# MENTAL HEALTH PROFESSIONALS' KNOWLEDGE OF APHASIA

A thesis presented to the faculty of the Graduate School of Western Carolina University in partial fulfillment of the requirements for the degree of Masters of Science in Communication Sciences and Disorders.

By

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LIST OF ABBREVIATIONS

AMHCA.....American Mental Health Counselors Association
ASHA.....American Speech-Language-Hearing Association
CBT.....Cognitive Behavioral Therapy
DSM.....Diagnostic and Statistical Manual of Mental Disorders
HRQOL.....Health-Related Quality of Life
NAMI.....National Alliance on Mental Illness
NHIS.....National Health Interview Survey
NSDUH.....National Survey of Drug Use and Health
PTSD.....Post-Traumatic Stress Disorder
QoL.....Quality of Life
SLP.....Speech Language Pathologist
TCM.....Transcortical Motor
TCS.....Transcortical Sensory
WHO.....World Health Organization

# ABSTRACT

MENTAL HEALTH PROFESSIONALS' KNOWLEDGE OF APHASIA

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Aphasia is an acquired language disorder that affects an individual's ability to use language effectively and efficiently in all modalities. Its management often involves multiple health professionals including but not limited to speech-language pathologists, occupational therapists, physical therapists, clinical social workers, counselors, psychiatrists, nurses, doctors, and other rehabilitation specialists. Given the necessity of language in many aspects of our lives, it is not hard to imagine the presence of emotional consequences of the disorder such as depression. The proposed thesis project is aimed at examining mental health professionals' knowledge and understanding of aphasia using an online survey. North Carolina Psychology Board members and North Carolina Board of Licensed Professionals Counselors members were recruited by electronic-mail invitation. After providing consent to participate, survey questions were presented addressing the participants' certifications and training; years of practice; knowledge of aphasia; history of service provision to this population; continuing education completed on the topic of aphasia; and self-reported confidence in providing potential therapy to a person with aphasia. General findings suggested that the majority of respondents had heard of aphasia and correctly defined it as a language disorder, and more advanced degrees and more years in clinical practice was often associated with increased likelihood of experience with the population and

confidence in providing service to this population. Interestingly, most of the participants, who were familiar with aphasia, first learned of the disorder while in an academic program for their respective field; however, very few indicated that they had participated in a continuing education course on the topic. The results of the survey provided useful information for future education and training in this area with hopes of promoting awareness of aphasia and the potential mental health issues that can accompany the disorder. Through proper management of depression, it is believed that final outcomes of aphasias management will be more positive and that quality of life will improve.

# CHAPTER ONE: INTRODUCTION

## Mental Health, Mental Disorders, and Quality of Life

The World Health Organization (2014) defines mental health as "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community" (para. 1). However, there are times in life that a mental disorder (also referred to as a mental illness) can develop, influencing aspects of mood, work, and relationships; these mental disorders can have a unique presentation despite an identical diagnosis. Generally speaking, mental disorders are characterized by "abnormal thoughts, perceptions, emotions, behavior and relationships with others" (WHO, 2015, para 1). Described another way, the National Survey of Drug Use and Health (NSDUH; Center for Behavioral Health Statistics and Quality, 2015) defines mental disorders as mental, behavioral, or emotional disorders that sufficiently meet the criteria of the *Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition* (4th ed.; DSM–4; American Psychiatric Association, 2000) occurring within the past year (Center for Behavioral Health Statistics and Quality, 2015); this definition excludes developmental and substance use disorders. Mental disorders can range from a relatively mild disorder to one that is utterly debilitating. According to the 2014 NSDUH survey of mental disorders, it was determined that approximately 43.6 million adults in the United States, or nearly18%, met the criteria for a mental disorder in 2014 (Center for Behavioral Health Statistics and Quality, 2015).

The *Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition* (5th ed.; DSM–5; American Psychiatric Association, 2013), like the editions that precede it, is a standard for healthcare professionals diagnosing mental disorders. This manual assists practitioners in

differentially diagnosing mental disorders by providing diagnostic criteria and descriptions. Two well-known mental disorders are depression and anxiety. These two conditions are common in the U.S. with a 6.7% prevalence of U.S. citizens experiencing at least one major depressive episode in a 12-month period (Center for Behavioral Health Statistics and Quality, 2015) and an 18.1% prevalence of anxiety disorders in a 12-month period (Kessler, Chiu, Demler, & Walters, 2005).

According to the DSM-5, depression is a very broad term used to characterize changes in mood, cognitive function, and neurovegetative functions (i.e., appetite, concentration, energy, feelings of worth, interest in activities, movement, sleep, and thoughts of suicide) (American Psychiatric Association, 2013). Depression can lead to "low mood, lack of interest in usual activities, sleep disturbances, fatigue, and impaired concentration" (Haws, 2015, p. 44), and it can negatively affect health-related quality of life (HRQoL; McKinley, Fien, Elliott, & Elliott, 2015), which can be defined "the impact of a health state on a person's ability to lead a fulfilling life" (Hilari & Byng, 2009, p. 194). The DSM-5 also describes disorders associated with anxiety as those which elicit fear, anxiety, or avoidance behaviors when confronted with certain objects or situations. In general, the anxiety response is associated with muscle hypertension and attentional hypervigilance in anticipation of a future stimulus that the individual deems dangerous or frightening. A common representation of anxiety is generalized anxiety disorder, which is associated with "persistent and excessive anxiety and worry about various domains, including work and school performance, which the individual finds difficult to control" (p.190). Physical symptoms may manifest and can include restlessness, fatigue, poor concentration, irritability, muscle hypertension, and changes in sleep.

Stroke and Aphasia

A stroke, also referred to as cerebrovascular accident, can be classified as either hemorrhagic or ischemic (Perna & Temple, 2015). A stroke caused by a hemorrhage occurs when a blood vessel ruptures from extreme pressure leading to bleeding in the brain; ischemic strokes refer to an occlusion of a blood vessel that interrupts blood flow to the brain tissue beyond the blockage. Ischemic strokes can be thrombotic (i.e., an area of consistent growth in and ultimate occlusion of the blood vessel) or embolic (i.e., free-floating material from another area of the body abruptly interrupting blood flow in the vessel). Stroke is one of the top five causes of death in the United States with approximately 750,000 individuals experiencing a stroke each year, with 17% of those resulting in death (Perna & Temple, 2015). Depending on the location of the bleed or blockage and the amount of brain tissue that loses its blood supply, stroke can have multiple consequences such as paralysis, trouble seeing, changes in behavior, memory loss, and trouble with language (American Stroke Association, 2012).

Aphasia is an acquired communication disorder affecting language modalities (Tanner, 2003). Often caused by stroke, aphasia is a consequence of brain damage predominantly occurring in the left hemisphere of the brain. A region of the brain typically affected during aphasia is known as the perisylvian zone, which houses the areas of the brain responsible for producing and understanding spoken and written language. Included in this region are Broca's area in the supra-Sylvian, pre-Rolandic area of the left frontal lobe and Wernicke's area in the posterior third of the superior temporal gyrus in the left temporal lobe. Other regions typically associated with aphasia include the left supramarginal gyrus of the left anterior parietal lobe and the angular gyrus of the left middle or second temporal gyrus. Even in cerebrovascular events sparing these key regions, persons with stroke may still presents with symptoms of aphasia due

to damage to the underlying associative pathways connecting these regions, such as the arcuate fasciculus (Helm-Estabrooks & Albert, 2004). It is suggested that aphasia presents acutely in about one-third of persons who suffer a stroke (National Aphasia Association, 2016).

There are several types of aphasia, each of which is associated with a specific pattern of language deficit. Generally speaking, these types can be divided into two predominant categories: nonfluent and fluent. The nonfluent aphasias consist of Broca's aphasia, transcortical motor aphasia, global aphasia, and mixed non-fluent aphasia. Broca's aphasia impairs a person's ability to verbally express him or herself due to a lesion in Broca's area. Often, persons with Broca's aphasia may use five or fewer words per utterance, and these words tend to be nouns, verbs and adjectives. Importantly, the comprehension abilities of persons with Broca's aphasia often remains intact, and the individual will be highly aware of language errors and may try to correct them. A less common type of nonfluent aphasia is transcortical motor (TCM). This type of aphasia presents similarly to Broca's aphasia in several ways; however, repetition is uniquely intact in persons with TCM aphasia. The type of nonfluent aphasia generally considered to be the most devastating to communication is global. Persons with global aphasia present with severe impairments of all aspects of language input and output. Importantly, some people with global aphasia retain the ability to utilize and understand nonverbal language, such as gestures and facial expressions (Love & Webb, 1996).

Persons with aphasia can also be described as fluent, which suggests that phrase length is of normal length (i.e., greater than nine words per utterance). Types of fluent aphasia include Wernicke's, transcortical sensory, conduction, and anomic. Persons with these types typically exhibit well-articulated and prosodically appropriate verbal output perhaps with some word-finding difficulties; however, in severe cases, utterances may consist of fluent jargon with

neologistic paraphasias. Further, these posterior lesions can sometimes result in difficulty with auditory comprehension, as is the case with Wernicke's and transcortical sensory aphasias. Wernicke's aphasia is associated with impaired language comprehension, repetition, and naming following damage to Wernicke's area. Because of the degree to which comprehension is impaired, many persons with this type of aphasia fail to notice language errors and thus fail to self-correct. Very similar to Wernicke's aphasia is transcortical sensory (TCS) aphasia in which an individual struggles with comprehension and naming, but retains the ability to repeat. In fluent types such as conduction and anomic, comprehension remains intact. Conduction aphasia most severely affects the person's ability to repeat, whereas anomic aphasia affects an individual's ability to retrieve words from memory.

Mental Health in Stroke and Aphasia

Given the consequences of stroke, it is not surprising that emotional disturbances may develop in the stroke survivor. According to Cadilhac and colleagues (2016), stroke impacts multiple areas of daily life such as mobility, cognitive function, and communication. The consequences of stroke extend into less involvement in leisure activities such as "fishing, taking walks, gardening, do-it-yourself activities, reading books, visiting the library/cinema, and others" (Astrom, Asplund, & Astrom, 1992, p. 530). According to Astrom and colleagues with respect to social interactions, there is decreased interaction with friends and family, perhaps with the exception of immediate children. Given the myriad impairments that can result from a stroke, a multitude of fears can also develop. For example, persons with a history of stroke often develop a fear of falling (Watanabe, 2005), as well as fears of not recovering abilities related to toileting, swallowing, walking, and language (Lincoln, Kneebone, Macniven, & Morris, 2012).

Not surprisingly, the literature also strongly supports that persons with aphasia often experience a diminished quality of life (QoL; Hilari, Needle, & Harrison, 2012). Hilari and Byng (2009) stated that QoL in persons with aphasia focused on three areas in particular: "level of independence, social relationships, and access to aspects of their environment" (p. 194), and LaPointe (1999) suggested that quality of life in aphasia has multiple dimensions including "physical, toxicity, body image and mobility, psychological, social, spiritual, interpersonal, financial, happiness, and time" (LaPointe, 1999, pp. 7-9). As a third example, Hilari, et al. (2012) suggested that, "emotional distress, aphasia severity, communication and activity limitations, other medical problems and social factors affect HRQOL" (p. 86).

In addition, persons with stroke often experience posttraumatic stress disorder (PTSD) symptoms, such as "re-experiencing, avoidance of reminders of the event, persistent negative mood and cognition, and physiological hyper arousal that persist for at least 1 month after the event" (Edmondson, et al. (2013), p.1). When discussing the prevalence of PTSD, Edmondson and colleagues found "an overall prevalence of 13% among stroke/TIA survivors, with 23% prevalence in the first year post stroke and 11% after the first year" (p. 3).

Mental Health Service Providers

The American Speech-Language-Hearing Association (ASHA) (2016) clearly states that management of aphasia should be individualized to focus on the specific areas of concern for that person. Treatment goals can include restoration of function through impairment-based intervention, compensating for lost function that cannot be restored, training communication partners to enhance interactions, facilitating successful communication through environmental adjustments, and educating all persons involved. However, given the negative impact that mental disorders can have on rehabilitation outcomes (Carod-Artal & Egido, 2009; Ferro,

Caeiro, & Santos, 2009; House, Knapp, Bamford, & Vail, 2001; Kneebone, 2016), treatment goals related to mental health should not be overlooked.

It is within the SLP's scope of practice to provide some degree of counseling, however, it is limited. According to the ASHA Scope of Practice for Speech-Language Pathology, the SLP is only able to provide counseling as it relates to communication disorders (ASHA Scope of Practice, 2016). It is considered unethical and outside of an SLP's scope of practice to provide counseling as it relates to any mental health related issue, such as depression or anxiety. It is the clinician's responsibility to understand and acknowledge when a patient's needs exceed the SLP's professional responsibilities and training in regard to mental health and when a referral to a mental health professional should be made.

When a referral to a mental health professional is ethically warranted, there are several professions qualified to provide mental health services, including social workers, counselors, therapists, psychologists, and psychiatrists. Each of these professions allow for specializations in mental health. For example, mental health counselors provide services to individuals or groups through psychotherapy, which helps individuals deal with certain disorders, such as depression, in order to attain a healthy mental state (Messina, 1985). According to the American Mental Health Counselors Association (AMHCA), counselors in this field of work are required to complete a master's degree, 2 years of post-master's clinical work, and pass a state board for licensure (AMHCA, 2016). According to the American Psychological Association (2016), psychologists address the needs of families, children, groups, and disorder types (e.g., mental disorders). Psychologists can have a masters or doctoral degree in order to practice; however, there are limitations if a master's degree is a psychologist's highest level of education (American Psychological Association, 2016). The Center for Clinical Social Work (2016) describes a

clinical social worker's job as a profession with unique qualities, such as the, "use of the person-in-environment perspective, respect for the primacy of client rights, and strong therapeutic alliance between client and practitioner" (para. 1). It explains that clinical social workers must have a master's degree in order to practice. These professionals can provide psychotherapy, while also searching for additional services for their clients (Cohen, 2003).

Managing Mental Disorders Post-Stroke

Cognitive behavioral therapy (CBT), as discussed by the National Alliance on Mental Illness (NAMI) (2012), consists of discovering a client's "thoughts, feelings, and behaviors" (p. 1) by talking about them. This type of therapy, in particular, has been shown to effectively treat various mental health disorders, such as depression and anxiety (Lutz, Schiefele, Wucherpfennig, Rubel, & Stulz, 2016; Wiles, et al., 2016). CBT tends to be more abstract in nature, which allows the therapist to guide the client through thought processes thus revealing patterns of thinking that could be contributing to the mental health disorder. Part of CBT is disputation, in which the therapist guides the client through a personal debate regarding the accuracy of a thought or pattern of thinking. In some cases, the therapist is more indirect in that approach, asking questions that allow the client to guide the direction of the discussion. However, sometimes the therapist can present questions that are very concrete, often eliciting yes or no responses. The degree of abstraction used in disputation would be dependent upon the needs of the client.

Several studies have explored the use of CBT or a variation of it to combat depression and anxiety in the stroke population. The research of Rasquin, Van De Sande, Praamstra, and Heugten (2009) examined the use of CBT principles as a viable and effective treatment for post-stroke depression. In the study, five participants received CBT for eight weeks with follow-up at

one- and three-months post-treatment. The measurements pre- and post-treatment included a battery of scales for depression, quality of life, and mood. After the completion of the treatment program, it was reported that scores on the post-treatment scales showed a general reduction in depressive symptoms and improved mood. Further, it was indicated that these gains were maintained at the three-month follow-up visit and that participants continued to utilize the strategies learned in therapy. Anecdotally, it was reported that the participants and psychologists providing the services agreed on the benefit of the therapy. Anxiety has also been treated post-stroke using CBT. In a study conducted by Kneebone and Jeffries (2013), two individual cases were assessed. Both individuals received CBT for anxiety post-stroke in a three to four month period. Following the conclusion of treatment, CBT proved to be effective at decreasing the level of anxiety for each patient even after the three-month follow up.

However, these studies did not explore the effectiveness of CBT with persons with stroke-induced aphasia. Given the cognitive and communicative demands placed on the client receiving counseling, Kneebone (2016) recommended using a more direct approach to therapy with persons with aphasia. More direct questioning by the therapist potentially relieves some of the cognitive and communicative load placed on the person with aphasia while still providing insight into the client's thought patterns. In other words, “the style of therapy might need to be more direct than the guided discovery approach" (Kneebone, 2016, p.103). So, if the objective of the therapist is to get the client to think through how illogical or inaccurate a thought is and help the client replace it with something logical and accurate, the client with aphasia likely will not be able to communicate those thoughts in spoken words. However, other means of communication, such as pictures, drawing, and music may provide an avenue through which the client with aphasia can communicate without spoken words.

This is precisely the approach taken by Thomas, Walker, Macniven, Haworth, and Lincoln (2012). In their study, over 100 individuals with aphasia and decreased mood were identified and assigned to a behavioral treatment group or a control group. Participants in the treatment group received up to 20 sessions of behavioral therapy across three months working with an assistant psychologist practicing under the guidance of a clinical psychologist. "Treatment strategies focused on maximizing mood-elevating activities and included education, activity monitoring, activity scheduling, and graded task assignments" (Thomas et al, 2012, p. 400). To address the communication barriers, the treatment was tailored to the unique cognitive-communicative needs of the participant, and alternate means of communication (e.g., pictures, photograms, letter charts) were used. It was reported that the behavioral intervention resulted in significantly better mood and self-esteem; however, the intervention did not affect participation in leisure activities or caregiver burden. This suggests that with some flexibility in service delivery, therapy can prove to be beneficial to the QoL of the client with aphasia.

Based on the evidence available, Kneebone (2016) further discussed ways in which traditional CBT can be tailored to the individual with aphasia. Depending on the level of cognitive and communicative impairment following stroke, therapy strategies were described on a continuum that would require that these abilities to be more or less intact. For example, assuming that cognition and communication are more impaired, behavioral therapy should be used over cognitive behavioral therapy meaning that sessions should be more activity-based than discussion-based. Within the context of CBT, disputation of thought patterns should be more concrete and led more actively by the clinician. More overt strategies and supports such as mnemonics and reminders should be employed during and between sessions to encourage recall

and use of strategies. Finally, the caregiver should be more actively involved to support use and carryover of strategies outside the therapy session.

Barriers to Counseling

According to a study by Baron, Lattie, Ho, and Mohr (2013), many individuals express an interest or willingness to seek out help from a mental health profession; however, a much lower percentage actually follow through with an appointment. People avoid seeking counseling for various reasons, including reasons that are psychology, financial, and cultural in nature. For example, Vogel, Wester, and Larson (2007) listed seven avoidance factors that most definitely and may perhaps interfere with the help-seeking process. These include social stigma, treatment fears, fear of emotion, anticipated utility/risks, self-disclosure, social norms, and self-esteem. The authors go on to suggest that the "different avoidance factors are likely to vary in their intensity and importance depending on characteristics of the problem, the setting, the individual (e.g., sex, age), as well as social and cultural influences (Kushner & Sher, 1989)" (as cited by Vogel, et al., 2007, p.413).

Another potential barrier is cost (Mojtabai, 2005). Six years of data received from the National Health Interview Survey (NHIS) was used in a study by Mojtabai (2005) to determine cost barriers in the health care system, including psychological services. "Between 1997 and 2002, the proportion of NHIS participants with significant psychological distress who reported that they could not afford mental health care grew from 15.6% to 20.0%" (p. 2011).

A third barrier is culture. "The experience of illness itself, including how the illness is interpreted and what meanings are attached, and the outcomes, including how individuals approach seeking help for what has been identified as an illness, are shaped by culture" (Campbell & Long, 2014, p. 49). Culture can be perceived as a "social determinant" (p. 48).

These are factors that are outside the medical realm that include belief systems of the individual or a group that impact the individual's decision making regarding mental health. Older individuals in particular may have specific preconceived notions of receiving psychological care, such as a belief that their psychological issue can be overcome by sheer willpower or can be overlooked altogether (Mojtabai, 2005).

Statement of Purpose

To the knowledge of the authors, no research regarding mental health professionals' knowledge of aphasia has been completed, so the extent to which these individuals understand aphasia is unknown. This is unfortunate considering that people with aphasia can experience mental disorders including depression and anxiety, and modified versions of CBT, when employed, can be effective in alleviating the symptoms of these disorders. Given that it is beyond the scope of the SLP to address mental disorders that manifest in their clients with neurogenic communication disorders, SLPs should direct their clients to the mental health professions when it is deemed warranted. If mental health professionals are unfamiliar with or misinformed about the communicative, personal, and social consequences of aphasia, they may not be able to provide services effectively or ethically. Therefore, healthcare providers working with this population need to understand the aphasia knowledge mental health professionals possess in order to better serve this population. Hence, the specific research questions and hypotheses are as follows:

Question 1: When presented with a list of possible disorders, will mental health professionals be able to identify language as the area of impairment representative of aphasia?

Hypothesis$_0$: When asked to identify the area of impairment representative of aphasia, mental health professionals will not be able to identify language as the area of impairment representative of aphasia.

Hypothesis$_1$: When asked to identify the area of impairment representative of aphasia, mental health professionals will be able to identify language as the area of impairment representative of aphasia.

Question 2: When asked about previous clinical experiences, will mental health professionals report service provision to persons with aphasia?

Hypothesis$_0$: When asked about previous clinical experiences, the majority of mental health professionals surveyed will confidently report that they have provided services to persons with aphasia.

Hypothesis$_1$: When asked about previous clinical experiences, the majority of mental health professionals will not confidently report that they have provided services to persons with aphasia.

Question 3: Have the majority of mental health professionals completed training on providing services to persons with aphasia?

Hypothesis$_0$: The majority of mental health professionals have completed training on providing services to persons with aphasia.

Hypothesis$_1$: The majority of mental health professionals have not completed training on providing services to persons with aphasia.

Question 4: Given their current knowledge of aphasia, will the majority of mental health professionals report confidence in their ability to provide effective services to a person with aphasia in an ethical manner?

Hypothesis$_0$: Given their current knowledge of aphasia, the majority of mental health professionals will report confidence in their abilities to provide effective services to a person with aphasia in an ethical manner.

Hypothesis$_1$: Given their current knowledge of aphasia, the majority of mental health professionals will report a lack of confidence in their abilities to provide effective services to a person with aphasia in an ethical manner.

# CHAPTER TWO: METHODS

## Participants

The targeted subject pool included mental health professionals, specifically counselors, therapists, social workers, psychologists, and psychiatrists, with active licensure to practice in the state of North Carolina. Participants were recruited through the North Carolina Psychology Board and the North Carolina Board of Licensed Professional Counselors via an electronic mailing list. A total of 9,790 email addresses from the North Carolina Board of Licensed Professional Counselors (5,756) and the North Carolina Psychology Board (4,034) were received. A comparison of the lists to identify duplicates was not completed given the number of emails addresses being so high. Over the course of September and October of 2015, recruitment emails were sent to each address provided, inviting the recipient to participate in a brief survey (Appendix B). Three requests to participate were sent to these addresses about every two weeks. The first was a request to participate, and the other two were reminders to complete the survey if that had not yet been done.

## Survey

A brief, anonymous survey was created and released using a web-based survey platform (Qualtrics, 2015). The initial page of the survey included the informed consent document approved by the Institutional Review Board of Western Carolina University. Upon providing consent, participants were asked to indicate the field in which they currently practice; the following options were given: counselor/therapist, psychologist, social worker, and other. The "other" option was provided if the participant felt that none of these options accurately represented his or her current role. Persons who were not practitioners, for example students in a

corresponding field of study or support staff working in various mental agencies, as well as those who were retired from one of the mental health professions were not eligible to participate. Depending on the field selected, the participants were redirected to additional questions designed to better pinpoint a specific area of professional focus. For example, if a participant indicated counselor/therapist, he or she was redirected to a question indicating possible specialties of counselors and therapists including: marriage and family; mental health; substance abuse; school; rehabilitation; and other. Psychologists were given options of clinical psychologist; developmental psychologist; school psychologist; and other from which to choose. Finally, social workers selected from the following: administration, policy and research; child, family, and school; community; gerontological; medical and health; mental health; substance abuse; psychiatric; and other.

After indicating an area of specialty, all participants returned to the same series of questions related to years of clinical practice, highest degree earned, and state in which they currently practice. Following these questions, the survey explored the mental health professionals' knowledge of and experience with aphasia. These included questions related to the definition of aphasia; provision of services to persons with aphasia or their families; and the setting in which they have learned about aphasia. Finally, the participants were also asked to rate their level of confidence in providing services to persons with aphasia in an ethical manner. In order to identify participants willing to take part in future research on this topic, participants were given an opportunity to provide an email address. In this final form, the survey required approximately 2-3 minutes to complete.

Prior to launching, the survey was given via email to three mental health professionals (one psychiatrist, one therapist and one psychologist) known to the researchers. These

individuals were asked to provide feedback regarding issues of clarity, appropriateness, and ease-of-use. These professionals indicated that the survey was clear and flowed easily from beginning to end. No changes were recommended from this sample.

Procedure

The current study was approved by the Institutional Review Board at Western Carolina University. Following approval, the names and emails of mental health professionals affiliated with the North Carolina Psychology Board and the North Carolina Board of Licensed Professional Counselors were obtained. An invitation to participate was sent by email consisting of a brief explanation of the survey objectives, instructions regarding accessing the link to the survey, and contact information of the faculty advisor and primary investigator. Recipients of the online survey were encouraged to utilize the contact information provided to them in the event that they had any questions or concerns regarding the survey and its objectives. Two additional reminder emails were sent out approximately two- and four-weeks following the initial invitation to increase response rates.

Data Analysis

Categorical data were quantified in terms of frequency counts and percentages. Using the nonparametric test Pearson's chi-square, data from some of the questions in the survey were compared to identify associations between variables. The goal of the study was to identify relationships between variables; therefore a chi-square test was deemed the most appropriate test to run for this particular study. The following comparisons were made between profession, years in clinical practice, and level of education and the following variables: awareness of aphasia; definition of aphasia; acquisition of aphasia knowledge; experience providing services to person with aphasia; confidence providing services to persons with aphasia; and completion of

continuing educational opportunities. A significance level of .05 was used for all statistical analyses.

# CHAPTER THREE: RESULTS

## Mental Health Professionals' Demographics

Of the 9,790 mental health professionals invited to participate in this study, 245 were immediately returned to the investigator with a message that the email was undeliverable. That resulted in 9,545 invitations actually delivered to the email address provided. Of those, 102 respondents consented, but did not complete the survey, and 9 respondents initiated the survey, but did not consent and complete it. Therefore, the number of completed surveys was 1,781 resulting in a response rate of approximately 18%. However, given that the targeted participant group was currently practicing mental health providers, the researchers discarded some participant responses if it was clearly indicated that the respondent was not a licensed provider (such as an administrative assistant or student) or was retired from one of the professions. As a result, 23 surveys were discarded, leaving 1,758 for the final analysis and the subsequent response rate of approximately 18%.

Of the mental health professionals surveyed, 885 (50.3%) identified themselves as counselor/therapists, 755 (42.9%) as psychologists, 9 (.5%) as social workers, and 109 (6.2%) as belonging to the "other" category (Table 3.1). However, several in the "other" category described themselves as actually belonging in one of the clearly listed professions. In those cases, subjects were reassigned to the appropriate category. The total number of "other" responses was 149 when the data were initially evaluated; however, 40 of those were more appropriately assigned to another group. Two of the investigators, one of which was a psychologist and the other a graduate student in speech-language pathology, reassigned participants as deemed appropriate. In the end, participant groups consisted of 885 (50.3%)

counselor/therapists, 755 (42.9%) psychologists, 9 (.5%) social workers, and 109 (6.2%) belonging to the "other" category.

Table 3.1

*Number of Participants by Discipline and Specialty*

| **Counselor/therapists (885)** | | **Psychologists (755)** | | **Social Workers (9)** | |
|---|---|---|---|---|---|
| Marriage and family | 66 (7.4%) | Clinical Psychologists | 589 (78%) | Administration, Policy and Research | 0 |
| Mental Health | 579 (65%) | Developmental Psychologists | 30 (3.9%) | Child, family and school | 0 |
| Substance Abuse | 55 (6.2%) | School Psychologists | 53 (7%) | Community | 1(11%) |
| School | 51 (5.7%) | Other | 83 (11%) | Gerontological | 0 |
| Rehabilitation | 41 (4.6%) | | | Medical and Health | 2(22%) |
| Other | 93 (10.5%) | | | Mental Health | 5(55%) |
| | | | | Substance abuse | 0 |
| | | | | Psychiatric | 0 |
| | | | | Other | 1(11%) |

The vast majority of respondents indicated advanced degrees at the Master's or Doctoral level. That is, three (.2%) reported a bachelor's degree, 1,037 (59%) reported a Master's degree, 670 (38.1%) reported a Doctoral degree, two (.1%) reported a medical degree, and 46 (2.6%) reported other. Some examples of additional degrees not otherwise listed included Education Specialist (Ed. S.); a combination of a Master's degree and Certificate of Advanced Study (CAS); and a post-Master's degree/post-Master's coursework.

In regard to years in clinical practice, 251 (14.3%) reported 0-5 years in clinical practice, 357 (20.3%) reported 6-10 years in clinical practice, 280 (15.9%) reported 11-15 years in clinical

practice, 228 (13%) reported 16-20 years in clinical practice, and 642 (36.5%) reported more than 20 years of clinical practice.

Although the participants were pulled from two North Carolina organizations, 1561 (88.7%) participants currently practice in North Carolina, and 197 (11.2%) currently practice outside of the state. Other states reported were Arizona, Colorado, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, Missouri, Mississippi, New York, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Washington, D.C., and West Virginia.

Table 3.2

*Demographic Data of Participants*

| | Frequency (Percent of Total) |
|---|---|
| Highest degree earned | |
| Bachelors | 3 (.2%) |
| Masters | 1037 (59%) |
| Doctoral | 670 (38%) |
| Medical | 2 (.1%) |
| Other | 46 (2.6%) |
| Years of clinical practice | |
| 0-5 | 251 (14.3%) |
| 6-10 | 357 (20.3%) |
| 11-15 | 280 (15.9%) |
| 16-20 | 228 (13%) |
| Over 20 | 642 (36.5%) |

Knowledge of Aphasia

As presented in Table 3.3, 1,503 of the 1,758 respondents (85.5%) indicated having heard of aphasia, whereas 206 (11.7%) and 49 (2.8%) of respondents indicated that the disorder sounded familiar or had not been heard of, respectively. A similar trend was observed across each individual occupation surveyed; more respondents indicated having heard of aphasia than the other two choices (Table 3.3). There was a statistically significant relationship between occupation and familiarity with the term *aphasia*, $X^2$ (6, n=1758) = 175.816, p<.001.

Table 3.3

*Participants by Profession Having Heard of Aphasia*

| | Yes | Sounds Familiar | No | Total |
|---|---|---|---|---|
| Counselor/therapist | 662 (74.8%) | 176 (19.9%) | 47 (5.3%) | 885 |
| Psychologist | 736 (97.5%) | 19 (2.5%) | 0 | 755 |
| Social worker | 8 (88.9%) | 0 | 1 (11.1%) | 9 |
| Other | 97 (89%) | 11 (10.1%) | 1 (.9%) | 109 |
| Total | 1503 | 206 | 49 | 1758 |

Importantly, other variables may have better revealed the likelihood of having knowledge of aphasia, including highest degree earned and years in clinical practice. Considering the relationship between highest degrees earned and whether they had ever heard of aphasia. Of the three participants with a Bachelor's degree, two indicated that they had heard of aphasia and one indicated no, they had not. Of the 1,037 participants holding a Master's degree, 818 (78.9%) reported familiarity with the disorder, 178 (17.2%) reported that it sounded familiar, and 41 (4%) reported that they had not heard of aphasia. Of the 670 with a doctoral degree, 641 (95.7%) reported familiarity with aphasia, 23 (3.4%) that the word sounded familiar, and six (.9%)

reported no familiarity with aphasia. Of the two participants holding medical degrees, one indicated familiarity, and one indicated no familiarity. Of the 46 that indicated a degree different than the ones listed, 89.1% of them reported yes, they had heard of aphasia, whereas 11.7% indicated aphasia sounded familiar, and 2.8% reported no. Following a statistical analysis of these data, there is a significant correlation between the highest degree earned and familiarity with aphasia, $X^2$ (8, n=1758) = 121.015, p<.001. This suggests that as the degree earned increases, it is more likely that the individual has heard of aphasia.

Years of clinical practice might also be correlated with having heard of aphasia. Of the participants who indicated 0-5 years of practice, 196 (78.1%) reported that they had heard of aphasia, while 44 (17.5%) indicated it sounded familiar, and 11 (4.4%) reported no familiarity. Of the respondents who reported 6-10 years of practice, 281 (78.7%) indicated yes, 54 (15.1%) indicated the disorder sounded familiar, and 22 (6.2%) indicated no. Of those with 11-15 years of practice, 220 (78.6%) reported yes, they had heard of aphasia, 54 (19.3%) indicated it sounded familiar, and six (2.1%) reported no, they had not heard of aphasia. Following the same trend, the majority of participants with 16-20 years of practice indicated yes, they had heard of aphasia (199 or 87.3%), while 25 (11%) indicated that it sounded familiar, and four (1.8%) indicated no, they had not heard of the disorder. The majority of our participants surveyed had more than 20 years of experience (642 or 36.5%) and of those individuals, 607 (94.5%) indicated they had heard of aphasia, 29 (4.5%) reported that aphasia sounded familiar, and six (.9%) indicated no, they had not heard of aphasia. Following a statistical analysis of these data, there is a significant correlation between the years of clinical experience and familiarity with aphasia, $X^2$ (8, n=1758) = 90.399, p<.001. This suggests that as the years of clinical experience increases, it is more likely that the individual has heard of aphasia.

However, not all participants who had heard of aphasia were able to identify its very general definition (i.e., a language disorder) from a field containing seven other disorder types compiled from the DSM-5 (i.e., eating, sleep/wake, movement, swallowing, speech, hearing, dissociative). Of the 1,758 persons responding, 1,149 (65.4%) correctly selected that aphasia was a language disorder (Table 3.4). The next most frequently requested response was that aphasia was a speech disorder with 205 (28.7%) persons answering with this choice. Of the disorder types that remained, each had 27 or fewer responses. Because more than half of the cross-tabulation cells for the question of definition had counts of fewer than five, the findings of the chi-square analysis were less reliable and are thus not reported.

Table 3.4

*Definition of Aphasia Chosen by Profession*

| | Counselor/Therapist | Psychologist | Social Worker | Other |
|---|---|---|---|---|
| Eating | 4 (.5%) | 0 | 0 | 0 |
| Sleep/wake | 24 (2.7%) | 1 (.1%) | 1 (11.1%) | 0 |
| Language | 534 (60.3%) | 534 (70.7%) | 6 (66.7%) | 75 68.8%) |
| Movement | 18 (2%) | 1 (.1%) | 0 | 0 |
| Swallowing | 21 (2.4%) | 4 (.5%) | 0 | 2 (1.8%) |
| Speech | 260 (29.4%) | 212 (28.1%) | 2 (22.2%) | 31 28.4%) |
| Hearing | 2 (.2%) | 1 (.1%) | 0 | 0 |
| Dissociative | 22 (2.5%) | 2 (.3%) | 0 | 1 (.9%) |

Years of practice had also been compared to respondents' chosen definitions of aphasia. Of those reported to have 0-5 years of practice, the vast majority of participants indicated aphasia was a language disorder (150 or 59.8%). 79 (31.5%) indicated aphasia was a speech disorder, while less than eight (3%) in each respective definition category was indicated as the correct definition of aphasia. Of the 357 participants with 6-10 years of practice, the same trend was

followed. 222 (62.2%) indicated aphasia was a language disorder, while 104 (29.1%) reported it to be a speech disorder, and less than 10 (3%) in each respective category indicated aphasia was an eating disorder, a sleep/wake disorder, a movement disorder, a swallowing disorder, a hearing disorder, or a dissociative disorder. There were 280 participants with 11-15 years of practice. 188 (67.1%) indicated aphasia was a language disorder, 67 (23.9%) indicated it to be a speech disorder and remaining categories received less than 9 (3%), respectively. Of those with 16-20 years of experience, 152 (66.7%) reported aphasia was a language disorder, 66 (28.9%) indicated it was a speech disorder, and each remaining category received less than four (2%), respectively. Of the 642 with reported practice of more than 20 years, 437 (68.1%) reported aphasia was a language disorder, while 189 (29.4%) indicated it was a speech disorder. Of the remaining 16 participants with more than 20 years of practice, half indicated aphasia was a swallowing disorder, while four (.6%) indicated it was a dissociative disorder, three (.5%) reported it was a sleep/wake disorder, and one (.2%) reported it as an eating disorder. Because more than half of the cross-tabulation cells had counts of fewer than five, the findings of the chi-square analysis were less reliable and are thus not reported.

Researchers also analyzed the data to find potential associations between the participants' highest degree earned with their chosen definition of aphasia. The majority of each degree correctly defined aphasia as a language disorder. Of the three individuals with a Bachelor's degree, two of them (66.7%) identified aphasia as a language disorder and one defined it as a sleep/wake disorder. Of the 1,037 participants with Master's degrees, 662 (63.8%) reported aphasia was a language disorder, 287 (27.7%) reported it as a speech disorder, while less than 26 in the remaining categories reported it as one of the other definitions. The same trend was found among those with Doctoral degrees; 452 (67.5%) identified aphasia as a language disorder, 206

(30.7%) reported it as a speech disorder and less than six individuals reported aphasia as belonging under one of the remaining categories. Both participants with a medical degree correctly identified aphasia as a language disorder, while those with a different degree mostly indicated aphasia was a language disorder (31; 67.4%). 12 participants (26.1%) indicated aphasia was a speech disorder, and three individuals reported otherwise in remaining categories. Because more than half of the cross-tabulation cells had counts of fewer than five, the findings of the chi-square analysis were less reliable and are thus not reported.

To distinguish between those simply guessing at a response and those answering with confidence, respondents were asked to indicate their level of confidence in the definition chosen (Table 3.5). Those indicating that they were confident that aphasia was a language disorder accounted for 682 (59.4%) of the responses, with 429 (37.3%) being somewhat confident and 38 (3.3%) only guessing. Importantly, 261 (51.7%) and 223 (44.2%) of the respondents who incorrectly identified aphasia as a speech disorder were very or somewhat confident, respectively, with only 21 (4.2%) guessing with this response. As is shown in Table 3.5, the remaining incorrect choices were seldom made with confidence. Statistical analysis comparing the definition chosen with confidence of its accuracy was found to be statistically significantly associated, $X^2$ (14, n=1758) = 462.254, p<.001. This suggests that accurate selection of the aphasia definition was associated with higher degrees of confidence in that selection, whereas inaccurate selections were associated with higher rates of guessing.

Table 3.5

*Professionals' Confidence (Very Confident, VC; Somewhat Confident, SC; Only Guessing, OG) in Chosen Definitions of Aphasia*

| | VC | SC | OG | Total |
|---|---|---|---|---|
| Eating | 0 | 1 (25%) | 3 (75%) | 4 |
| Sleep/wake | 1 (3.8%) | 6 (23.1%) | 19 (73.1%) | 26 |
| Language | 682 (59.4%) | 429 (37.3%) | 38 (3.3%) | 1149 |
| Movement | 1 (5.3%) | 9 (47.4%) | 9 (47.4%) | 19 |
| Swallowing | 3 (11.1%) | 14 (51.9%) | 10 (37%) | 27 |
| Speech | 261 (51.7%) | 223 (44.2%) | 21 (4.2%) | 505 |
| Hearing | 0 | 3 (100%) | 0 | 3 |
| Dissociative | 1 (4%) | 11 (44%) | 13 (52%) | 25 |
| Total | 949 | 696 | 113 | 1758 |

Service Provision

Investigators were interested in learning the extent to which mental health providers have been involved in the care of a person with aphasia. Of the 885 counselor/therapists, 560 (63.3%) reported they had not provided services to a person with aphasia, 163 (18.4%) reported they had definitely provided services to a person with aphasia, and 162 (18.3%) indicated they had maybe provided services to a person with aphasia. In regard to psychologists, 320 (42.4%) reported they had definitely provided services to a person with aphasia, 307 (40.7%) indicated no and 128 (17%) reported maybe. Of the 9 social workers surveyed, 4 (44.4%) reported yes, they had definitely provided services to a person with aphasia, 3 (33.3%) indicated maybe, and 2 (22.2%) indicated no. Of the participants who indicated their occupation as "other", 55 (50.5%) reported no, they had not provided services to a person with aphasia, 36 (33%) said yes, and 18 (16.5%) indicated maybe. A statistically significant relationship was observed between the occupation of the respondent and experience providing services to persons with aphasia, $X^2$ (6, n-=1758) =

122.847, p<.001. This suggests that psychologists were the most likely occupation to have worked with persons with aphasia compared to the other occupations represented in the sample.

Table 3.6

*Provision of Services to Person with Aphasia by Profession*

| | Yes, definitely | Maybe | No |
|---|---|---|---|
| Counselor/Therapist | 163 (18.4%) | 162 (18.3%) | 560 (63.3%) |
| Psychologist | 320 (42.4%) | 128 (17%) | 307 (40.7%) |
| Social Work | 4 (44.4%) | 3 (33.3%) | 2 (22.2%) |
| Other | 36 (33%) | 18 (16.5%) | 55 (50.5%) |
| Total | 523 | 311 | 924 |

When looking at years of practice, researchers found that the higher the amount of years practiced, the more likely a mental health professional had provided services to those with aphasia. For example, of the five categories, the individuals with the most experience (those in the more than 20 years bracket) had the highest percentage of professionals who had given services to persons with aphasia (39.3%) compared to 0-5 years (21.9%), 6-10 years (25.2%), 11-15 years (21.8%) and 16-20 years (28.5%) of experience. Looking specifically among the categories, the majority of those with 0-5 years of practice (151; 60.2%) indicated they had not provided services to persons with aphasia, while 55 (21.9%) reported yes, and 45 (17.9%) reported maybe. The same trend can be seen in every other category. Within 6-10 years of practice, 203 (56.9%) reported no, they had not provided services to those with aphasia, while 90 (25.2%) said yes, and 64 (17.9%) indicated maybe. Of the 280 individuals with 11-15 years of practice, 161 (57.5%) said no, 61 (21.8%) reported yes and 58 (20.7%) said maybe. 122 out of 228 (53.5%) reported no from the 16-20 years of practice bracket, while 65 (28.5%) said yes and

41 (18%) said maybe. Finally, out of 642 individuals with over 20 years of experience, 287 (44.7%) indicated no they had not provided services to those with aphasia, while 252 (39.3%) said yes, and 103 (16%) said maybe.

The highest degree earned was also a point of focus in terms of serving persons with aphasia. No matter the level of degree, the majority of each category (Bachelor's, Master's, Doctoral, Medical and other) indicated no they had not provided services to those with aphasia. However, among those that indicated yes, a higher percentage was among those with doctoral degrees (43.6%), compared to Master's degrees (21%) and the other categories. Looking at individual categories, the three individuals with a Bachelor's degree indicated either no (two; 66.7%) or yes (1; 33.3%). Of those with Master's degrees, 605 (58.3%) indicated no, while 218 (21%) said yes and 214 (20.6%) said maybe. Of the 670 with a doctoral degree, 294 (43.9%) indicated no, while 292 (43.6%) reported yes and 84 (12.5%) said maybe. Of the two individuals with a medical degree, both of them indicated no, they had not provided services to those with aphasia. Finally, of the 46 individuals with a degree other than the ones specified, 21 (45.7%) indicated no, while 13 (28.3%) said maybe and 12 (26.1%) said yes.

Learning about Aphasia

According to Table 3.7, almost half of the mental health professionals surveyed, 875 (49.8%) first learned of aphasia via academic coursework, 271 (15.4%) learned through clinical practice (e.g. approached by person with aphasia for services), 202 (11.5%) learned from an "other" source, 155 (8.8%) learned through personal experience, 124 (7.1%) learned from a media source, 69 (3.9%) had not heard of aphasia before taking the survey, and 62 (3.5%) learned of aphasia through continuing education opportunities. Specific to each occupation, the majority of counselor/therapists (315; 35.5%), psychologists (509; 67.4%), and "other"

professionals (49; 45%) reported having heard of aphasia through academic coursework. Social workers, however, reported having heard of aphasia through clinical practice (3 or 33.3%) the most. Beyond the learning opportunities presented as choices in the study, other responses provided by respondents included knowing someone with the disorder, hearing about it from an SLP, reading about it either in journal articles or fictional books, previous work experience, or could not recall. Data suggests that most participants, regardless of occupation, first learned about aphasia through academic coursework, $X^2$ (18, n=1758) = 286.357, p<.001.

Table 3.7

*Initial Opportunity to Learn about Aphasia (Academic Coursework, AC; Clinical Practice, CP; Personal Experience, PE; Media Source, MS; Continuing Education, CE; Never Heard of Aphasia, NA; Other, O) by Profession*

| | Coun/Ther | Psychologist | SocW | Other | Total |
|---|---|---|---|---|---|
| AC | 315 (35.6%) | 509 (67.4%) | 2 (22.2%) | 49 (45%) | 875 |
| CP | 127 (14.4%) | 127 (16.8%) | 3 (33.3%) | 14 (12.8%) | 271 |
| PE | 112 (12.7%) | 30 (4%) | 2 (22.2%) | 11 (10.1%) | 155 |
| MS | 108 (12.2%) | 10 (1.3%) | 1 (11.1%) | 5 (4.6%) | 124 |
| CE | 41 (4.6%) | 16 (2.1%) | 0 | 5 (4.6%) | 62 |
| NA | 67 (7.6%) | 0 | 1 (11.1%) | 1 (.9%) | 69 |
| O | 115 (30%) | 63 (8.3%) | 0 | 24 (22%) | 202 |
| Total | 885 | 755 | 9 | 109 | 1758 |

How each profession tended to first learn of aphasia was compared to the definition of aphasia chosen. Of the 1,149 individuals who reported aphasia was a language disorder, more than half (611 or 53.2%) indicated they first learned of aphasia through academic coursework, while 176 (15.3%) reported clinical practice, 124 (10.8%) reported learning through "other" sources, 93 (8.1%) from personal experience, 80 (7%) from a media source, 42 (3.7%) from a continuing education opportunity, and 23 (2%) reported they had never heard of aphasia. Of the

505 respondents who reported aphasia was a speech disorder, the majority (245; 48.5%) indicated they learned through academic coursework, while 83 (16.4%) reported clinical practice, 62 (12.3%) reported learning from another source, 56 (11.1%) from personal experience, 29 (5.7%) from a media source, 20 (4%) from continuing education, and 10 (2%) reported they had never heard of aphasia. Generally speaking, persons responding with one of the other possible definitions often indicated that this study was their first introduction to aphasia.

Continuing Education Opportunities Completed

Although only some respondents indicated that they had originally learned about aphasia through continuing education opportunities, it is considered relevant to examine the number of respondents who have at any point in their careers participated in such training. Of the 885 counselor/therapists surveyed, 783 (88.5%) indicated no, they had not participated in continuing education regarding this population and 102 (11.5%) reported yes they had. Of the 755 psychologists surveyed, 582 (77.1%) indicated no and 173 (22.9%) indicated yes. Following the same trend, eight (88.9%) social workers surveyed reported not having attended any continuing education opportunities, while one (11.1%) indicated yes. Finally, 79 (72.5%) of those who indicated "other" as their occupation, reported no, while 30 (27.5%) reported yes. The data suggests that for all occupations, a statistically significant majority of respondents indicated that they had not participated in continuing education opportunities on the topic of aphasia, $X^2$ (3, n=1758) = 45.228, p<.001.

Table 3.8

*Professions Participation in Continuing Education Opportunities*

| | Yes | No | Total |
|---|---|---|---|
| Counselor/therapist | 102 (11.5%) | 783 (88.5%) | 885 |
| Psychologist | 173 (22.9%) | 582 (77.1%) | 755 |
| Social Worker | 1 (11.1%) | 8 (88.9%) | 9 |
| Other | 30 (27.5%) | 79 (72.5%) | 109 |
| Total | 306 | 1452 | 1758 |

Confidence in Providing Ethical Services to Persons with Aphasia

Participants were asked to indicate their confidence in providing services to a person with aphasia. Overall, 465 (26.5%) of participants felt they were neither confident nor doubtful (NCND) to provide services to a person with aphasia, whereas, 402 (22.9%) indicated they felt somewhat doubtful (SD), 410 (23.3%) indicated they felt very doubtful (VD), 318 (18.1%) were somewhat confident (SC), and 163 (9.3%) were very confident (VC). More specific to the occupations, 257 (29%) of the counselor/therapist respondents, indicated they were neither confident nor doubtful, 222 (25.1%) reported they were somewhat doubtful, 217 (24.5%) reported they were very doubtful, 135 (15.3%) indicated they were somewhat confident, and 54 (6.1%) reported they were very confident in providing services to a person with aphasia. Of the psychologist participants, 180 (23.8%) indicated they were neither confident nor doubtful, 158 (20.9%) reported they were somewhat doubtful, 156 (20.7%) reported they were very doubtful, 166 (22%) indicated they were somewhat confident, and 95 (12.6%) reported they were very confident in providing services to a person with aphasia. The same trend was found among social workers. The majority of social work participants (5; 55.6%) indicated they were neither confident nor doubtful, whereas 11.1% (one individual) indicated somewhat doubtful, very

doubtful, somewhat confident or very confident, respectively. Of the participants who indicated "other" as their occupation, 36 (33%) indicated they felt very doubtful, 23 (21.1%) indicated they were neither confident nor doubtful, 402 (19.3%) reported feeling somewhat doubtful, 318 (14.7%) felt somewhat confident, and 163 (11.9%) reported they were very confident. A statistically significant association was found between occupation and confidence in providing services to this population, $X^2$ (12, n=1758) = 50.965, p<.001. This suggests that for each occupation, respondents were less confident in providing services to persons with aphasia.

Table 3.9

*Professionals' Confidence Providing Services to Persons with Aphasia*

| | Coun/Ther | Psychologist | SocW | Other | Total |
|---|---|---|---|---|---|
| VC | 54(6.1%) | 95(12.6%) | 1(11.1%) | 13(11.9%) | 163 |
| SC | 135(15.3%) | 166(22%) | 1(11.1%) | 16(14.7%) | 318 |
| NCND | 257(29%) | 180(23.8%) | 5(55.6%) | 23(21.1%) | 465 |
| SD | 222(25.1%) | 158(20.9%) | 1(11.1%) | 21(19.3%) | 402 |
| VD | 217(24.5%) | 156(20.7%) | 1(11.1%) | 36(33%) | 410 |
| Total | 885 | 755 | 9 | 109 | 1758 |

The participants' highest degree earned was also associated with their confidence of providing services to a person with aphasia in an ethical manner. Of those who indicated a Bachelor's degree as their highest degree earned, one (33.3%) felt neither confident nor doubtful, somewhat doubtful, and very confident, respectively. Of those reporting a master's degree as their highest degree earned, 294 (28.4%) indicated they felt neither confident nor doubtful, whereas 266 (25.7%) felt very doubtful, 250 (24.1%) felt somewhat doubtful, 167 (16.1%) indicated they were somewhat confident, and 60 (5.8%) reported they were very confident in providing services in an ethical manner to those with aphasia. Of the 670 participants with a

doctoral degree, 159 (23.7%) felt neither confident nor doubtful, 138 (20.6%) reported they were somewhat doubtful, 133 (19.9%) felt very doubtful, 142 (21.2%) indicated they were somewhat confident, and 98 (14.6%) felt very confident in their ability to provide services in an ethical manner to a person with aphasia. Of the two participants with a medical degree, one reported feeling neither confident nor doubtful, and the other indicated feeling very doubtful in providing ethical services to a person with aphasia. Of those that indicated their highest degree earned was not listed, the highest percentage felt somewhat doubtful (13; 28.3%), while 10 (21.7%) felt neither confident nor doubtful or very doubtful, nine (19.6%) reported feeling somewhat confident, and four (8.7%) indicated feeling very confident in their ability to provide services to a person with aphasia in an ethical manner. Data analysis suggested that there was a statistically significant relationship between highest degree earned and confidence in providing ethical services to this population, $X^2$ (16, n=1758)-=57.953, p<.001, suggesting that regardless of the degree earned, respondents still lacked confidence in providing ethical services to persons with aphasia.

Table 3.10

*Highest Degree Earned and Participants' Confidence (Very Confident, VC; Somewhat Confident, SC; Neither Confident Nor Doubtful, NCND; Somewhat Doubtful, SD, Very Doubtful, VD) Providing Services to Persons with Aphasia*

| | Bachelors | Masters | Doctorate | Medical | Other | Total |
|---|---|---|---|---|---|---|
| VC | 1 (33.3%) | 60 (5.8%) | 98 (14.6%) | 0 | 4 (8.7%) | 163 |
| SC | 0 | 167 (16.1%) | 142 (21.2%) | 0 | 9 (19.6%) | 318 |
| NCND | 1 (33.3%) | 294 (28.4%) | 159 (23.7%) | 1 (50%) | 10(21.7%) | 465 |
| SD | 1 (33.3%) | 250 (24.1%) | 138 (20.6%) | 0 | 13(28.3%) | 402 |
| VD | 0 | 266 (25.7%) | 133 (19.9%) | 1 (50%) | 10(21.7%) | 410 |
| Total | 3 | 1037 | 670 | 2 | 46 | 1758 |

In addition, years of clinical practice were compared to confidence levels in providing serves to persons with aphasia. Overall, 465 (26.5%) of participants felt they were neither confident nor doubtful to provide services to a person with aphasia, whereas, 402 (22.9%) indicated they felt somewhat doubtful, 410 (23.3%) indicated they felt very doubtful, 318 (18.1%) were somewhat confident, 163 (9.3%) were very confident. The data analyzed via a Pearson's chi-square was considered statistically significant ($\chi^2$ (16) = 33.162, $p$ <.001). Of those with 0-5 years of practice (251), the majority (77; 30.7%) indicated they were neither confident nor doubtful in providing services to a person with aphasia, while 63 (25.1%) were somewhat doubtful, 52 (20.7%) were very doubtful, 38 (15.1%) were somewhat confident, and 21 (8.4%) were very confident. Those with 6-10 years (357) of practice reported feeling neither confident nor doubtful the most with 105 (29.4%), while 91 (25.5%) felt somewhat doubtful, 77 (21.6%) were very doubtful, 58 (16.2%) were somewhat confident, and 26 (7.3%) were very confident in providing services to this population. Of the 280 participants with 11-15 years of experience, the majority felt neither confident nor doubtful (85; 30.4%), 68 (24.3%) felt very doubtful, while 65 (23.2%) felt somewhat doubtful, 46 (16.4%) were somewhat confident, and

16 (5.7%) were very confident. Of those with 16-20 years of practice (228), the majority (63; 27.6%) felt very doubtful in providing services to this population in an ethical manner, while 56 (24.6%) felt neither confident nor doubtful, 47 (20.6%) reported feeling somewhat doubtful, 42 (18.4%) indicated they were somewhat confident, and 20 (8.8%) were very confident they could provide services to this population in an ethical manner. As previously mentioned, the majority of the participants in this survey reported more than 20 years of experience (642) and of those, most (150; 23.4%) indicated they were very doubtful they could provide services in an ethical manner to persons with aphasia. 142 (22.1%) reported feeling neither confident nor doubtful, 136 (21.2%) felt somewhat doubtful, and 134 (20.9%) felt somewhat confident. However, this category of participants had the highest percentage compared to the other "years of practice" categories (80; 12.5%) in feeling very confident in their ability to provide services in an ethical manner to persons with aphasia.

Table 3.11

*Years of Clinical Practice (YCP) and Confidence (Very Confident, VC; Somewhat Confident, SC; Neither Confident Nor Doubtful, NCND; Somewhat Doubtful, SD, Very Doubtful, VD) in Providing Services*

| | 0-5 | 6-10 | 11-15 | 16-20 | Over 20 | Total |
|---|---|---|---|---|---|---|
| VC | 21 (8.4%) | 26(7.3%) | 16(5.7%) | 20(8.8%) | 80(12.5%) | 163 |
| SC | 38(15.1%) | 58(16.2%) | 46(16.4%) | 42(18.4%) | 134(20.9%) | 318 |
| NCND | 77(30.7%) | 105(29.4%) | 85(30.4%) | 56(24.6%) | 142(22.1%) | 465 |
| SD | 63(25.1%) | 91(25.5%) | 65(23.2%) | 47(20.6%) | 136(21.2%) | 402 |
| VD | 52(20.7%) | 77(21.6%) | 68(24.3%) | 63(27.6%) | 150(23.4%) | 410 |

Investigators analyzed the data to look at the association between the definition of aphasia the participants chose and their confidence of providing services to those with aphasia.

Of those who indicated aphasia was a language disorder, 298 (25.9%) considered themselves neither confident nor doubtful of providing services to a person with aphasia, 264 (23%) felt somewhat doubtful, 253 (22%) felt very doubtful, 213 (18.5%) felt somewhat confident, and 121 (10.5%) felt very confident. Of the 505 individuals who indicated aphasia was a speech disorder, 137 (27.1%) felt neither confident nor doubtful, 122 (24.2%) reported feeling somewhat doubtful, 108 (21.4%) felt very doubtful, 99 (19.6%) felt somewhat confident, and 39 (7.7%) indicated they were very confident in providing services to a person with aphasia. There were less than 28 participants in each of the remaining categories, and of those, the majority reported feeling neither confident nor doubtful or very doubtful in their ability to provide services to those with aphasia in an ethical manner.

Table 3.12

*Confidence of Service (Very Confident, VC; Somewhat Confident, SC; Neither Confident Nor Doubtful, NCND; Somewhat Doubtful, SD, Very Doubtful, VD) and Definition of Aphasia*

| | VC | SC | NCND | SD | VD | Total |
|---|---|---|---|---|---|---|
| Eating | 0 | 0 | 1(25%) | 0 | 3 (75%) | 4 |
| Sleep/wake | 0 | 0 | 6 (23.1%) | 5 (19.2%) | 15(57.7%) | 26 |
| Language | 121(10.5%) | 213(18.5%) | 298(25.9%) | 264(23%) | 253 (22%) | 1149 |
| Movement | 0 | 1 (5.3%) | 4 (21.1%) | 5 (26.3%) | 9 (47.4%) | 19 |
| Swallowing | 2 (7.4%) | 2 (7.4%) | 12 (44.4%) | 3 (11.1%) | 8 (29.6%) | 27 |
| Speech | 39 (7.7%) | 99 (19.6%) | 137(27.1%) | 122(24.2%) | 108(21.4%) | 505 |
| Hearing | 0 | 0 | 1 (33.3%) | 1 (33.3%) | 1 (33.3%) | 3 |
| Dissociative | 1 (4%) | 3 (12%) | 6 (24%) | 2 (8%) | 13 (52%) | 25 |
| Total | 163 | 318 | 465 | 402 | 410 | 1758 |

# CHAPTER FOUR: DISCUSSION

## Conclusions and Implications

The purpose of this study was to gain insight into mental health professionals' knowledge of and experience with aphasia. Findings were rendered following data analysis of 1,758 currently practicing mental health professionals with membership in The North Carolina Board of Licensed Professional Counselors or The North Carolina Psychology Board. An electronic survey was developed and sent with an email invitation encouraging the recipients to complete the survey. The survey consisted of questions related to demographics, the aphasia definition, clinical experiences with the aphasia population, educational/training opportunities, and levels of confidence when providing services to this population. General findings suggested that the majority of respondents had heard of aphasia and correctly defined it as a language disorder, and more advanced degrees and more years in clinical practice was often associated with increased likelihood of experience with the population and confidence in providing service to this population. Interestingly, most of the participants, who were familiar with aphasia, first learned of the disorder while in an academic program for their respective field; however, very few indicated that they had participated in a continuing education course on the topic.
These data shed light on the current state of mental health resources being received by persons with aphasia as well as the limited availability of aphasia-trained providers.

## Mental Health Professionals Knowledge of Aphasia

Although the majority of respondents indicated that aphasia was a communication disorder (i.e., a disorder of speech or language affecting the ability to communicate through spoken language), there appears to be confusion between the processes involved in speech

production versus language formulation for many of the participants. Speech is considered, "a series of complex movements that alter and mold the basic tone created by voice into specific, decodable sounds" (National Institute on Deafness and other Communication Disorders, 2016, para.3). Speech requires particularly coordinated movements of various muscles from the chest to the head. Language, on the other hand, consists of a conventionally used system that can utilize spoken language as much as other types of communication (e.g., signs, gestures, writing). Where speech is more motoric in nature, language is more conceptual.

Understanding the inherent difference between the processes of speech and language will likely lead to a better understanding of the difference between neurogenic disorders of speech and language. The difference may appear irrelevant at first glance, but the manner in which the disorders manifest will vary considerably and has considerable impact on communication strategies used. To illustrate, apraxia of speech and dysarthria represent what are referred to as motor speech disorders. These disorders affect the ability to plan and program the instructions for sequential muscle contractions for speech and execution of those instructions, respectively. Motor speech disorders do not themselves affect the individual's ability to understand or retrieve words to communicate; instead they affect the output mechanism of speech. However, aphasia is a language disorder resulting from brain injury; it is most commonly associated with difficulty understanding what is heard or retrieving appropriate semantics, syntax, and morphology to convey the intended message.

Not only are their definitions inherently different, but in the profession of speech-language pathology, assessment and management of these disorders varies considerably. Similarly, the communication strategies and therapeutic techniques used by the mental health professional working with the persons with acquired neurogenic communication disorders will

also vary considerably. Ensuring that mental health professionals are aware of these fundamental differences will require significant training to ensure effective communication with clients. In a study by Jensen et al. (2015), nurses received training by two SLPs and a researcher to better communicate with their patients with aphasia in a stroke unit. By the end of the training, the nurses reported a significantly higher understanding of aphasia and reported less frustration following communication with patients with aphasia. Similarly, a literature review of various studies focused on training health professionals in order to better communicate and enhance the overall quality of life for these individuals while in their care (Burns, Baylor, Morris, McNalley, & Yorkston, 2012). Researchers concluded that training these professionals has great potential in future care of this population. A third example can be found in a study by Legg, Young, and Bryer (2005), in which medical students received training to effectively obtain case-history information from patients with aphasia. Following the training, which included implementation of communication strategies, the students felt much more confident and significantly improved their skills in this area. Given the success of training other healthcare professions to communicate more effectively with persons with aphasia, similar outcomes would likely be observed when training mental health professionals on the topic.

Experience Providing Services to Persons with Aphasia

Although the majority of respondents had heard of aphasia and most of those knew it was a communication disorder, the vast majority of respondents reported no experience working with a client with aphasia. Most counselors indicated “no”, while psychologists were more evenly distributed between “yes, definitely” and “no”. It is difficult to say why this is the case. Several possible explanations can be provided. For example, perhaps health professions working with these clients are not making referrals for mental health services when signs and symptoms of

mental disorders present themselves. If this is the case, then educating health professions, including speech-language pathologists, is necessary to ensure that referrals are made appropriately. As shown in an article by Sekhon, Douglas, and Rose (2015), SLPs did not feel comfortable addressing psychological well-being in this population, requesting assistance from mental health professionals. This further supports the need for these two fields to learn from each other when working with persons with aphasia.

Referrals may also be lacking because the patient may be out of the continuum of care by the time signs or symptoms of a mental health disorder becomes apparent. Mental health may not be the initial concern following a stroke, and clients may be discharged home and out of direct contact with medical professionals when these signs occur. Therefore, they would not have the same opportunity for immediate communication with professionals who can make those referrals like they would if they were still hospitalized. This leads the discussion toward educating caregivers. Those caring for the survivor of the stroke may not be aware of signs/symptoms of mental disorders nor know how to refer or who to refer to when those signs arise. This suggests a great need for educating these individuals in regard to the prevalence of mental health disorders in aphasia and potential signs and symptoms of those disorders. It is within the SLP's scope of practice to educate caregivers on the effects of aphasia not directly related to communication, such as mental health disorders that can arise subsequent to aphasia, as it can affect their quality of life,

It is also possible that the lack of experience working with persons with aphasia is due to typical barriers associated with avoidance of mental health services. According to a study by Baron, et al. (2013), many individuals express an interest or willingness to seek out help from a mental health profession; however, a much lower percentage actually follow through with an

appointment. People avoid seeking counseling for various reasons, including reasons that are psychological, financial, and cultural in nature. For example, Vogel, et al (2007) listed seven avoidance factors that most definitely and may perhaps interfere with the help-seeking process. These include social stigma, treatment fears, fear of emotion, anticipated utility/risks, self-disclosure, social norms, and self-esteem. The authors go on to suggest that the "different avoidance factors are likely to vary in their intensity and importance depending on characteristics of the problem, the setting, the individual (e.g., sex, age), as well as social and cultural influences (Kushner & Sher, 1989)" (as cited by Vogel, et al, 2007, p.413). Another potential barrier is cost (Mojtabai, 2005). Six years of data received from the National Health Interview Survey (NHIS) was used in a study by Mojtabai (2005) to determine cost barriers in the health care system, including psychological services. "Between 1997 and 2002, the proportion of NHIS participants with significant psychological distress who reported that they could not afford mental health care grew from 15.6% to 20.0%" (p. 2011). A third barrier is culture. "The experience of illness itself, including how the illness is interpreted and what meanings are attached, and the outcomes, including how individuals approach seeking help for what has been identified as an illness, are shaped by culture" (Campbell & Long, 2014, p. 49). Culture can be perceived as a "social determinant" (p. 48). These are factors that are outside the medical realm that include belief systems of the individual or a group that impact the individual's decision making regarding mental health. Older individuals in particular may have specific preconceived notions of receiving psychological care, such as a belief that their psychological issue can be overcome by sheer willpower or can be overlooked altogether (Mojtabai, 2005).

A third possible reason why persons with aphasia are not being seen by mental health providers is related to the attitudes of the caregiver. According to Jaracz, et al. (2015),

caregivers, "experience adverse effects on their physical and emotional health, social activities, financial situation, and spiritual functioning. These consequences are termed, 'caregiver burden or strain' and are considered to be an important outcome of the caregiving process,"' (p.1011). Anderson, Linto, and Stewart-Wynne (1995) discussed that caregivers could be fearful of looking incapable of caring for their loved one if they seek out counseling. When thinking of long term disability following a stroke and potentially subsequent aphasia, quality of life and quality of care become especially relevant. The earlier caregivers seek out help, the earlier the pertinent issues can be solved, improving the lives of both the patient and their loved one.

Aphasia Training for Mental Health Providers

All persons with a diagnosis of acute aphasia may benefit from a protocol used by SLPs to identify and refer as appropriate clients with aphasia who are at risk for mental disorders. Assuming that SLPs and mental health professionals could coordinate something similar, it is possible that prevention and management of mental disorders in this population would lead to increases in quality of life as well as faster and greater recovery. Continuing education is an ideal avenue through which to provide the necessary training of mental health professionals. Although requirements for continuing education differ across states and professions, the health professions are required to complete continuing education as a part of maintaining licensure and certification (American Counseling Association, 2016; Association of Social Work Boards, 2016; Oncourse Learning Corporation, 2015). Results showed that few of the respondents had received continuing education on the topic, suggesting that this is an area SLPs can help address and improve. Whether there are limited continuing education openings or lack of attendance in the ones available, there is still a gap in this area that needs to be filled. It is part of the job of an SLP to educate paraprofessionals when encountering this population; so, structural opportunities

with expert instructors would be more beneficial than having MH professionals try to learn on their own. However, the impact of educating these professionals would be limited if there aren't many opportunities to treat this population.

Confidence in Providing Mental Health Services to Persons with Aphasia

Assuming persons with aphasia and their families are encouraged to and do reach out for services, there is still a concern that MH professionals are not capable or confident providing ethical treatment to this population. The vast majority of respondents indicated that they are neither confident nor doubtful, somewhat doubtful or very doubtful in being able to provide counseling in an ethical manner to persons with aphasia. According to the American Psychological Association (2010) document, "Ethical Principles of Psychologists and Code of Conduct" section 2.01(a), "Psychologists provide services, teach, and conduct research with populations and in areas only within the boundaries of their competence, based on their education, training, supervised experience, consultation, study, or professional experience"(p. 4). In the event of a psychologist encountering a population that is unfamiliar to them, they are required to attain proper training or education, as mentioned in section 2.01(c). Similarly, under the American Board of Examiners in Clinical Social Work code of ethics, these professionals are obligated to avoid incompetence and misrepresentation of their abilities when proving services (Center for Clinical Social Work, 2016). With regard to counselors, the American Counseling Association (ACA) Code of Ethics, section C.2.a, maintains that counselors must practice only in areas of competence. However, like psychologists, upon encountering a new population or area of interest, proper training and education is required (ACA, 2014). In this case, unless the MH professional undergoes proper education and training, there are not many options left for persons with aphasia, even if services have been sought.

Future Directions

As discussed, there are two main issues surrounding this topic. The first being that persons with aphasia are not seeking services for various reasons. SLPs, in particular, can address this problem by providing education to families/caregivers, advocating for patients when a mental health disorder is suspected, and undergoing training on steps to take when encountering a patient with a potential mental health disorder, including referral protocols. As mentioned previously, because people with aphasia may be out of the continuum of care by the time signs of a mental disorder occur, caregivers should be included in educational seminars regarding mental health in this population. The second issue is that MH professionals do not feel confident in managing a client with aphasia. This can be overcome by proper training including continuing education opportunities and workshops with expert instructors on the topic.

Limitations

Upon completing the study, several limitations were identified. First, the inclusion criteria should be more clearly stated and used in such a way as to rule out ineligible participants prior to them completing the survey. As it stands, the informed consent did not include clear inclusion and exclusion criteria. Therefore, anyone receiving the email was able to complete the survey, and the researchers were responsible for making inclusion and exclusion decisions after the fact. For example, investigators received a portion of surveys from individuals who were not currently practicing in mental health, such as retirees or administrative professionals.

Another limitation to the study was the failure to recruit a representative sample of persons in the field of social work. This could be due to the two state boards from which the participants were recruited. Clinical social workers may not frequently become members of either board, and therefore, were underrepresented in this participant pool. This is unfortunate

considering the significant role this profession plays in treating patients with mental health related problems, and it should certainly be addressed in future studies.

Another limitation was found in the sample. Those that completed the survey could have been limited to those who were more motivated in nature. Furthermore, the survey being an e-survey could be an issue in and of itself. For example, professionals like those in mental health may be bombarded with emails everyday, so receiving an additional email to complete a survey that is not immediately relevant to their daily life, may be overlooked and deleted. Also, an e-survey assumes that those receiving it would be e-literate and that may not be the case.

Finally, aphasia can also be discussed as *dysphasia*. Although not as common in the world of speech-language pathology, it may certainly be discussed as such. This could mean that MH professionals could be familiar with the disorder if presented as dysphasia rather aphasia. In future studies, it may be worth using both words initially and narrowing down the terminology to aphasia early in the study for clarification sake.

## Conclusions

Given the impact that mental health disorders can have on quality of life and long-term rehabilitation outcome, identifying individuals who present with symptoms and referring them to the appropriate mental health professional is paramount. Understanding the experience and knowledge of mental health providers is an initial step in creating protocols to facilitate, identify, refer, and intervene. The current study initiated this dialogue and provided important next steps to ensure that persons with aphasia are given the services needed to allow the highest quality of life and rehabilitation success. Furthermore, researchers call for interprofessional education between SLPs and mental health professionals in order to better care for this population.

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APPENDIX A: SURVEY

**Informed Consent Form**
**A Survey of Mental Health Professionals' Knowledge of Aphasia**

**What is the purpose of this research?**
You are invited to participate in a research study to identify current practices of mental health professionals (e.g., counselors, therapists, psychologists, psychiatrists) providing services to persons with aphasia.

**What will be expected of me?**
Information will be gathered using an online survey.

**How long with the research take?**
This survey will take approximately 5-minutes of your time to complete.

**How will you use my information?**
Data will be collected anonymously. It may be presented at a state or national convention or in a peer-reviewed publication at which time summary data for the whole group will be reported. Your identity and privacy will be protected. At the end of the survey, you will be invited to provide your email address to receive information about upcoming training opportunities related to the study findings. If you choose to provide this information, you understand that some degree of anonymity may be lost. You are also permitted to contact the primary investigator to receive this information, thus allowing your responses to remain anonymous.

**Can I withdraw from the study if I decide to?**
Participation in this research is voluntary, and you may stop at any time. If you choose to stop, you have the right to request that your data not be included in the study. If you choose not to participate or withdraw, there are no consequences to you.

**Is there any harm that I might experience from taking part in the study?**
There are no foreseeable risks to participating in this study.

**How will I benefit from taking part in the research?**
Your responses will be used to better understand current practice of mental health professionals providing services to persons with aphasia. It is hoped that this will improve training of mental health professionals as well as the services provided to persons with aphasia and their families.

**Who should I contact if I have questions or concerns about the research?**
Please feel free to ask questions regarding this study or your rights; questions may be directed to Dr. Leigh Odom, Associate Professor in the Department of Communication Sciences and Disorders at Western Carolina University, at KMOdom@email.wcu.edu or (828) 227-3834. If you have concerns about your treatment as a participant in this study, contact the chair of WCU's

Institutional Review Board through the office of Research Administration at WCU (828-227-7212).

1. By selecting yes below, you affirm that all of your questions regarding participation have been answered satisfactorily and that you consent to participate in this study.
- ❍ Yes
- ❍ No

2. What is your occupation?
- ❍ Counselor/Therapist
- ❍ Psychologist
- ❍ Social Worker
- ❍ Psychiatrist
- ❍ Other (please explain) _____

3. You indicated that you are a counselor/therapist. Which of the following best describes your clinical practice?
- ❍ Marriage and Family
- ❍ Mental Health
- ❍ Substance Abuse
- ❍ School
- ❍ Rehabilitation
- ❍ Other _____

4. You indicated that you are a psychologist. Which of the following best describes your clinical practice?
- ❍ Clinical
- ❍ Developmental
- ❍ School
- ❍ Other (please explain) _____

5. You indicated that you are a social worker. Which of the following best describes your clinical practice?
- ❍ Administration, Policy, and Research
- ❍ Child, Family, and School
- ❍ Community
- ❍ Gerontological
- ❍ Medical and Health
- ❍ Mental Health
- ❍ Substance Abuse
- ❍ Psychiatric
- ❍ Other (please explain)_____

6. You indicated that you are a psychiatrist. Which of the following best describes your clinical practice?

- ❍ General Adult
- ❍ Child and Adolescent
- ❍ Addiction
- ❍ Geriatric
- ❍ Other (please explain) _____

7. What is your highest degree earned?

- ❍ Bachelor's degree
- ❍ Master's degree
- ❍ Doctoral degree
- ❍ Medical degree
- ❍ Other _____

8. How many years have you been in clinical practice?

- ❍ 0-5 years
- ❍ 6-10 years
- ❍ 11-15 years
- ❍ 16-20 years
- ❍ More than 20 years

9. In what state do you currently practice?

10. Have you ever heard of aphasia?

- ❍ Yes
- ❍ Sounds familiar
- ❍ No

11. Given your current knowledge, what is aphasia?

- ❍ An eating disorder
- ❍ A sleep/wake disorder
- ❍ A language disorder
- ❍ A movement disorder
- ❍ A swallowing disorder
- ❍ A speech disorder
- ❍ A hearing disorder
- ❍ A dissociative disorder

12. Considering the previous question regarding the aphasia definition, how confident are you in your selection?

- ❍ Very confident
- ❍ Somewhat confident
- ❍ Only guessing

13. How did you first learn about aphasia?

- ❍ Academic coursework
- ❍ Clinical practice (e.g., approached by person with aphasia for services)
- ❍ Personal experience
- ❍ Media source (e.g., newspaper, television, social media)
- ❍ Continuing education opportunity
- ❍ I have never heard of aphasia until now
- ❍ Other _____

14. To your knowledge, have you ever provided services to a person with aphasia?

- ❍ Yes, definitely
- ❍ Maybe
- ❍ No

15. To your knowledge, have you provided services to a caregiver, spouse, or family member of a person with aphasia?

- ❍ Yes, definitely
- ❍ Maybe
- ❍ No

16. Have you completed continuing education, coursework, or independent study on the topic of aphasia?

- ❍ Yes (please briefly explain) _____
- ❍ No

17. How confident are you that you could provide services to a person with aphasia in an ethical manner given your present knowledge of the disorder.

- ❍ Very Confident
- ❍ Somewhat Confident
- ❍ Neither Confident nor Doubtful
- ❍ Somewhat Doubtful
- ❍ Very Doubtful

18. Thank you for participating in this study as it will help us understand how to better train other healthcare professions to work with this population. In the next phase of this research, we will offer an online training module on aphasia and communication strategies to use when

interacting with this population. Are you interested in learning more about this opportunity in the future?

- ❍ Yes (please provide email or contact the primary investigator: KMOdom@email.wcu.edu)

  _____

- ❍ No

## APPENDIX B: RECRUITMENT EMAIL

Dear Colleagues,

You are receiving this email because you are affiliated with the North Carolina Psychology Board or the North Carolina Board of Licensed Professional Counselors and likely have professional involvement with individuals who have acquired various disabilities throughout life. At Western Carolina University, we are interested in understanding your knowledge and experience with a particular population of people who, given the nature of their disability, may not seek out support from professionals such as yourselves. Below is a link to a ***less than 5-minute*** WCU-sponsored survey that will provide us with information that will ultimately improve our ability to serve our clients and families. **We are intentionally being vague with the name and description of the disability so that we can determine your current knowledge prior to any intentional research on the terms provided.**

Upon opening the survey link below, you will be directed to the informed consent document approved by the Institutional Review Board at WCU. The study is being completed as my Master's thesis under the supervision of a faculty mentor (Leigh Odom, KMOdom@email.wcu.edu). It is estimated that the survey will require less than 5 minutes of your time, and all responses are anonymous. Any questions may be directed to me or the faculty mentor prior to completing the study.

https://wcu.az1.qualtrics.com/SE/?SID=SV_8HWdHZTzssBXAdn

Without your contribution through this survey, it will be challenging, if not impossible, to address the mental needs of our clients and families. We hope you will spend these few minutes by responding.

Sincerely,

Chandler Barnes, B.S.
Master's Candidate
College of Health and Human Sciences
Western Carolina University
Cullowhee, NC 28723