

5-2016

The formal approaches and multicultural considerations of assessing aphasia for the neurogenic population from the perspective of a monolingual clinician

Lauren C. Carter
The University of Texas Rio Grande Valley

Follow this and additional works at: <https://scholarworks.utrgv.edu/etd>



Part of the [Communication Sciences and Disorders Commons](#)

Recommended Citation

Carter, Lauren C., "The formal approaches and multicultural considerations of assessing aphasia for the neurogenic population from the perspective of a monolingual clinician" (2016). *Theses and Dissertations*. 18.

<https://scholarworks.utrgv.edu/etd/18>

This Thesis is brought to you for free and open access by ScholarWorks @ UTRGV. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of ScholarWorks @ UTRGV. For more information, please contact justin.white@utrgv.edu, william.flores01@utrgv.edu.

THE FORMAL APPROACHES AND MULTICULTURAL CONSIDERATIONS OF
ASSESSING APHASIA FOR THE NEUROGENIC POPULATION FROM THE
PERSPECTIVE OF A MONOLINGUAL CLINICIAN

A Thesis

by

LAUREN C. CARTER

Submitted to the Graduate College of
The University of Texas Rio Grande Valley
In partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

May 2016

Major Subject: Communication Sciences and Disorders

THE FORMAL APPROACHES AND MULTICULTURAL CONSIDERATIONS OF
ASSESSING APHASIA FOR THE NEUROGENIC POPULATION FROM THE
PERSPECTIVE OF A MONOLINGUAL CLINICIAN

A Thesis
by
LAUREN C. CARTER

COMMITTEE MEMBERS

Dr. Theresa Mata-Pistokache
Chair of Committee

Dr. Ruth Crutchfield
Committee Member

Mr. James Culbertson
Committee Member

May 2016

Copyright 2016 Lauren C. Carter
All Rights Reserved

ABSTRACT

Carter, Lauren C., The Formal Approaches and Multicultural Considerations of Assessing Aphasia for the Neurogenic Population From the Perspective of a Monolingual Clinician. Master of Science (MS), May, 2016, 46 pp., references, 38 titles.

Aphasia is a neurogenic disorder, which affects speaking, listening, reading, and/or writing skills. Persons with aphasia are typically left with communication limitations despite unaffected cognition.

Many of the standardized assessments for aphasia examination are not realistic instruments. Formal assessments are time consuming and rarely include multicultural materials. The clinician must provide materials relevant to the PWA's culture, assess in the PWA's primary language, and conduct the exam quickly to prevent fatigue.

The ECLS-B is an informal aphasia screener developed for English-dominant, monolingual speech pathologists. It serves as practical assessment of communication skills for Spanish- or English-dominant PWA in the acute setting. The ECLS-B examines cognitive-linguistic skills, auditory comprehension, and oral expression.

DEDICATION

To my parents, thank you for your support and guidance throughout these twenty years of education. To my fiancé, thank you for being a constant source of motivation and encouragement. This thesis is dedicated to you all.

ACKNOWLEDGMENTS

I would like to acknowledge my thesis committee, Dr. Pistokache, Dr. Crutchfield, and Mr. Culbertson, for generously giving their time and expertise to this work. I am thankful for their direction throughout this process.

Also, I would like to thank Flor Salinas, Adriana Tijerina, Orlando Salinas, and Jannally Rodriguez for assisting with the translation of the ECLS-B.

TABLE OF CONTENTS

	Page
ABSTRACT	iii
DEDICATION	iv
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS	vi
CHAPTER I. INTRODUCTION	1
Aphasia Overview and Definition	1
Statement of the Purpose	8
CHAPTER II. FORMAL APHASIA ASSESSMENTS	9
Overview of Standardized Assessments	9
Boston Diagnostic Aphasia Examination – 3 rd Edition	9
Western Aphasia Battery – Revised	12
Aphasia Language Performance Scales	17
Minnesota Test for Differential Diagnosis of Aphasia	19
Standardized Assessments Summary	21
CHAPTER III. CONSIDERATIONS WITHIN ASSESSMENT	23
Multicultural and Multilingual Considerations in Aphasia Assessment	23
CHAPTER IV. EVALUATION OF COGNITIVE LINGUISTIC SKILLS – BILINGUAL ...	33
Evaluation of Cognitive Linguistic Skills – Bilingual	33
CHAPTER V. SUMMARY AND CONCLUSION	37

Implications for Aphasia Assessment	37
REFERENCES	39
APPENDIX	42
BIOGRAPHICAL SKETCH	46

CHAPTER I

INTRODUCTION

Aphasia Overview and Definition

Aphasia is an acquired, neurogenic, language disorder, establishing deficits in speaking, listening, reading, and/or writing. It is never a congenital disorder, nor a problem of sensation, motor function, or intellect (Chapey, 2008). The possible causes of aphasia are numerous, though each one is an insult to a specific region or regions of the brain. Vascular damage, trauma, tumors, and neurodegenerative diseases are the most common causes of aphasia (Mayeux, 1991). There are different classifications of aphasia, each manifesting a general set of symptoms. Some types of aphasias impact auditory comprehension, others impede verbal expression, and some affect repetition skills. The classifications of aphasia can be made according to the location of the brain lesion or the impairments a person with aphasia (PWA) demonstrates after onset. These two observations are commonly associated (Helm-Estabrooks, 2014).

There have been many definitions of aphasia created by medical and clinical professionals throughout the past century. Producing an accurate, comprehensive definition is a highly debated topic, considering the many factors included within aphasia. An aphasiologist of the 20th century defined aphasia as

impairment, as a result of brain damage, of the capacity for interpretation and formulation of language symbols; multimodality loss or reduction in efficiency of the ability to decode and encode conventional meaningful linguistic elements

(morphemes and larger syntactic units); disproportionate to impairment of other intellectual functions; not attributable to dementia, confusion, sensory loss, or motor dysfunction; and manifested in reduced availability of vocabulary, reduced efficiency in application of syntactic rules, reduced auditory retention span, and impaired efficiency in input and output channel selection (Darley, 1982, p. 42).

Darley's definition has been one of the most referenced over the past thirty years. Despite the source, most definitions of aphasia include references towards the acquired nature, impaired communication, damaged area to the brain, and intact intelligence (McNeil, 2001).

Incidence and Prevalence

There are 15 million strokes worldwide and 80,000 in the United States each year. The National Institute on Deafness and Other Communication Disorders states one million people in the United States currently have aphasia, and another stroke occurs every 40 seconds (Haast, 2012). The National Aphasia Association (NAA) states stroke is the leading cause of aphasia, as 25% to 40% of stroke survivors acquire the disorder. Engelter (2006) found 43% of individuals 85 years and older experience aphasia.

Research has revealed a recent decline in ischemic stroke mortality between 1980 and 2010 without a matching decline in the number of nonfatal ischemic stroke events (Vaartjes, 2012). Simply put, the rate of ischemic stroke events has not changed in thirty years, but more people are surviving the attacks. From this data, we can theorize the rate of disabled persons is increasing, although more research is needed to analyze this hypothesis.

Disparity in sex. Information concerning stroke incidence, prevalence, and death rates was collected for the Global Burden of Disease (GBD) 2013 Study. An incidence of 132.77 ischemic strokes and 64.89 hemorrhagic strokes per 100,000 men was found (Barker-Collo,

2015). A smaller incidence of 98.85 ischemic strokes and 45.58 hemorrhagic strokes was found per 100,000 women. Among 188 countries in 2013, men were observed to have a significantly higher incidence of ischemic strokes as compared to women, while a significant difference in hemorrhagic stroke incidence was not observed.

The incidence of ischemic stroke was lower in 2013 for both sexes as compared to the incidence rates of 1990. However, a significant reduction of ischemic strokes was found in women and not men. Hemorrhagic strokes were significantly lower in 2013 for women as well (Barker-Collo, 2015).

Haast (2012) states the stroke incidence rate decreased by 30.3% for men and only 17.8% for women between 1950 and 2004. However, this does not imply men have fewer strokes than women, as the same study revealed a male to female stroke incidence ratio of 1.33. It is common to find women experience more strokes than men after the age of 85 years, but this is likely caused by the longer life expectancy of women.

Disparity in race. In regards to race, American Indians, African Americans, and Hispanics have a higher incidence of stroke and stroke mortality as compared to Caucasians. African Americans had a 38% higher incidence of stroke when compared to Caucasians. A possible explanation for this increased incidence of stroke and stroke mortality within the African American population could be attributed to the higher prevalence of hypertension, obesity, and diabetes (Goldstein, 2010). The National Stroke Association states African Americans experience twice the number of first strokes, are twice as likely to die from stroke, and experience stroke earlier in life as compared to Caucasians.

The National Stroke Association states Hispanics experience a stroke at an average age of 67 years, as compared to 80 years for Caucasians. Similarly to the African American population,

high blood pressure, obesity, and diabetes are the leading causes for increased risk for stroke in younger Hispanics. Smith, Wein, Moye, Pandey, and Morgenstern (1999) evaluated 436 patients presenting to the emergency department of a hospital in Corpus Christi, Texas to evaluate the racial influences of stroke care. Smith et al. (1999) found Mexican Americans were significantly less likely than non-Hispanic whites to have health insurance. Of the 266 Mexican Americans, 20.4% did not have health insurance as compared to 10.6% of the 170 non-Hispanic whites. Mexican Americans were less likely to have a primary care physician and medicare, but more likely to have Medicaid insurance.

Disparity in socioeconomic status. Low levels of education and occupational status have been linked to increased incidence of disease and a shorter life span. In 2001, the severity of aphasia became more severe among subjects as the years of education decreased and level occupational status lowered. However, the rate of recovery was similar among all subjects (Connor, 2001).

The correlation between socioeconomic status and access to healthcare has been widely demonstrated. For individuals within the lower socioeconomic classes, the inability to quickly obtain medical care during onset of symptoms has been hypothesized to cause the increase of aphasia severity.

Disparity in location. There is a region of eleven states in the southeastern United States commonly referred to as the “Stroke Belt.” The Stroke Belt is comprised of Alabama, Tennessee, South Carolina, Arkansas, North Carolina, Indiana, Louisiana, Mississippi, Georgia, Virginia, and Kentucky. The existence of the Stroke Belt has been recognized since 1939, and the region has continued to have a significantly greater incidence of strokes among all races through 1995 (Howard, 1995).

Liao, Greenlund, Croft, Keenan, and Giles used data sets from the 2005 and 2007 Behavioral Risk Factor Surveillance System (BRFSS) to evaluate how certain variables contributed to the prevalence of stroke in the Stroke Belt. These variables include demographics, socio-economic status, risk factors, and chronic diseases. The study utilized survey responses from 765,368 participants across the United States. According to Liao et al. (2009), residents of the Stroke Belt were less educated, had lower income levels, and a higher prevalence of obesity, smoking, hypertension, diabetes, and heart disease as compared to residents of the non-Stroke Belt states. Strokes were self-reported in this study and standardized according to age.

Settings of Assessment

The beginning of rehabilitation for a PWA looks different in every case. Aphasia care can be found in outpatient settings, inpatient settings, acute hospitals, rehabilitation hospitals, skilled nursing facilities (SNF), long-term care facilities (LTC), home health, and the list goes on. As expected, the first step of the therapeutic journey is assessing the PWA's current status – often referred to as the baseline (Newton, 2013). An unbiased, comprehensive, and appropriate assessment allows the clinician to accurately establish the degree of deficit, monitor progress throughout intervention, and choose an appropriate course of treatment (Goodglass, 2001). The professionals responsible for assessing a PWA can do so within each of the aforementioned settings. Due to the differing clientele between these environments, it is easy to realize the methods of assessing are just as diverse as their populations.

Consider the typical evaluation to be completed by a speech-language pathologist (SLP) in the acute hospital versus the LTC facility. Comparatively, the acute hospital houses a greater number of younger patients with a greater variety of disorders. Strokes, car accidents, gunshot wounds, and tumors are a couple of the possible reasons a person could be admitted to an acute

care hospital (Helm-Estabrooks, 2014). On the other hand, the majority of the LTC facility's population will be geriatric, with either strokes or degenerative diseases as the qualifying disorder for intervention (Le Dorze, 2000). Understandably, the assessment procedures and materials will look different between these two frameworks.

Influences and Bias within Assessment

There are two forms of assessment: standardized and informal. Standardizing an assessment includes developing the structure of the test, the format of administration, the scoring guidelines, and establishing the reliability and validity (Spren, 2003). In order to develop standard scores, the assessment is administered to subjects, and the resulting scores are used to represent their respective population. Standardized tests typically include published manuals, stimuli booklets, and manipulatives for use during the assessment. These formal examinations are notorious for taking hours to complete (Davis, 2000).

Informal assessments are usually shorter than standardized assessments, more easily administered, and utilize the materials in the patient's room. Many screeners are considered informal assessments. However, the results from an informal assessment are highly subjective and cannot be statistically compared to the scores of others.

Multicultural and multilingual bias. The content of assessments, such as confrontational naming and long-term memory tasks, rely on the PWA's previous experiences with the stimuli. If the PWA and examination materials are not of the same culture, the PWA's cognitive-linguistic skills cannot be accurately assessed. It is the duty of the clinician to provide assessment materials that are familiar to the patient (Battle, 2012).

When a clinician deviates from formal assessment procedures, it can jeopardize the validity of the resulting scores. However, this is sometimes necessary when assessing

multicultural and multilingual PWA (Davis, 2000). For instance, some categories of language assessments, such as idioms, cannot be directly translated between languages.

Medical influence and bias. Additional medical complications have the potential to impede accurate assessment. For example, most of those with aphasia as the result of stroke will experience poststroke fatigue (PSF) following the attack. PSF is most severe during the weeks immediately following the attack (Barritt, 2011). Under these circumstances, most PWA will not be able to complete an hour long, formal assessment. If the PWA is able to complete such a long task, there is a risk the fatigue will influence the PWA's responses.

Social influence and bias. Intergenerational communication is a social aspect that alters the effectiveness of an assessment. Armstrong & McKechnie (2003) observed most professionals serving the geriatric population are people of a different generation than the one being served. This study demonstrated people of different generations have varying feelings about communicating with each other. While personalities play a role in each case, the generational gap can be routinely identified within vernacular, traditions, and use of technology.

Formal aphasia assessments require the same method of administration for all PWA to ensure consistency between scores. Customization of test administration is rarely permitted, despite the medical, social, and environmental differences of each PWA. In contrast, informal methods of assessment are considered more practical due to their ease of administration and customization. However, the results of informal assessment are not standardized on a population, thus making them less desirable. Herein lies the contradiction. Standardized scores require the statistical generalization of a population, while informal results are highly subjective. It is the duty of an SLP to decide which method of assessment is best suitable for the PWA.

Statement of the Purpose

The aim of this paper is to evaluate existing formal aphasia assessments and examine the necessary multicultural and multilingual considerations during aphasia assessment. An informal, bilingual aphasia screener was developed with regard to these considerations and is explained in detail.

The purpose, organization, administration, and standardization methods of four formal assessments will be discussed. These assessments are the Boston Diagnostic Aphasia Examination – 3rd Edition (BDAE-3), Western Aphasia Battery – Revised (WAB-R), Aphasia Language Performance Scales (ALPS), and the Minnesota Test for Differential Diagnosis of Aphasia (MTDDA).

Multicultural and multilingual factors are influential, but rarely accounted for, in formal measures of aphasia assessment. It is important for SLPs need to recognize these factors and apply appropriate assessment methods in order to determine testing outcomes with greater accuracy. The American Speech and Hearing Association's (ASHA) definitions of a bilingual SLP and patient proficiency levels will be examined.

The ECLS-B is an aphasia screener, created by an English-speaking clinician with limited working proficiency in Spanish. The development and recommended administration of the ECLS-B is discussed.

CHAPTER II

FORMAL APHASIA ASSESSMENTS

Overview of Standardized Assessments

Many assessment tools are available to measure the communicative abilities of PWA, but there is little information regarding the everyday use of these tools by SLPs (Simmons-Mackie, 2005). A formal instrument is considered any published examination that bases results on standardized or normative data. There are dozens of formal assessments used for examination of cognitive-linguistics, expressive communication, receptive communication, literacy, writing skills, and functional communication. Four formal assessments for the neurogenic population will be described below.

One of the first persons to standardize an aphasia assessment was Henry Head, a British physician, in the year 1920 (Davis, 2000). In 1954, the Examining for Aphasia assessment by Jon Eisenson became the first test of aphasia to be made commercially available (Linebaugh, 1979). Over the past 52 years, more assessments have been developed as a result of increased demand. Before administering such an assessment, SLPs are responsible for understanding the exam's purpose, organization, standardization, and protocol of administration.

Boston Diagnostic Aphasia Examination – 3rd Edition

The first edition of the Boston Diagnostic Aphasia Examination was published in 1972 and the second edition in 1983. The current edition was standardized in 1999 and published in 2001. Harold Goodglass developed the BDAE-3 with Edith Kaplan and Barbara Barresi in the

greater Boston area. It is recommended that the BDAE-3 be administered to adults with acquired neurogenic disorders (Goodglass, 2001).

Purpose

The BDAE-3 was developed to diagnose the presence and type of aphasia syndromes, measure performance to establish a baseline and monitor changes, and guide therapy due to the comprehensive assessment of assets and liabilities in all language areas. The exam can take up to four hours to administer to a PWA (Lezak, 2012).

The result of testing is three observations. First, the examiner rates the PWA's responses on a six-point scale during conversation-related tasks for the Aphasia Severity Rating Scale. Second, percentiles are established for each subtest and recorded on the Subtest Summary Profile sheet. Third, objective scores regarding speech skills are plotted on the Rating Scale Profile to visualize the PWA's pattern of deficits (Lezak, 2012).

Organization and Administration

The standard form of the BDAE-3 is divided into 5 subsections: Conversational and Expository Speech, Auditory Comprehension, Oral Expression, Reading, and Writing. The Boston Naming Test (BNT) is included in the Oral Expression subsection. Additionally, the BDAE-3 offers a short form of the standard form, Extended Testing, and an appended Apraxia Assessment (Goodglass, 2001).

The BNT is a test of visual confrontational naming. Although this portion of testing is one of three subtests found within the Oral Expression subsection, it requires a separate record form and stimulus booklet. The BNT is composed of 60 items in its entirety; however, only 15 items are administered when the BNT is given in the short form (Goodglass, 2001).

The short form of the BDAE-3 can be administered in 40-60 minutes and includes specific stimuli throughout the standard form of assessment. The purpose of the short form is to provide a brief and comprehensive evaluation of skill levels for quantitative assessment (Goodglass, 2001).

Extended Testing allows for further evaluation of a particular language function if the examiner identifies an area of concern while testing. This is done via Extended Testing subtests, which are located throughout the BDAE-3 in their respective subsections. Therefore, these subtests will not disrupt the administration sequence of the standard form. The Extended Testing subtests can be skipped if further evaluation is not warranted (Goodglass, 2001).

Standardization

The BDAE-3 was standardized on 100 individuals: 85 aphasic subjects and 15 unimpaired, elderly volunteers. A team of certified speech pathologists contributed the aphasic subjects from inpatient, outpatient, and private practice facilities. The sample was well distributed in terms of severity as 22% of the subjects were rated at the 0.5-1 severity level, 28.3% at the 1.5-2 severity level, 23.5% at the 2.5-3 severity level, 20% at the 3.5-4 severity level, and 5.9% at the 4.5-5 severity level (Goodglass, 2001).

The scores obtained by the controls were helpful to establish the difference between minimally impaired and normal functioning individuals. With a few exceptions, the control group averaged less than one item failed per subtest (Goodglass, 2001).

In order to evaluate if the short form of the BDAE-3 reported similar results as the standard form, the correlation of scores between the forms was evaluated. Results showed a correlation of 0.9 and greater in 15 subtests, between 0.8 and 0.89 in 4 subtests, and between 0.7 and 0.79 in 2 subtests. These results show a strong correlation between the subjects' performance

on the standard form and short form. Therefore, clinicians can confidently report a subject's score on the short form accurately represents what the subject would have scored on the standard form (Goodglass, 2001).

Western Aphasia Battery – Revised

The first edition of the Western Aphasia Battery (WAB) was published in 1982, and the current revision, Western Aphasia Battery – Revised (WAB-R), was published in 2006. Andrew Kertesz, M.D., F.R.C.P.(C) is a neurologist and the author of the WAB-R. It is recommended the WAB-R is administered to English-speaking persons with acquired neurological disorders between the ages of 18 and 89 years. This assessment uses eight classifications of aphasia: Broca's, Wernicke's, Global, Isolation, Transcortical Motor, Transcortical Sensory, Conduction, and Anomic (Kertesz, 2007). Mixed transcortical aphasia is commonly referred to as isolation aphasia or isolation syndrome. The WAB-R utilizes the term *isolation aphasia* to refer to this classification of aphasia.

Purpose

According to the examiner's manual, there are four purposes of testing with the WAB-R. The test aims to determine the presence, severity, and type of aphasia, measure the PWA's level of performance to serve as a baseline, provide a comprehensive assessment of language assets and deficits to guide treatment, and infer the location and etiology of the lesion (Kertesz, 2007).

The result of testing is an aphasia, language, and/or cortical quotient depending on the areas tested. This quotient is based on a 100-point scale and serves as an indication of presence and severity of aphasia (Kertesz, 2007).

Organization and Administration

The assessment can be separated into three parts: bedside, oral language, and written language. The bedside is a shortened version of the WAB-R assessment, the oral language sections determine the type and severity of aphasia utilizing oral scores, and the written language sections generate written scores and are considered supplemental. Each of the three parts of the WAB-R contains sections with multiple tasks. Throughout the oral language and written language parts, there are 8 sections and 32 tasks (Kertesz, 2007).

The Bedside WAB-R was developed for instances in which the window for assessment is limited. It can be administered in 15 minutes using only the Bedside Record Form and available stimuli in the PWA's room. The Bedside WAB-R evaluates the content and fluency of spontaneous speech, auditory verbal comprehension, following commands, repetition skills, naming, reading, and writing. The bedside apraxia section is optional. From the scores obtained on the 8 required sections, the Bedside Aphasia Score, Bedside Language Score, and Aphasia Classification can be calculated (Kertesz, 2007).

The Bedside Aphasia Score is an unweighted average of 6 sections on a 100-point scale. Similarly, the Bedside Language Score is an unweighted average of 8 sections on a 100-point scale. The latter includes the scores from the reading and writing sections in its calculations. In order to identify the type of aphasia, the scores from the fluency, auditory verbal comprehension, and repetition sections are compared to the Bedside Aphasia Classification Criteria, which is included on the Bedside Record Form (Kertesz, 2007).

The oral language sections can be completed in 30-45 minutes and are used to determine the Aphasia Quotient (AQ). These sections include the Spontaneous Speech, Auditory Verbal Comprehension, Repetition, and Naming and Word Finding sections. The scores from each

section are recorded on Record Form Part 1. The resulting AQ serves as an indication to the presence and severity of aphasia, without regard to the type or etiology (Kertesz, 2007).

The written language sections can be completed in 45-60 minutes and are used to determine the Language Quotient (LQ). The LQ combines the scores from the oral language sections and written language sections in order to evaluate the relationship between the two modalities. The written language sections include the Reading, Writing, Apraxia, and the Constructional, Visuospatial, and Calculation sections (the Supplemental Writing and Reading sections are also found in this method). However, only the Reading and Writing sections are utilized for calculation of LQ. The remaining sections are utilized for calculation of the Cortical Quotient, which is introduced later. The Supplemental Writing and Reading section is not utilized for scoring purposes. According to the examiner's manual, "the LQ is of less practical or prognostic value than the AQ" (Kertesz, 2007, p. 83).

If all oral language and written language sections of the WAB-R have been administered, a Cortical Quotient (CQ) can be determined. Calculation of the CQ is optional and allows comparison of aphasic and nonaphasic populations at a basic level. However, full interpretation of the CQ requires integration of history, neurological examination, and neuroimaging (Kertesz, 2007).

Standardization

In contrast to a norm-referenced test, the WAB-R is a criterion-referenced test. Criterion-referenced tests aim to measure and compare performance against a set of standards instead of ranking scores on a distribution. The WAB-R compares the subject's skill level to a standard, whereas a norm-referenced test would describe scores with respect to a normative sample. In

order for the WAB-R to compare test results to a standard, it must create the standard (Kertesz, 2007).

The WAB-R was standardized in phases and utilized different groups of subjects depending on the analysis conducted. The first population was composed of 150 PWA from three different hospitals and 59 controls. After the first standardization in 1974, the current standardization was developed from 215 PWA and 63 controls. The participation criteria mandated those in the group with aphasia to be diagnosed with aphasia by a physician or speech-language pathologist and his or her health permitted testing. The most common pathology was cerebral infarction, followed by tumors, and then trauma, hemorrhage, aneurysm, and degenerative disease. Patients who were excluded from the sample include those with intellectual disability, psychosis, or patients who could not complete the test in English (Kertesz, 2007).

By analyzing test results from the control group and each type of aphasia, the authors were able to discern respective scoring patterns and standard cut-off scores. The scores from PWA were used to determine differences between types of aphasia, while the scores from the controls were used to determine the cut-off score for presence of aphasia (Kertesz, 2007).

Overlapping scores were observed between a portion of the control group and individuals recovering from mild anomic aphasia. The scores from a portion of the control group were statistically significant when compared to scores of the individuals with mild anomic aphasia, but not when compared with individuals recovering from mild anomic aphasia. This finding highlighted the need to appropriately place individuals recovering from mild anomic aphasia within the study. This is difficult considering recovering aphasics with mild anomia show characteristics of aphasia in their speech, but their scores are in the normal range. Furthermore, this “normal” score represents a language performance which is most likely below the PWA’s

premorbid function level. The authors decided the recovering aphasics with mild anomia did not appropriately fit in the aphasic group. Therefore, they were designated as their own portion of the control group and considered to demonstrate a language continuum (Kertesz, 2007).

In order to narrow the possible eight aphasias to one diagnosis, the fluency, auditory verbal comprehension, repetition, and naming and word finding scores are used to separate aphasias. The fluency score is analyzed first in order to separate the four nonfluent aphasias (global, Broca's, isolation, transcortical motor) from the four fluent aphasias (Wernicke's, transcortical sensory, conduction, anomic). Once this separation has been made, the remaining four aphasias can be further separated utilizing the comprehension and repetition scores until one aphasia remains (Kertesz, 2007).

Nonfluent aphasias. The comprehension scores are utilized to distinguish Broca's and transcortical motor aphasia from global and isolation aphasia. The former have higher comprehension scores than the latter. The repetition scores are utilized to distinguish isolation and transcortical motor aphasia from global and Broca's aphasia (Kertesz, 2007). Repetition skills are intact in the isolation and transcortical motor aphasias, while Broca's and global aphasia have poor repetition skills.

Fluent aphasias. The comprehension scores are utilized to distinguish anomic and conduction aphasias from Wernicke's and transcortical sensory aphasias. The former presented with higher comprehension scores than the latter. The repetition scores are utilized to distinguish anomic and transcortical sensory aphasia from Wernicke's and conduction aphasia (Kertesz, 2007). Repetition skills are intact in the anomic and transcortical sensory aphasias, while Wernicke's and conduction aphasia have poor repetition skills.

Aphasia Language Performance Scales

The Aphasia Language Performance Scales (ALPS) was authored by Joseph S. Keenan and Esther G. Brassell and published in 1975. The test acknowledged previous aphasia exams were time consuming, had environmental restrictions, didn't allow natural rapport between the PWA and clinician, and gave too little direction in planning therapy. In order to address these dissatisfactions, the authors began to develop informal testing procedures in the late 1960s. These informal practices became widely used by the staff at the Atlanta Veterans Administration Hospital, and the first formal plan for the ALPS was created in January of 1970. The ALPS underwent many revisions and was published in 1975.

Purpose

The purpose of the ALPS is to determine the PWA's best language performance without any of the aforementioned restrictions. Language performance is evaluated in four modalities: listening, talking, reading, and writing. The authors wanted to create an assessment that approached the PWA as an individual and offered information to develop treatment (Keenan, 1975).

There are three assumptions around which the ALPS is structured in order to understand each PWA. First, performance in each language modality is scaled between unimpaired function and absence of function. Second, differing levels of performance in each language modality are defined by length and complexity of the message. Third, classifying language performance via scales allows measurement of skills for all PWA – despite the severity or type of aphasia (Keenan, 1975).

The result of testing is a numerical score between one and ten for each modality. This score can be used to develop an impairment rating and prognosis (Keenan, 1975). The ALPS does not include normative data (Lezak, 2012).

Organization and Administration

The first step of administering the ALPS is a conversation between the PWA and SLP in order to establish rapport and informally evaluate communication skills. After the SLP believes he or she has observed the extent of the PWA's communicative performance, testing can begin (Keenan, 1975).

The organization of the ALPS is simple and brief. There are four scales with ten tasks to be completed in each. The four scales are as follows: Listening, Talking, Reading, and Writing. The tasks in each scale are ordered by increasing difficulty, but the authors do not recommend administering all ten tasks. Instead, the SLP should use what he or she observed during the initial conversation with the PWA in order to identify which of the ten tasks would be appropriate. The SLP should administer tasks until a baseline of two correct tasks and a ceiling of two incorrect tasks are established (Keenan, 1975).

Standardization

The subjects used to develop the ALPS during the test's early revisions were PWA as they were referred to the Veterans Administration Hospital in Atlanta. As the ALPS evolved, the authors asked more speech pathologists to use and evaluate the test. The assessment was evaluated by nine individuals in hospitals and rehabilitation centers throughout Georgia, Connecticut, Tennessee, Maryland, and Florida. Additional hospitals in Tennessee and Vanderbilt University provided video recordings of ALPS administration to be reviewed and scored (Keenan, 1975).

The first version of the ALPS was completed on January 29, 1970, the second version was completed 11 days later on February 11th, the third version on March 18th, the fourth version on April 23rd, the fifth version on June 1st, the sixth version 8 weeks later, and the seventh version was completed on December 7, 1970. The authors were constantly monitoring the stimuli of the assessment and altering the test as needed. As a result, the ALPS was revised six times in the same year. The seventh version was used for 18 months before the eighth version was released on June 15, 1972. The ninth and final version came about soon after on October 2nd and was published in 1975.

When the ALPS reached its final revision, a control group was needed to standardize the test. The authors felt the persons in the control group should have language unaffected by brain damage, but should not have exceptional intelligence or education. One of the authors of the ALPS, Brassell, had access to a population of prisoners at the Western Correctional Center in Morganton, North Carolina. Sixty-one individuals from this correctional center were selected to represent non-brain-damaged subjects in the standardization. Participation in the study was restricted to only prisoners that volunteered, did not suffer from chronic drug usage, did not have visual and/or auditory defects, and did not have a history of head injuries or diseases correlated with brain damage (Keenan, 1975).

Minnesota Test for Differential Diagnosis of Aphasia

According to Spreen (2003), “The current version of the MTDDA is the result of numerous systematic revisions of the original experimental version of the late 1940s” (p. 133). The first form of the MTDDA was developed under the name *Aphasia in Adults* during the summer of 1948 by Schuell. In 1965, the eighth form of the MTDDA was published. Schuell

died in 1970, and the final revision of her test was completed by Sefer, Jenkins, and Shaw. The current edition was published in 1973.

The MTDDA is considered one of the most comprehensive examinations of aphasia, and it requires between three to six hours when administering to a PWA. The MTDDA manual states, “short tests for aphasia cannot be considered satisfactory... lest aspects of aphasic deficit be overlooked” (Schuell, 1973, p. 23).

Purpose

The MTDDA was developed to comprehensively assess a PWA in all language modalities in order to guide treatment. The test aims to identify the level at which language performance breaks down and encourages the examiner to evaluate the nature of the disruptions. Additionally, the MTDDA includes differential diagnosis and prediction of recovery (Schuell, 1973). The test lists seven major categories of aphasia, defines each category, lists the relevant clinical signs, identifies the most differentiating tests, and gives a prognosis for recovery in each category. The seven major categories are simple aphasia, aphasia with visual involvement, mild aphasia with persisting dysfluency, aphasia with scattered findings compatible with generalized brain damage, aphasia with sensorimotor involvement, aphasia with intermittent auditory imperceptions, and irreversible aphasic syndrome (Schuell, 1973).

The result of testing is the PWA’s test performance summarized in a diagnostic scale, which is organized into functional performance categories. There is also an optional six-point scale for rating supplementary observations (Lezak, 2012).

Organization and Administration

There are five sections in the MTDDA, each composed of multiple tests. Auditory disturbances has nine tests, visual and reading disturbances has nine tests, speech and language

disturbances has fifteen tests, visuomotor and writing disturbances has ten tests, and disturbances of numerical relations and arithmetic processes have four tests (Schuell, 1973).

According to Schuell and Sefer (1973), the administration of the MTDDA can be shortened by obtaining a baseline and ceiling in each section. The examiner estimates the highest degree of difficulty the PWA can pass in each section and administers the corresponding test. The baseline is defined as, “not more than one error is met.” The ceiling is define as, “the patient fails approximately 90 per cent of the items on any test” (Schuell, 1973, p. 24).

Standardization

Beginning in the fall of 1949, the test was routinely administered to patients in the Aphasia Section of the Neurology Service of the Minneapolis Veterans Administration Hospital as they were admitted. Between 1949 and 1954, the test underwent five major revisions. Each form of the test was administered to PWA and changes to the exam were made as needed.

During the first five years, the test was administered to approximately 500 subjects with aphasia. In 1958, the sixth form of the test was administered to 155 subjects with aphasia and 50 subjects without aphasia. In this population, 38% subjects were under 50 years of age and 62% were over 50 years of age. The authors immediately began development of a seventh form in 1958 and administered this form to 75 subjects with aphasia and 50 subjects without aphasia (Schuell, 1973). The final form of the MTDDA was published in 1973.

Standardized Assessments Summary

There are dozens of aphasia tests currently published, and each one targets communication evaluation in a unique manner. An SLP needs to be familiar with the available assessments in order to select the one most appropriate for his or her patient. The purpose of the

assessment, organization of materials, administration of stimuli, and the standardization methods can potentially affect test results.

The benefits and disadvantages of formal assessments are dependent on multiple factors. The setting of assessment, time allotted for assessment, the PWA's attention span, and the difficulty of stimuli should be considered by the SLP when choosing whether or not to administer a formal test. On one hand, formal assessments provide standardized data and a more comprehensive evaluation of the PWA's communication. These are consistent benefits of standardized testing. On the other hand, these formal assessments may take hours to administer, which is not only impractical in certain clinical settings, but exhausting to the PWA.

CHAPTER III

CONSIDERATIONS WITHIN ASSESSMENT

Multicultural and Multilingual Considerations in Aphasia Assessment

Culture is a powerful influence on the development and maintenance of language. All cultures use a form of communication, but each language system is different. These systems are developed from familial relationships, physical limitations, relevant vocabulary, and other cultural routines. Battle (2012) states one cannot understand the communication of a cultural group without an understanding of their ethnographic and cultural factors.

Linguistic factors designate the morphology, phonology, and syntax of a language. How a language is pieced together and the rules which govern the formation of language fall under the study of linguistics. While cultural considerations affect communication patterns, semantics, and the use of language, linguistic considerations refer to the construct of a language (Roger, 1998).

Peter Roger reminds us languages are not spoken in cultural vacuums, as cultural and linguistic considerations are implemented simultaneously throughout language (2011). The two heavily influence each other, and aphasia rehabilitation should integrate both aspects of language. Rogers states, “an aphasic individual’s social and cultural environments... have a central bearing on how they will be affected by their language impairments, and thus on the way we approach assessment and treatment” (p. 135).

ASHA Definition of Bilingual SLP

ASHA states SLPs who consider themselves bilingual should have native proficiency of a primary language and native or near-native proficiency of a non-primary language. The proficiency of language should be evaluated in lexicon, semantics, phonology, morphology, syntax, and pragmatic skills. An SLP delivering services to a PWA with a primary language other than their own must have at least near-native proficiency in all these aspects of the PWA's primary language.

According to ASHA (1989), a clinician must possess at least the following four skills to provide bilingual assessment and treatment: (1) the ability to describe the typical speech and language processes for bilingual and monolingual individuals within oral and written language, (2) the ability to administer and interpret formal and informal assessment procedures and distinguish between differences and disorders of communication, (3) the ability to apply treatment strategies for communication disorders, and (4) the ability to identify cultural factors affecting the speech-language pathology services. This means being able to speak and comprehend a non-primary language is not the only qualification to be considered a bilingual SLP. Though a bilingual SLP has adequate proficiency in a non-primary language, they must also be able to administer services in that same language.

ASHA does not offer accreditations or require additional licensing to practice as a bilingual clinician. However, according to ASHA's Code of Ethics, certified professionals are required to practice solely in areas of their field within their scope of practice. Considerations of education, training, and experience are necessary to determine an ethical scope of practice. However, the states can mandate additional licensing regulations. Therefore, bilingual SLPs should investigate if the state in which they are practicing requires multilingual certification.

Multilingual Competency Levels

ASHA has developed the following three levels to describe the continuum of language proficiency in patients. Patients can be classified as bilingual English proficient, limited English proficient, and limited in both English and the minority language (ASHA, 1985). As evident in these levels, ASHA describes proficiency in terms of English and the minority language. It is important to identify where the PWA's bilingualism skills lie on the continuum in order to administer services in the appropriate language. Therefore, an assessment should be administered in each language the PWA spoke premorbidly (Spren, 2003).

Bilingual English proficient. Individuals who are bilingual English proficient have greater language competency in the English language, as compared to the minority language. In this instance, the communication disorder is found in English, and the SLP is not required to be proficient in the minority language. However, the SLP must be able to identify dialectical differences, have knowledge of the linguistics of the minority language, and be able to assess language in a nondiscriminatory procedure (ASHA, 1985).

Limited English proficient. Individuals who are limited English proficient have native proficiency in a minority language other than English. The assessment and treatment of individuals who are limited English proficient should be conducted in the PWA's native language. However, supplementary testing in English is recommended. SLPs working with this population must have at least near-native proficiency of the PWA's minority language and adjust services to account for cultural sensitivity (ASHA, 1985).

Limited proficiency in two languages. When a PWA is limited in both English and their minority language, a comprehensive assessment must be completed in both languages. The PWA's familial history, cultural history, medical history, and more must be taken into account

when interpreting results of assessment. As with limited English proficient patients, an SLP must have at least near-native proficiency of the patient's minority language and competencies in normative processes, assessment, intervention, and cultural sensitivity (ASHA, 1985).

Factors Influencing Assessment of Multicultural Patients

Until the 1960s, there was no research regarding cross-cultural communication, service delivery to individuals with culturally diverse backgrounds, and the differences between communication disorder and dialectical differences (Goldberg, 1997). ASHA has been advocating for increased multicultural studies and cultural inclusivity since the 1960s. However, an SLP must understand the general scope and study of culture before evaluating the elements within a specific culture. This broad understanding is established so the SLP will recognize how culture can affect assessment procedures. Porter and Samovar (1976) define culture as

the cumulative deposit of knowledge, experience, meanings, beliefs, values, attitudes, religions, concepts of self, the universe, and self-universe relationships, hierarchies of status, role expectations, spatial relations, and time concepts acquired by a large group of people in the course of generations through individual and group striving. Culture manifests itself both in patterns of language and thought and in forms of activity and behavior. These patterns become models for common adaptive acts and styles of expressive behavior, which enable people to live in a society within a given geographical environment at a given state of technical development (p. 7).

Due to the integration of communication and culture, the assessment services provided by an SLP can be easily affected by cultural differences, beliefs, and attitudes (Battle, 2012). If an SLP is not aware of culturally appropriate behaviors, the misinterpreted behaviors may lead to misdiagnosis.

Use of language. Pragmatics refers to the use of language and social skills. It includes body language, eye contact, turn taking, humor, strategies for gaining attention, the appropriate use of language, and other aspects of language (Shipley, 2009). These skills differ dramatically between cultures and should be evaluated with respect to the PWA's specific culture (Battle, 2012).

Content of language. Considering the incidence of aphasia across different races and ethnicities, a PWA's cognitive-linguistic skills cannot be accurately evaluated when the content or language of an assessment is designed for a culture that is not their own (Roger, 2011). Long-term memory tasks commonly rely on a PWA's knowledge of national history, flashcards may present items which are culture specific, and what one culture determines to be appropriate communication skills can be different to another culture.

If the stimuli used within an assessment are from a different culture than that of the PWA, he or she cannot be expected to appropriately respond to the stimuli. It is important to consider the impact of cultural bias on the standardization of formal assessments. The formal test results from a PWA of a different culture than that of the population used to standardize the test is misrepresentative (Spreen, 2003).

Perception of disability. An individual's perception of disability can be influenced by their native culture. Asians typically view disability as fate and consider rehabilitation futile. Some Hispanic groups feel personal responsibility for a loved one's disability. Native Americans typically prefer natural and herbal methods of healing to therapeutic services. Disability can also be seen as a gift or punishment in different religions (Shipley, 2009). An SLP is responsible for identifying these perspectives and educating the PWA regarding their specific injury.

Social and familial authority. How a person perceives respect and respects others may be the product of their culture. Race, age, and gender are a few of the factors that can determine the way a professional is treated in the workplace. In some cultures, the father of a household is the authoritarian and makes decisions on behalf of his family. It may be considered disrespectful to address anyone besides the father. Other times, a family may operate under the “village” mentality and make decisions in groups. Depending on the culture, this group could include extended family, godparents, spiritual leaders, etc. The SLP must advocate for the PWA in the most appropriate manner (Shipley, 2009).

The perception of female professionals is more variable between cultures than the perception of male professionals. In most countries around the world, the percentage of women in the workplace is rising. However, in 2015, there were many countries with an employment rate less than 20% for women of working age (The World Bank, 2015). The majority of these countries were found in the Middle East. Therefore, a female SLP must take certain precautions during the assessment. It is often considered inappropriate for a female make eye contact with a male, speak directly to a male, and shake a male’s hand in the Arab culture (Shipley, 2009). A female SLP may have to refigure her role in an assessment if her presence is affecting the outcomes.

Comfort with services. The exchange between an SLP and PWA has the potential to become personal throughout an assessment. Familial and medical histories, for example, may be considered essential to medical staff but offensive to the PWA. Shipley and McAfee (2009) recommend gathering this information over multiple sessions if the PWA seems uncomfortable divulging information.

What is deemed acceptable within spatial relationships also differs between cultures. The services of an SLP sometimes require sharing personal space with the PWA. For example, SLPs typically conduct oral peripheral examinations, which involve touching the PWA's face and mouth. In some cultures, this kind of physical touch may be considered inappropriate (Battle, 2012).

Multicultural Factors in Assessment Summary

Multicultural influences within an assessment can manifest between the PWA and testing stimuli or between the PWA and examiner. An SLP must have an understanding of cultural differences in order to be aware of their influence on assessments. Most importantly, however, is how the SLP will remedy these influences. If the goal of an assessment is to elicit the PWA's most authentic communication skills, the clinician is responsible for providing whatever materials and personnel are required to fulfill that goal (Battle, 2012).

Factors Influencing Assessment of Multilingual Patients

A multilingual individual is considered a person who uses two or more languages in everyday life. A holistic view of their communication patterns is recommended instead of dividing the system into separate languages (Davis, 2000). This holistic study of multilingual influences allows an SLP to identify communication differences versus disorders within assessment and develop a constructive treatment plan. Multilingual considerations involve the age of the PWA, the severity of impairment, their experience with each language, and the SLP's proficiency in the respective languages (Shiple, 2009). Not only can multilingualism affect a PWA's responses to stimuli within an assessment, it can affect their discourse with the SLP. For this reason, it is imperative an SLP conduct a realistic evaluation of their own non-English proficiency levels.

Translating assessments. The International Test Commission (ITC) developed guidelines for translating and adapting tests to another language. The ITC mandates the effect of cultural difference should be minimized to the greatest extent possible, linguistic differences between populations need to be taken into account, the new language used throughout the directions, rubrics, and items of the test is appropriate, and the data collected in the newly translated test permits statistical equivalence between the different versions of the test (Battle, 2012).

Directly translating an assessment has the potential for bias. It is sometimes impossible to translate certain linguistic concepts and grammatical structures into another language (Battle, 2012). Idioms, for example, are language-specific and may lose meaning when said in another language. For example, the Spanish saying, “de tal palo, tal astilla,” directly translates to English as, “from such a stick/piece of wood, such a splinter/chip.” However, the English equivalent to this saying is, “chip off the old block,” or, “like father, like son.”

Translating assessments can also potentially modify the difficulty of test items. This is especially dangerous when establishing a basal and ceiling, as these features of test administration determine what stimuli are administered. If the test items are not presented with increasing difficulty, a false basal and ceiling will be identified. This results in a misleading representation of the PWA’s communicative abilities (Battle, 2012).

Misinterpretation is common when a monolingual clinician relies on a professional translator or family member of the PWA to translate an assessment. Without formal training in the area of speech and language disorders, the translator cannot be expected to divulge certain strengths and weakness throughout the examination (Roger, 1998).

Code switching. Code switching, also called language mixing, refers to moving back and forth between languages. Though it has been considered a language deficit in the past, code switching is currently considered a sociolinguistic skill (Battle, 2012). However, an SLP needs to be able to identify if the PWA's first language has any influence on the second language during the assessment.

Bilingualism may affect the grammatical structures of a language. English typically utilizes the subject-verb-object (SVO) sentence structure, while sentence structure is flexible in Spanish. The Spanish phrase, "yo te amo," would be directly translated to English as, "I you love," instead of the appropriate, "I love you." Another example is the use of adjectives. Within the English language, adjectives precede the noun (e.g. *a big dog*), but adjectives typically come after the noun in Spanish (e.g. *un perro grande*). If a native Spanish-speaker were taking an assessment in English, his or her syntax might be considered an area of concern when it is really a product of transfer.

Assessment standardization. Matching the language of a formal assessment to the PWA's dominant language is only one of many factors ensuring an appropriate multilingual examination. The SLP needs to consider the sample on which the assessment was standardized. If the sample was composed of individuals within a certain dialect, the test is appropriate for only individuals who utilize the same dialect (Battle 2012). A Spanish test developed in Spain, for example, would be normed on a sample reflective of the Spanish population. Therefore, the test would be inappropriate to use on Spanish-speakers native to Mexico or the Caribbean.

Multilingual Factors in Assessment Summary

The elements of multilingual assessment mentioned above need to be considered in order to develop an unbiased assessment. The lack of materials for individuals with a primary language

other than English proposes a challenge to appropriate assessment. However, the direct translation of existing, English assessments into the target language is a quick fix and introduces extreme bias into the results of testing. SLPs need to ensure the assessment materials being used were either developed in the PWA's primary language or the appropriate precautions have been taken throughout the translation process.

CHAPTER IV

EVALUATION OF COGNITIVE LINGUISTIC SKILLS – BILINGUAL

Evaluation of Cognitive Linguistic Skills – Bilingual

In an attempt to address the characteristics of aphasia, the lack of practical assessment measures, and considerations when working with the multicultural and multilingual populations, the ECLS-B was conceptualized. The ECLS-B is an efficient, quick method of informally assessing Spanish- or English-dominant PWA. It was developed as a tool for monolingual, English-dominant SLPs to use in acute settings of assessment.

Purpose of the ECLS-B

SLPs have an ethical obligation to provide services in the primary language of the PWA. The ECLS-B was created to assist monolingual clinicians with limited Spanish skills during their initial evaluation of PWA. It is recommended this evaluation be used as a screener to identify areas of strength and weakness for the neurogenic population. A bilingual clinician should conduct a more thorough evaluation before diagnoses or treatment objectives are developed. It is not the purpose of this screener to eliminate the use of a translator or replace assessments conducted by SLPs who are bilingual.

In a perfect world, every clinical setting would have an SLP on staff with at least near-native proficiency in each language spoken by all of the PWA. However, this is not a perfect world, and monolingual clinicians should prepare themselves as best they can for encounters with multicultural and multilingual PWA. Thus is the purpose of this screener.

Qualifications for Administration

This screener should be administered by an SLP with basic communication skills in Spanish. While near-native or native proficiency is not necessary to administer the ECLS-B, the SLP must be able to aurally comprehend the PWA's responses and determine if the responses are correct.

An evaluation of the SLP's expressive abilities in Spanish should be conducted before administering the screener. Though the SLP may have cultural and linguistic knowledge of the Spanish language, expressive factors may impede the PWA's understanding of the SLP's speech (intelligibility, accent, rate, intonation, etc.).

Administration of the ECLS-B

The ECLS-B is divided into five sections: *Translation of Common Hospital Phrases*, *Family Questionnaire*, *Cognitive-Linguistic Tasks*, *Auditory Comprehension*, and *Oral Expression*. Due to the informality of the screener, the clinician can administer however many questions he or she deems necessary to determine a strength or weakness in each section.

The instructions for each section are provided in both languages. The Spanish instructions are written in the formal *usted* form in order to address older PWA more respectfully. Clinicians using this screener should consider using the informal *tu* form when addressing PWA younger than themselves. Also, English-dominant speakers need to account for masculine and feminine gender in the Spanish language. Nouns in Spanish typically require masculine or feminine designation.

The *Translation of Common Hospital Phrases* section is a list of ten phrases translated between English and Spanish. These are meant to aid communication with Spanish-dominant

speakers. The majority of the phrases are specific to a hospital setting. They should be referenced during a communication breakdown.

The *Family Questionnaire* section has six yes-no questions regarding the PWA's communication skills. The clinician should administer the questionnaire to someone familiar with the PWA's premorbid and current communication skills. Typically, this is the PWA's family or close friends. However, the PWA can complete the questionnaire if family is not present, if family does not know the answers, and if the PWA is capable of responding. The questionnaire can be conducted in whichever language is more comfortable for the responder. It does not have to be conducted in the PWA's primary language.

The *Cognitive-Linguistic Tasks* section has six tasks: orientation to person, orientation to place, orientation to time, short-term memory, long-term memory, and repetition. This section requires the PWA to identify personal information, such as their birthday or where they were raised. In order to ensure appropriate responses, the SLP must research some of the PWA's biographical data before the assessment begins. It is helpful to have family present in this instance.

The *Auditory Comprehension* section has five tasks: understanding gestures, yes-no questions, object identification, 1-step commands, and 2-step commands. The object identification task has several items listed for the convenience of the examiner. All nine items do not need to be administered. Rather, the examiner should select which couple of items are available for identification in the PWA's room.

The *Oral Expression* section has seven tasks: automatic speech, repetition, object naming, sentence completion (English), sentence completion (Spanish), responsive naming, and convergent/divergent naming. The sentence completion task requires the PWA to complete a

common idiom with a single word. Idioms are language-specific; therefore, a set of idioms is provided for each language. The examiner can administer whichever set of idioms corresponds to the PWA's dominant language.

ECLS-B Summary

The ECLS-B is a tool for monolingual, English-dominant clinicians to use when assessing English- or Spanish-dominant PWA. This screener was created to assess the most common deficits of aphasia with respect to the PWA's multicultural and multilingual characteristics. Stimuli throughout the test are not culturally specific, and, therefore, can be administered to individuals in most cultures. The stimuli and instructions throughout the exam are translated between Spanish and English so that an English-dominant clinician with some experience in conversational Spanish can administer the assessment with ease.

CHAPTER V

SUMMARY AND CONCLUSION

Implications for Aphasia Assessment

Aphasia is an acquired, neurogenic language disorder. The deficits of aphasia can manifest in any combination of the four communication modalities: speaking, listening, reading, and writing. Stroke is the most common cause of aphasia, as nearly half of stroke survivors acquire the disorder. A PWA's intelligence typically remains unchanged; however, medical, racial, socioeconomic, and geographical factors have been found to affect the severity of aphasia symptoms.

Aphasia can be assessed with formal or informal measures. Formal measures are typically published, comprehensive, and standardized. These assessments are desirable due to the thorough results and normed data. However, formal testing typically requires multiple hours to administer, disregards multicultural and multilingual considerations, and quickly exhausts the patient. The Boston Diagnostic Aphasia Examination – 3rd Edition (BDAE-3), Western Aphasia Battery – Revised (WAB-R), Aphasia Language Performance Scales (ALPS), and the Minnesota Test for Differential Diagnosis of Aphasia (MTDDA) are commonly used formal aphasia assessments.

Informal measures of assessment are often screeners, require little time to administer, and utilize materials found in the PWA's room. The results of informal testing are often subjective and not as comprehensive when compared to the results of formal testing. However, many SLPs

resort to informal testing methods in the work setting due to their ability to assess a PWA quickly.

Cultural and linguistic behaviors are closely integrated and constantly affecting language. The communication skills of a PWA will reflect his or her native culture and its respective linguistic patterns. It is imperative an SLP is able to evaluate communication skills with respect to the patient's culture. Otherwise, language differences will be considered language deficits, and misdiagnosis is possible. This requires culture-specific stimuli throughout aphasia assessment, administering the test in the PWA's primary language, and taking precautions during analysis regarding relative language structures.

The ECLS-B was created for monolingual, English-dominant clinicians with basic Spanish skills to use in the acute setting. The screener is an informal method of assessing the communication skills of English- or Spanish-dominant PWA. The instructions and stimuli are translated between English and Spanish for smoother transition between sections during administration. The ECLS-B is created with stimuli that is not culture specific to ensure an unbiased observation of communication skills, despite the PWA's culture and language.

REFERENCES

- American Speech-Language-Hearing Association (1985). Clinical Management of Communicatively Handicapped Minority Language Populations. *ASHA*, 29-32.
- American Speech-Language-Hearing Association (1989). Bilingual speech-language pathologists and audiologists: definition. *AHSA*, 31, 93.
- American Speech-Language-Hearing Association (2004). Knowledge and skills needed by speech-language pathologists and audiologists to provide culturally and linguistically appropriate services. *ASHA Supplement*, 24.
- Armstrong, L., & McKechnie, K. (2003). Intergenerational communication: Fundamental but under-exploited theory for speech and language therapy with older people. *International Journal of Language & Communication Disorders / Royal College of Speech & Language Therapists*, 38(1), 13-29.
- Barker-Collo, S., Bennett, D. A., Krishnamurthi, R. V., Parmar, P., Feigin, V. L., Naghavi, M, ... Roth, G.A. (2015). Sex Differences in Stroke Incidence, Prevalence, Mortality and Disability-Adjusted Life Years: Results from the Global Burden of Disease Study 2013. *Neuroepidemiology*, 45(3), 203-214.
- Barritt, A. W., & Smithard, D. G. (2011). Targeting fatigue in stroke patients. *ISRN Neurology*, 2011.
- Battle, D. E. (2012). *Communication disorders in multicultural and international populations* (4th ed.). St. Louis, MO: Elsevier Mosby.
- Chapey, R. (2008). *Language intervention strategies in aphasia and related neurogenic communication disorders* (5th ed.). Baltimore, MA: Lippincott Williams & Wilkins.
- Colby, S. L. & Ortman, J. M. (2015). Projections of the Size and Composition of the U.S. Population: 2014 to 2060, *Current Population Reports*, 1-13.
- Connor, L. T., Obler, L. K., Tocco, M., Fitzpatrick, P. M., & Albert, M. L. (2001). Effect of socioeconomic status on aphasia severity and recovery. *Brain and Language*, 78(2), 254-257.
- Darley, F. L. (1982). *Aphasia*. Philadelphia: W. B. Saunders Company.
- Davis, G. A. (2000). *Aphasiology: Disorders and clinical practice*. Allyn & Bacon: Needham Heights, MA.

- Engelter, S. T., Michal, G., Papa, S., Frei, M., Born, C., Ajdacic-Gross Vladeta, . . . Lyrer, P. A. (2006). Epidemiology of aphasia attributable to first ischemic stroke: Incidence, severity, fluency, etiology, and thrombolysis. *Stroke; a Journal of Cerebral Circulation*, *37*(6), 1379-1384.
- Goldberg, B. (1997). Tailoring to fit. Altering our approach to multicultural populations. *ASHA*, *39*(2), 22-28.
- Goldstein, L. B., Bushnell, C. D., Adams, R. J., Appel, L. J., Braun, L. T., Chaturvedi, S., . . . Pearson, T. A. (2010). Guidelines for the Primary Prevention of Stroke: A guideline for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke*, *42*, 517-584.
- Goodglass, H. (2001). *The assessment of aphasia and related disorders* (3rd ed.). Baltimore, MA: Lippincott Williams & Wilkins.
- Haast, R. A. M., Gustafson, D. R., & Kiliaan, A. J. (2012). Sex differences in stroke. *Journal of Cerebral Blood Flow & Metabolism*, *32*(12), 2100-2107.
- Helm-Estabrooks, N., Albert, M. L., & Nicholas, M. (2014). *Manual of aphasia and aphasia therapy*. Austin, TX: PRO-ED.
- Howard, G., Evans, G. W., Pearce, K., Howard, V. J., Bell, R. A., Mayer, E. J., & Burke, G. L. (1995). Is the stroke belt disappearing? An analysis of racial, temporal, and age effects. *Stroke*, *26*, 1153-1158.
- Keenan, J., & Brassell, E. (1975). *Aphasia Language Performance Scales*. Nashville, TN: Pinnacle Press.
- Kertesz, A. (2007). *Western Aphasia Battery – Revised: Examiner’s manual*. San Antonio, TX: Pearson.
- Le Dorze, G., Julien, M., Genereux, S., Larfeuil, C., Navennec, C., Laporte, D., & Champagne, C. (2000). The development of a procedure for the evaluation of communication occurring between residents in long-term care and their caregivers. *Aphasiology*, *14*(1), 17-51.
- Lezak, M. D. (2012). *Neuropsychological assessment*. Oxford: Oxford University Press.
- Liao, Y., Greenlund, K. J., Croft, J. B., Keenan, N. L., Giles, W. H. (2009). Factors Explaining Excess Stroke Prevalence in the US Stroke Belt. *Stroke*, *40*(10), 3336-3341.
- Linebaugh, C. W. (1979). *Assessing the Assessments: The Adequacy of Standardized Tests of Aphasia*, *Clinical Aphasiology Conference*, Phoenix, AZ, 1979. Minneapolis, MN: BRK Publishers.
- Mayeux, R., & Kandel E. R. (1991). Disorders of language: the aphasias. *Principles of Neural Science*, 3rd edition, 839-851.

- McNeil, M. R., & Kimelman, M. D. (2001). Darley and the nature of aphasia: the defining and classifying controversies. *Aphasiology*, *15*(3), 221-229.
- Newton, C., Acres, K., & Bruce, C. (2013). A comparison of computerized and paper-based language tests with adults with aphasia. *American Journal of Speech-Language Pathology*, *22*, 185-197.
- Porter, R. E., & Samovar, L. A. (1976). Communicating interculturally. *Intercultural communication: A reader*. Belmont, CA: Wadsworth.
- Roger, P. (1998) Bilingual aphasia: The central importance of social and cultural factors in clinically oriented research. *Aphasiology*, *12*(2), 134-137.
- Roger, P., & Code, C. (2011). Lost in translation? Issues of content validity in interpreter-mediated aphasia assessments. *International Journal of Speech-Language Pathology*, *13*(1), 61-73.
- Schuell, H., & Sefer, J. W. (1973). *Differential diagnosis of aphasia with the Minnesota test*. Minneapolis, MN: University of Minnesota Press.
- Shipley, K. G., & McAfee, J. G. (2009). *Assessment in speech-language pathology: A resource manual* (4th ed.). Clifton Park, NY: Delmar Cengage Learning.
- Simmons-Mackie, N., Threats, T. T., Kagan, A. (2005). Outcome assessment in aphasia: a survey. *Journal of Communication Disorders*, *38*, 1-27.
- Smith, M. A., Wein, T. H., Moye, L. A., Pandey, D. K., Morgenstern, L. B. (1999). Insurance Status and Access to Stroke Care for Mexican Americans: A Prospective Community-Based Study. *Neurology*, *52*(6), 313-314.
- Spren, O., & Risser, A. H. (2003). *Assessment of aphasia*. Oxford: Oxford University Press.
- The World Bank (2015). *Labor force participation rate, female* [data file]. Retrieve from http://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?order=wbapi_data_value_2014+wbapi_data_value+wbapi_data_value-last&sort=asc
- Vaartjes, I., O'Flaherty, M., Capewell, S., Kappelle, J., & Bots, M. (2012). Remarkable decline in ischemic stroke mortality is not matched by changes in incidence. *Stroke*, *44*, 591-597.

APPENDIX

APPENDIX

EVALUATION OF COGNITIVE LINGUISTIC SKILLS – BILINGUAL

ECLS-B

Evaluation of Cognitive Linguistic Skills – Bilingual

It is recommended this evaluation be used as a screener to identify areas of weakness for the neurogenic population. A more thorough evaluation should be conducted before treatment objectives are developed.

Clinicians using this screener to evaluate Spanish-dominant patients should have some pre-existing communication skills in Spanish. Consult ASHA's *Code of Ethics* and *Bilingual Service Delivery* for clarification of required skills.

Translation of Common Hospital Phrases

Hello, my name is...

Hola, mi nombre es...

I am a speech pathologist.

Soy una terapeuta de lenguaje.

I am here to evaluate your communication.

Estoy aquí para evaluar su comunicación.

I know a little bit of Spanish.

Yo sé un poco de Español.

I will ask you to complete tasks and answer some questions.

Le voy a pedir que siga unas instrucciones y responda unas preguntas.

Do you need anything? Are you comfortable?

Necesita algo? Se siente comodo/a?

Open your eyes. Wake up for me.

Abra los ojos. Despierte.

Can you hear me? Can you see me?

Puede escucharme? Puede verme?

Do you need your nurse?

Necesita a su enfermero/a?

I will come back later.

Regresaré despues.

Family Questionnaire

Does [pt] attempt to communicate?

Y N

Cómo intenta el/ella comunicarse?

Has [pt]'s communication skills changed?

Y N

Ha cambiado la abilidad de comunicarse de el/ella?

Does [pt] use gestures more often than words?

Y N

Utiliza gestos mas que palabras para comunicarse?

Does [pt] understand what you say to him/her?

Y N

Entiende lo que le estan diciendo a el/ella?

Does [pt] have difficulty saying what he/she would like to say?

Y N

Tiene dificultad diciendo lo que el/ella quisiera decir?

What language does [pt] use most often?

Y N

Que lenguaje usa mas frecuente el/ella?

Cognitive-Linguistic Tasks

I am going to name three things. I will ask you to repeat these things later, so listen carefully. *Socks, water, and television.*

Voy a nombrar tres cosas y le voy a pedir que las repita en unos minutos. Escuche bien. *Calcetines, agua, y televisión.*

Orientation to Person

1. ___ What is your name?
Cómo se llama?
2. ___ When is your birthday?
Cuándo es su cumpleaños?
3. ___ How old are you?
Cuántos años tiene?
4. ___ Are you a doctor?
Es usted un doctor?

Orientation to Place

1. ___ What state are we in?
En qué estado estamos?
2. ___ What city / town are we in?
En qué ciudad estamos?
3. ___ What type of building is this?
Qué tipo de lugar/edificio estad usted en este momento?
4. ___ Do you work here?
Usted trabaja aquí?

Orientation to Time

1. ___ What is the year?
En qué año estamos ahorita?
2. ___ What is the month?
En qué mes estamos ahorita?
3. ___ What is the day of the week?
Qué día de la semana es hoy?
Is it day or night?
4. ___ Es día o noche?

Short-Term Memory

1. ___ What are the three things I asked you to remember?
Qué son los tres cosas que le pedí que recordara?
2. ___ Who am I?
Quién soy yo?
3. ___ What did you eat today?
Qué comió hoy?

Long-Term Memory

1. ___ Where were you born?
Dónde nació?
2. ___ What is your mother's name?
Qué es el nombre de su madre?
3. ___ When is Christmas?
Cuándo es Navidad?

Repetition

- Repeat what I say.
Repita lo que yo diga.
1. ___ eight – three
ocho – tres
 2. ___ milk – coffee – juice
leche – café – jugo
 3. ___ table – bed – chair – door
mesa – cama – silla – puerta

Auditory Comprehension

Understanding Gestures

Show me the gesture...

Muéstrame el gesto...

- Yes
- _____ Sí
 - _____ Goodbye
 - _____ Adiós
 - _____ Go away
 - _____ Vete
 - _____ Be quiet / Shhhhh
 - _____ Silencio, por favor.

1-Step Commands

I am going to ask you to complete tasks.

Le voy a preguntar que siga unas instrucciones.

- Close your eyes.
- _____ Cierre sus ojos
 - _____ Open your mouth.
 - _____ Abra sus ojos
 - _____ Give me your hand.
 - _____ Déme su mano
 - _____ Touch your nose.
 - _____ Tóquese la nariz

Yes / No Questions

I am going to ask you some yes/no questions.

Voy a hacerle algunas preguntas.

- Is your name [wrong name]?
- _____ Es su nombre?
 - _____ Is grass green?
 - _____ El zacate es verde?
 - _____ Are you in a school?
 - _____ Está usted en la escuela ahorita?
 - _____ Does rain fall from the sky?
 - _____ La lluvia caé del cielo?

2-Step Commands

I am going to ask you to complete some tasks.

Le voy a preguntar que siga unas instrucciones.

- Point to the door and then say your name.
- Apunte a la puerta y luego diga su nombre.
- _____ Close your eyes and then raise your hand.
 - _____ Cierre sus ojos y luego levante su mano.

Object Identification

Point to the object I name.

Apunte al objeto que yo nombre.

- Cup
- _____ Vaso
 - _____ Window
 - _____ Ventana
 - _____ Television
 - _____ Televisión
 - _____ Door
 - _____ Puerta
 - _____ Pen / Pencil
 - _____ Pluma / Lapiz
 - _____ Spoon
 - _____ Cuchara
 - _____ Ceiling
 - _____ Techo
 - _____ Watch
 - _____ Reloj
 - _____ Hand
 - _____ Mano
 - _____ Table
 - _____ Mesa

Oral Expression

Automatic Speech

Now, we are going to say some things.

Ahora, vamos a decir algunas cosas.

- Count to ten.
- _____ Cuento de uno al diez.
 - _____ Tell me the days of the week.
 - _____ Dígame los días de la semana.
 - _____ Tell me the months of the year.
 - _____ Dígame los meses del año.

Sentence Completion (English)

Finish my sentence.

Completa mi oración.

- _____ Easier said than... (*done*)
- _____ Curiosity killed the... (*cat*)
- _____ Hit the nail on the... (*head*)
- _____ To make a long story... (*short*)

Sentence Completion (Spanish)

- _____ De tal palo, tal... (*astilla*)
- _____ Dime con quién andas, y te dire quién... (*eres*)
- _____ A quién madruga, Dios lo... (*ayuda*)

Repetition

Repeat what I say.

Repita lo que yo diga.

- Bed
- _____ Cama
 - _____ Window
 - _____ Ventana
 - _____ Green ball
 - _____ Pelota verde
 - _____ I need help
 - _____ Necesito ayuda

Responsive Naming

I am going to ask you questions.

Voy a hacerle preguntas.

- What animal barks? (*dog*)
- _____ Qué animal ladra? (*perro*)
 - _____ What unlocks a door? (*key*)
 - _____ Qué abre un candado? (*llave*)
 - _____ What do we use to tell the time? (*clock, watch*)
 - _____ Qué usamos para saber la hora? (*reloj*)
 - _____ What color is grass?
 - _____ Qué color es el zacate?

Object Naming

What is this called?

Como se llama esto?

- Pen
- _____ Pluma
 - _____ Hand
 - _____ Blanket
 - _____ Colcha
 - _____ Television
 - _____ Televisión

Convergent / Divergent Naming

Name the category of items listed.

Nombre de la categoría de cosas listada.

- What are milk, water, and juice?
- _____ Qué son leche, agua, y jugo?
 - _____ What are shirts, pants, and shoes?
 - _____ Qué son camisas, pantalones, y zapatos?
 - _____ Can you list some fruits?
 - _____ Puede nombrar algunas frutas?
 - _____ Can you name some animals?
 - _____ Puede nombrar algunos animales?

BIOGRAPHICAL SKETCH

Lauren C. Carter obtained a Bachelor of Science in Communication Sciences and Disorders degree from the University of Texas at Austin in May of 2013. She continued her studies at the University of Texas Rio Grande Valley in Edinburg, Texas and graduated with a Master of Science in Communication Sciences and Disorders degree in May of 2016. Her current mailing address is 312 Pebble Beach. Dr., Portland, TX 78374.