (visual-spatial task for sessions 1-24)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Facilitator delivered an appropriate number and variety of trials (e.g., match cubes to figure, off of figure, from memory)	
Facilitator adapted the activity to participants' abilities as necessary (+/-/NA)	
Activity was completed in 10-12 minutes	
Transition	+/-
Facilitator elicited participant feedback of completed activity	
Facilitator asked participants to recall the target word of the week	
Facilitator lead practice and repetition of target word of the week as necessary	
Word of the Week Adherence Criteria (language task for sessions 1-24)	+/-
Facilitator introduced new activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Facilitator adapted the activity to participants' abilities as necessary (+/-/NA)	
Activity was completed in 10 – 12 minutes	
Transition	+/-
Facilitator elicited participant feedback of completed activity	
Facilitator asked participants to recall the target word of the week	
Facilitator lead practice and repetition of target word of the week as necessary	

"How Many" Adherence Criteria (attention/concentration task for sessions 1-24)	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Facilitator adapted the activity to participants' abilities as necessary (+/-/NA)	
Activity was completed in under 6-8 minutes	
Transition	+/-
Facilitator elicited participant feedback of completed activity	
Facilitator asked participants to recall the target word of the week	
Facilitator lead practice and repetition of target word of the week as necessary	

Memory Builder Adherence Criteria	+/-
The facilitator provided sufficient numbers of realia (real life objects) (sessions 1-12, each participant receives his or her own item; sessions 13-24 one object is shared between participants)	
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Facilitator gave participants appropriate time to study stimuli	
Facilitator lead practice and repetition of memory targets as necessary	
Facilitator delivered two to three trials	
Facilitator adapted the activity to participants' abilities as necessary (+/-/NA)	
Activity was completed in 10-12 minutes	
Transition	+/-
Facilitator elicited participant feedback of completed activity	
Facilitator asked participants to recall the target word of the week	
Facilitator lead practice and repetition of target word of the week as necessary	
Problem Solving Activity Adherence Criteria	+/-
Facilitator introduced activity (i.e., name of activity was provided)	
Rationale for activity was provided (i.e., short explanation and examples of why the skill is important in everyday life)	
Clear, simple directions were given verbally and by demonstrating the activity	
Facilitator adapted the activity to participants' abilities as necessary (+/-/NA)	
Activity was completed in 8-10 minutes	
Wrap up Adherence Criteria	+/-
Facilitator asked participants to recall the target word of the week	
Facilitator prompted participants to discuss and review activities completed in session	
Review was completed in 3-5 minutes	

Appendix H

Post-Observation Facilitator Follow Up: Please answer the following questions concerning the class you most recently completed.

1. Overall, how well did you feel you facilitated the class?

2. Are there any exercises in this class that you believe are more difficult to facilitate/teach participants?

3. Are there any exercises in this class that you believe are more difficult for the participants?

4. Do you have any suggestions for improving training for new facilitators?

Appendix I

Post-Observation Observer Follow Up

1. Overall, how did observations go?

2. Were there any programs/activities that were especially difficult to code? Why?

3. Are there any suggestions on improving the assessments?