Journal of the National Black Association for Speech-Language and Hearing

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About the Editor

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Contributing Editorial Staff & Reviewers

The following individuals served as reviewers, or otherwise contributed editorially, to this issue and/or another issue of *JNBASLH*. We thank them for their contributions to the journal. Any omissions were unintentional.

About the Journal

The *Journal of the National Black Association for Speech-Language and Hearing* (*JNBASLH*) is a peer-reviewed, refereed journal that welcomes submissions concerning communication and communication disorders from practitioners, researchers or scholars that comprise diverse racial and ethnic backgrounds, as well as academic orientations.

JNBALSH editorial board welcomes submissions from professionals or scholars interested in communication breakdown and/or communication disorders in the context of the social, cultural and linguistic diversity within and among countries around the world.

JNBALSH is especially focused on those populations where diagnostic and intervention services are limited and/or are often provided services which are not culturally appropriate. It is expected that scholars in those areas could include, but not limited to, speech-language pathology, audiology, psychology, linguistics and sociology. Articles can cover any aspect of child or adult language communication and swallowing, including prevention, screening, assessment, intervention and environmental modifications. Special issues of *JNBASLH* concerning a specific topic may also be suggested by an author or through the initiation of the editors.

Aims & Scope

Topics accepted for publication in *JNBASLH* could include, but is not limited to, the following:
- Communication breakdowns among persons due to culture, age, race, background, education, or social status
- Use of the World Health Organization's International Classification of Functioning, Disability, and Health (ICF) framework to describe communication use and disorders among the world's populations.
- Communication disorders in underserved or marginalized populations around the world
- Service delivery frameworks for countries' minority populations, including those who are minorities for a variety of reasons including race, religion, or primary language spoken.
- Dialectical differences and their effects on communication among populations
- Evidence base practice research with culturally and linguistic diverse populations
- Provision of communication services in low income/resource countries
- Provision of communication services in middle income/resource countries
- Provision of communication services to immigrant and/or refuge populations
- Effects of poverty on communication development and the provision of services
- Education/training issues in serving diverse populations
- Ethical issues in serving diverse populations
- Role of religion in views of communication disability and its effect on service delivery

Submissions may include:
- research papers using quantitative or qualitative methodology
- description of clinical programs
- theoretical discussion papers
- scientifically conducted program evaluations demonstrating
- clinical forums
- works using disability frameworks or models effectiveness of clinical protocols
- critical clinical literature reviews
- case studies
- tutorials
- letters to the editor.

Submission of Manuscripts

All manuscripts should be accompanied by a cover letter (e-mail) in which the corresponding author:

- Requests that the manuscript be considered for publication;
- Affirms that the manuscript has not been published previously, including in an electronic form;
- Affirms that the manuscript is not currently submitted elsewhere;
- Affirms that all applicable research adheres to the basic ethical considerations for the protection of human or animal participants in research;
- Notes the presence or absence of a dual commitment;
- Affirms that permission has been obtained to include any copyrighted material in the paper; and
- Supplies his or her business address, phone and fax numbers, and e-mail address.

All manuscripts must be submitted electronically and should follow the style and preparation presented in the *Publication Manual of the American Psychological Association* (Sixth Edition, 2010; see Journal for exceptions to APA style). Particular attention should be paid to the citing of references, both in the text and on the reference page. Manuscript submissions and inquiries should be addressed to: nbaslh@nbaslh.org.

Preparation of Manuscripts

Manuscripts must be written in English. Authors are referred to recent copies of the journal and are encouraged to copy the published format of papers therein.

Text should be supplied in a format compatible with Microsoft Word for Windows (PC). All manuscripts must be typed in 12pt font and in double-space with margins of at least 1-inch. Charts and tables are considered textual and should also be supplied in a format compatible with Word. All figures, including illustrations, diagrams, photographs, should be supplied in .jpg format.

Authors must write clearly and concisely, stating their objectives clearly, defining their terms, and substantiating their positions with well-reasoned, supporting evidence. In addition, they are encouraged to review articles in the area they are addressing which have been previously published in the journal and, where they feel appropriate, to reference them. This will enhance context, coherence, and continuity for readers.

All submissions are considered by the editorial board. A manuscript will be rejected if it does not fall within the scope of the journal or does not meet the submission requirements.

Manuscripts deemed acceptable will be sent to a minimum of two reviewers. This journal uses double-blind review, which means that both the reviewer and author identities are concealed from each other throughout the review process. The Editor and Associate Editor will consider the reviews and make a decision regarding a manuscript. Decisions are made on a case-by-case basis, typically within 6 weeks from submission, and the Editor's decision is final.

Disclaimer & Ethics Statement

The *JNBSALH* is not responsible for the claims and findings that researchers and others make, or imply, or the accuracy and authenticity of information that is released in the journal. Authors are expected to have research data that substantiates their claims. The editorial board reserves the right to refuse, reject, or cancel an article for any reason at any time without liability.

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Sponsoring Organization

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Journal of the National Black Association for Speech-Language and Hearing

Editor's Note

It is a privilege to publish Volume 12, Issue 2 of the *Journal of the National Black Association for Speech-Language and Hearing* (JNBASLH). Over the last 12 years, the journal has strived to contribute to the scientific discourse surrounding communication and communication disorders and differences within and across socially, culturally, and linguistically diverse populations, with an emphasis on those populations who are underserved. It has done that by publishing articles written by established and budding scholars, including students, who are committed to this effort. Clearly, as Dr. Carter G. Woodson wrote in his book The Mis-Education of the Negro, *"History shows that it does not matter who is in power or what revolutionary forces take over the government, those who have not learned to do for themselves and have to depend solely on others never obtain any more rights or privileges in the end than they had in the beginning."*

In the last year, the editorial board of *JNBASLH* has seen a steady increase in article submissions, authors, reviewers, and readership. We have also seen an increase in the journal's recognition, competitiveness, and reputation in the scientific community. Along with other factors, I strongly believe that these increases are due, in part, to the support of the National Black Association for Speech-Language and Hearing leadership, the efforts and hard work of past and current editorial board members, and the interest of the readership. Therefore, my two-fold aim at this time is to (1) continue to see each of those things increase and (2) further strengthen the immediate and long term impact of the journal at the national and international levels.

In this issue of *JNBASLH*, you will find seven articles. Keller-Bell, Scott, Jackson, Miller, Gillespie, and Bridges-Bond present a framework for infusing cultural and linguistic information throughout the curriculum to facilitate the development of cultural competency in graduate students while Martinez presents a tutorial for developing the production and use of Talking Photonovelas to teach about stroke as part of prevention efforts to low-literate populations. In their respective articles, Martinez and Johnson discuss skills that monolingual healthcare providers should be knowledgeable of when they work with bilingual Spanish-English clients and their families, McQuitty, Mayo, and Lemmon examine the perceptions of African American speech-language pathologists who owned or co-owned a private practice about the challenges and rewards of working in this employment venue, and Privette, Bridges-Bond, Gillespie, and Osler examine the self-reported frequency with which speech-language pathologists use culturally responsive strategies as a result of their graduate training experience. Kasambira Fannin, Barbarin, and Crais examine links between linguistic performance and the communicative functions of typically developing African American, European American, and Latino American preschool boys and girls and their mothers. On the other hand, Matthews, Sullivan, Freeman, and Myers discuss how speech-language pathologists and students of speech-language pathology perceive their responsibilities with regards to the treatment of transgender people who seek communication therapy, including voice therapy.

Finally, I want to thank all of the scholars who submitted articles to *JNBASLH* and the reviewers who kindly reviewed them. I also want to thank the members of the editorial board, as well as the staff, who contribute to the success of each issue of *JNBASLH*. Undoubtedly, *"Alone we can do so little; together, we can do so much"* (Helen Keller).

Kenyatta O. Rivers, Ph.D., CCC-SLP
Editor

A FRAMEWORK FOR DEVELOPING CULTURAL COMPETENCE IN SPEECH-LANGUAGE PATHOLOGY: A TUTORIAL

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ABSTRACT

Accredited academic and clinical education programs in speech-language pathology must reflect current knowledge, skills, technology, and scope of practice. The diversity of society must be reflected throughout the curriculum (CAA, 2014). We present a framework for infusing cultural and linguistic information throughout the curriculum to facilitate the development of cultural competency in graduate students. In addition to infusing culturally and linguistically diverse approaches into the graduate curriculum, we describe several examples of focused initiatives including a bilingual speech-language pathology track and opportunities for students to study abroad to conduct research and provide speech and language services in China and in the Dominican Republic. By infusing multicultural issues throughout the academic and clinical curricula, the framework that we present is designed to prepare speech-language pathologists to effectively serve all populations.

KEYWORDS: cultural competence, multicultural course, multiculturalism

At the core of providing appropriate and effective speech, language and hearing services is the individual who requires the services. These individuals cannot be viewed in isolation but within a context that considers their unique and diverse backgrounds. Cultural and linguistic diversity can result from many factors including race, ethnicity, gender, gender identity/gender expression, age, religion, national origin, sexual orientation, or disability. The individuals served come from culturally and linguistically diverse populations; therefore, speech-language pathologists (SLPs), audiologists, as well as other healthcare professionals such as physicians and psychologists (American Psychological Association, 2002; 2004) must be trained to provide culturally competent services.

Cultural competence as applied to audiologists and SLPs is defined as sensitivity to cultural and linguistic differences that affect the identification, assessment, treatment and management of communication disorders/differences in persons (ASHA, 2004). Cultural competence is a developmental process, rather than an endpoint, that evolves over time and based on three critical elements: a) cultural awareness and attitudes, b) knowledge of other cultures, and c) application of skills (Franca & Harten, 2016; Lynch & Hanson, 2011; Mahendra et al., 2005). Lynch and Hanson (2011) suggested that understanding one's own culture is the first step for service providers to understand the cultures of the individuals they serve. Cultural awareness requires individuals to reflect upon their heritage, values, behaviors, and beliefs and how these may affect practice (Crowley, Guest, & Sudler, 2015; Lynch & Hanson, 2011). Another step is that service providers have to acquire knowledge about other cultures, including the impact of cultural factors on the acquisition of language (ASHA, 2016b; Lynch & Hanson, 2011; Mahendra et al., 2005). Finally, service providers must be able to apply the information they have learned to distinguish between a communication difference versus a communication disorder (ASHA, 2016b; Crowley et al., 2015; Mahendra et al., 2005)

The benefits of training SLPs and audiologists to be culturally competent include: a) improving the quality of services and health outcomes; b) eliminating long-standing disparities in the health status of people of diverse racial, ethnic, and cultural backgrounds; c) responding to current projected demographic changes in the United States; and d) meeting legislative, regulatory and accreditation mandates (ASHA, 2011b; Goode & Dunne, 2003). However, when asked on the 2011 American Speech-Language-Hearing Association (ASHA) membership survey about how qualified they believed they were to address cultural and linguistic influences on service delivery and outcomes, the majority of SLPs rated themselves as a "3" (in the middle of a scale from 1 to 5 with 1 equating to not at all qualified and 5 to very qualified; ASHA, 2011a). Similar results were obtained on the 2014 and 2016 surveys of school-based SLPs (American Speech-Language-Hearing Association, 2016a). These results indicate that SLPs need opportunities and training to develop the knowledge and skills required to provide culturally competent services.

Given the need for training in cultural and linguistic diversity, the purpose of this tutorial is to describe a framework for preparing SLPs to effectively serve all populations by infusing multicultural issues throughout the academic and clinical curricula and providing examples of focused initiatives and travel abroad opportunities that are designed to further expand students' knowledge and skills. Next, we will discuss demographic imperatives, approaches to developing cultural competence, a framework for developing cultural competency in speech-language pathology students, and final thoughts and conclusions.

Demographic Imperatives

Speech-language pathologists and audiologists in the United States serve individuals with ever-increasing diversity. Garcia et al. (2004) suggest that population changes and the well-documented disparities in the health status of racial and ethnic minorities have created demographic imperatives for health professions to adapt training programs to serve the needs of diverse populations.

Diversity of the Population of the United States

According to the U.S. Census Bureau (Colby & Ortman, 2015), the Hispanic or Latino Origin population is projected to increase by 115% from 17% in 2014 to 29% in 2060. This is in comparison to a 13% increase in the non-Hispanic or Latino origin population from 17% in 2014 to 29% in 2060. By 2060, the percentage of African-American or Blacks, American Indian and Alaska Native, Asian, and Native Hawaiian and Other Pacific Islander is projected to increase by at least 40%. Twenty-one percent of the U.S. population aged five or older speak a language other than English at home.

Some of the largest population shifts will be seen in children, those under 18 years of age. By 2044, it is projected that the U.S. population will be a majority-minority population where non-White Hispanics will comprise less than 50% of the population (Colby & Ortman, 2015). However, this shift has already occurred in the child population. In 2014, non-White Hispanic children comprised 52% of the child population and is expected to increase to 62% by the year 2060.

Diversity of Speech-Language Pathologists

While the U.S. population is experiencing significant demographic changes, the membership of ASHA does not reflect the racial and ethnic diversity of the U.S. population. ASHA (2017c) reported that the percentage of members who held Certificate of Clinical Competence (CCC) and identified themselves as Hispanic or Latino was 4.4%. The number of members with CCCs who identified themselves as African Americans or Black, American Indian/Alaska Native, Asian, Native Hawaiian/Other Pacific Islander, or Multiracial was 3% or less for each of the reported groups. ASHA does not offer certification in bilingualism or accredited bilingual academic programs; however, the organization does provide a guidelines as to the required qualifications to be considered a bilingual service provider (American Speech-Language-Hearing Association, 2017a). ASHA (2017b) indicated that only 7% of certified members reported that they met the definition of a bilingual service provider.
The contrasting demographics between the U.S. population and the membership of ASHA in conjunction with the reports that the majority of SLPs rate themselves at a "3" or less on a five-point scale whether they are qualified to address cultural and linguistic influences on service delivery indicates the need to evaluate the training

provided in academic programs (American Speech-Language-Hearing Association, 2016a; Crowley et al., 2015; Franca & Harten, 2016; Hammer, Detwiler, Detwiler, Blood, & Dean Qualls, 2004). In this report, the authors describe a model for developing cultural competence and how that model is implemented at their institution.

Approaches to Developing Cultural Competence

Accreditation Standards

The Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) accredited speech-language pathology program, states that a program's academic and clinical curriculum must be consistent with its mission and goals as well as provide students with opportunities to acquire and demonstrate skills matching the scope of practice in speech-language pathology, including understanding the linguistic and cultural bases of human communication and its disorders (CAA, 2014).

Additionally, as stated in CAA Standard III, the clinical education component of the curriculum should provide students with access to a client/patient base that is sufficient to achieve the program's stated mission and goals and includes a variety of clinical settings, client/patient populations, and age groups. The program should ensure that each student is exposed to a variety of populations across the life span and from culturally and linguistically diverse backgrounds (CAA, 2014). The students' journey towards cultural competence in speech-language pathology begins at the university.

Models Used to Address Cultural Competency

While CAA and ASHA certification standards require training in cultural competence, academic programs vary widely in how they approach educating and training students in cultural and linguistic diversity (Franca & Harten, 2016; Mahendra et al., 2005; Stockman, Boult, & Robinson, 2008). One model is to offer a dedicated multicultural course and the expectation is that this course will address cultural and linguistic diversity. Yet, one class taught in isolation from other aspects of the academic curriculum and clinical practicum is not optimal (Franca & Harten, 2016; Horton-Ikard, Munoz, Thomas-Tate, & Keller-Bell, 2009; Stockman, Boult, & Robinson,

2004; Stockman et al., 2008). Another model, a general model of infusion is to infuse multicultural content across the academic curriculum without a dedicated course to multiculturalism (Stockman et al., 2004; Stockman et al., 2008). Accredited programs are not required to offer courses focusing on multicultural or multilingual issues and many do not (ASHA, 2014). Though the inclusion of a dedicated course on multicultural issues has been found to be effective, there are still pedagogical challenges (Franca & Harten, 2016; Horton-Ikard et al., 2009; Stockman et al., 2004).

A third model is to develop cultural competence to address cultural and linguistic diversity within the academic and clinical practice and a dedicated course on multicultural issues. Stockman et al. (2004) proposed an *integral fusion model* which views communication as a dynamic process that occurs within cultural contexts. The infusion of multicultural/multilingual information is not considered additive (e.g., an additional topic to be discussed) or subtractive (e.g., replacing other course content) but provides a context for the provision of services. Thus, cultural diversity is considered a relevant factor during the instruction of concepts, knowledge, and skills in each course and clinical practicum. Cultural diversity is not viewed as an inherently separate topic from other relevant topics in the course, a perspective consistent with infusion models (Stockman, Boult, & Robinson, 2004, 2008). The graduate coursework in each topic area infuses discussions and/or assignments that address sociocultural factors as appropriate for the course.

Framework for Developing Cultural Competency

Examples from the framework used to address cultural competence in an accredited SLP program in the Southeast will be described in this section. This framework consists of a) establishing a plan to address cultural competence, b) providing a dedicated multicultural course, c) infusing of multicultural/multilingual content across academic courses and clinical practicum, and d) specialized opportunities.

Programmatic Planning

A multipronged approach is used to address and facilitate the development cultural competency in the graduate students. First, the program's student recruitment strategy includes activities to expose potential students from diverse backgrounds to the field of communication disorders and to foster relationships with undergraduate programs with traditionally underrepresented populations. This is consistent with research that suggests one way to develop cultural competence is through professional and personal interactions and activities (Lubinski & Matteliano, 2008) and it addresses demographic imperatives outlined previously.

Dedicated Multicultural Course

A dedicated course provides an eclectic view of multicultural issues pertinent to culturally responsive clinical practice in speech-language pathology. Particular attention is given to African American, Hispanic/Latino American, Asian and Pacific American, Native American, and Middle Eastern/Arab American cultural and ethnic groups. In addition to providing an overview of diverse cultural issues, this class discusses health care disparities, multicultural educational practices, incidence and prevalence of disorders, communication differences versus disorders, dialect, English language learners, bilingualism, non-bias assessment, and culturally sensitive service delivery.

As multicultural issues are not limited to the profession of speech-language pathology, this course infuses resources from a variety of disciplines including health care, early childhood development, multicultural education, counseling, psychology, anthropology, and socio-linguistics. It is the intent of this class to equip students as future certified speech-language pathologists to be promoters of equality, justice, and humane conditions in schools and throughout society. To this end, course content further addresses issues of leadership, policies, economics, and legislation.

Specific goals of the course are to facilitate each student's growth in 1) personal and professional sensitivity to and appreciation for cultural and linguistic differences; 2) basic knowledge of those factors which contribute to communicative differences and disorders within and across diverse cultural, ethnic and linguistic groups; and 3) basic knowledge of the practical implications of cultural and linguistic differences in the delivery of communication disorders services to a multicultural population.

Over the course of the semester, students work to increase their knowledge of multicultural service delivery issues in general and specific to a cultural group of interest. Their final project requires the students to demonstrate their application of best practices and delivery of culturally appropriate services pertaining to assigned case studies (e.g. Mexican American woman with right brain deficit). A series of questions (Wallace, 1997) guides them through the clinical decision making process necessary for case management. As a group/team the students are required to systematically address this series of questions leading to a course of action and plan of intervention that is culturally responsive and evidence based. Each group presents their case study in a "grand rounds" format using current citations reflecting evidence-based practice.

Infusion of Multicultural/Multilingual Content

Example from a graduate course on literacy. This course focuses on literacy (reading and writing) among children with communication disorders and addresses early pre-literacy assessment in the home and community, early grades, and secondary education. Prevention, assessment and intervention for written language and spoken language are emphasized. All class discussions include a multicultural focus.

Several student learning outcomes are directly related to diversity such as 1) administer informal and formal literacy assessment measures based on procedures provided with the assessments and the use of culturally appropriate techniques; 2) analyze videos for pragmatic difficulties in conversation, narrative abilities and cultural differences, and problems with executive function; and 3) discuss literature on reading assessment and intervention among exceptional children from culturally and linguistically diverse backgrounds to distinguish between techniques which may be useful for children with various disabilities including learning disabilities, autism, Down's syndrome, and hearing impairment.

Diversity is incorporated into the course in both in-class and out-of-class activities. At the beginning of the course, students complete self-assessment activities. For example, students complete a rating scale describing how comfortable they feel providing language and literacy services for students from diverse backgrounds. Students circle the terms "Comfortable, Somewhat Comfortable, or Uncomfortable" to describe how they feel. Results are tallied and discussed in class. Students are encouraged to describe why they may feel comfortable, somewhat comfortable or uncomfortable.

Students discuss the dynamic aspect of culture and language that applies to everyone (ASHA, 2011b) as well as focusing on specific cultural and linguistic influences on children's reading activities. For example, students discuss the influence of culture on their own literacy experiences when they were children (e.g. book reading activities with their parents). Students discuss the influence of culture on the literacy experiences of children from low-income backgrounds and those from middle-income families. For instance, children from low-income backgrounds may experience literacy activities less often in the form of book reading activities than children from middle-income families (Hammer, 2001; Nelson, 2010). Another example of student discussion regarding the influence of culture involves the use of choice making. In Western cultures children may be provided choices more often, and may be encouraged to choose which book to read, whereas in other cultures that may be more parent-directed such as in Latin American cultures, a child may simply be given a book to read and not offered a choice (Elleseff, 2012, March 6). The importance of recognizing the values and preferences of the children and families that are served is emphasized (Nelson, 2010). Students share examples of literacy interventions they use with children and families from diverse backgrounds in their practicum settings (e.g., the use of culturally sensitive books and materials).

Students participate in the administration and discussion of various literacy assessment activities, including alternative assessment procedures. For example, students demonstrate knowledge of linguistic differences and the ability to apply their knowledge by forming small groups to analyze children's oral readings for the use of morphosyntactic patterns of African American English (LeMoine, 2001; Washington & Craig, 2001) and Spanish-influenced English (Kayser, 2002). Alternative assessment methods involving the use of informal measures (Castro, Ayankoya, & Kasprzak, 2011) such as these are particularly useful for children from culturally and linguistically diverse backgrounds.

Several out-of-class activities and assignments also focus on diversity. For example, students review and discuss journal articles that highlight research involving children

from culturally and linguistically diverse backgrounds and with various disabilities. Students are provided experiences with other cultures through participation in community programs and study abroad activities. Students also participate in literacy research and in presentations with professors and other students at local and national conferences. This creates the opportunity for students to dialogue with diverse audiences on issues related to providing language and literacy services to children and families from culturally and linguistically diverse backgrounds.

All class discussions include cultural and linguistic diversity as a focus, and there are specific objectives and activities related to diversity as well. Diversity is discussed as it applies to students enrolled in the course and the children and families that they serve. Opportunities to address diversity occur during classroom discussions and activities and in activities and assignments outside of the classroom.

Example of an adult clinical practicum. One of the group therapy programs provided by the graduate program's speech and hearing clinic is a neurogenic aphasia group. The purpose for the group is to not only provide clinic hours for graduate level speech-language pathology students but to provide a vehicle for neurogenic clients to interact in a culturally/age sensitive communication friendly environment. Often this population has experienced extensive one on one individual therapy, but not group interaction. By incorporating group therapy, clients are able to communicate and relate to others on a different level. Elman (2007) talks about the growth of group aphasia treatments, more out of necessity than other factors. These groups promote interaction among its members, which helps to rebuild communities and improves health.

Group participants vary in age, ranging from 50 to 83 years of age, and marital status, most being single or divorced. Severity levels also vary. Most participants are at least 2 years post injury and one was 15 years post injury. Another participant was less than 1 year post injury. All of the participants are African American, including as many as 5 females in a low functioning group and 5 men in a high functioning group. The clinical supervisor administers a screening process for participants that includes screening for communication level, personality, and ability to attend. Individuals who

may otherwise meet the criteria may not be eligible to participate due to the inability to attend the meetings due to transportation or other issues.

The participants in the group represent a cross-section of socioeconomic statuses. Since the program started, 50% have been college educated/professionally employed including a schoolteacher, accountant, nurse, and minister. Further, 40% have been business entrepreneurs, 20% have served in the armed forces, and 10% have had blue-collar jobs or were unemployed at the time of their injury.

Referrals to come from a variety of sources including community programs, local rehabilitation hospitals, and "word of mouth". Participants currently receive free speech services and can remain in the program until the client or circumstances require that they discontinue. More than 50% of NAG participants have family and/or friends that have taken an active role in their rehabilitation process.

The serviced delivery format varies but generally consists of one hour of individual speech, language and/or cognitive therapy and one hour of group therapy. The groups are broadly categorized as high functioning and low functioning. Group size ranges from three to five participants per group with a focus on facilitating communication exchanges between the participants and student clinicians.

The student clinicians represent a range of demographics including African Americans, Caucasians, Hispanics, Native Americans, and both genders. Students are required to attend an orientation at the beginning of the clinical practicum during which students are given evidence-based reading assignments and culturally appropriate materials created by the clinical supervisor. This orientation includes training on cultural diversity, special considerations when working with older populations, and appropriate accommodations for individuals with disabilities.

Examples of pediatric clinical practicums. Graduate students provide services in a variety of public school systems. During the first year of the program, students have the opportunity to provide services at an urban traditional elementary school and an urban charter school. Sixty-two percent of all children in DPS and 82%

of the children at the traditional elementary school qualified for the free and reduced lunch in the 2012-2013 school year (DPS, 2013). The student population at this elementary school is 57% Black and 33% Hispanic (DPS, 2013). End-of-Grade Test results indicated the overall pass rate for third to fifth graders on reading was 19% and 27% for math (NC DPI, 2014). Approximately seven percent of economically disadvantaged children and less than five percent of children with limited English Proficiency or children with disabilities passed both reading and math End-of-Grade Tests (NC DPI, 2014).

Another school setting for the graduate students is a charter Title I urban school for children kindergarten to eighth grade. End-of-Grade Test results indicate the overall pass rate for third to eighth graders on reading was 16% and 9% for math (NC DPI, 2014). Six percent of economically disadvantaged students and less than five percent of children with limited English Proficiency at the charter school passed both reading and math End-of-Grade Tests (NC DPI, 2014). During the 2011-2012 academic years, 97% of the population was reported to be African American while five percent (3%) was reported to be Hispanic or Caucasian (Healthy Start Academy, n.d.).

These two school clinical experiences provide an opportunity for graduate students to understand the complexities of working with children who do not reflect the same socioeconomic status as the majority of the graduate students. Children from diverse cultural backgrounds who are considered at risk and who have been diagnosed with disabilities, such as those who receive speech and language services in these school settings, require intervention strategies that consider flexible instructional and assessment methods in order to reach those from different cultural backgrounds (Smith & LeConte, 2009). Evidence-based practices that are effective for children from socioculturally diverse backgrounds include use of a continual assessment system to determine progress, setting high but realistic expectations, peer tutoring, developing a depth of knowledge about the children and their families, and supporting family and community involvement (Friend & Bursuck, 2012; McLesky, Rosenberg, & Westling, 2013). Cultural competence empowers future SLPs to work effectively in multi- and cross-cultural situations (Keengwe, 2010; Rounds, Weil, & Bishop, 1994). The clinical experience at the charter school typically starts

with designing an environment that reflects the culture and community of the children who will be served. Graduate students create a clinical setting that is diverse in race, ethnicity, age, and educational stimuli; creating a learning space that will be culturally responsive for all clients. Clinical materials and activities are carefully chosen with an understanding that diversity and multiculturalism have not always been viewed as important when books, games, and assessment materials were designed. All activities are explored and presented in a manner that respects the cultural beliefs of the children served.

The use of spoken and nonverbal language is examined for unintentional, embedded messages when speaking, interacting, and writing about children. Graduate students are encouraged to conscientiously build and maintain rapport with families, which requires the awareness of language that may have negative connotations. The clinical placements in public school settings serve as a microcosm of a larger population of children. These settings require graduate students to demonstrate culturally competent, professional disposition and behaviors necessary to effectively serve students from varying cultural backgrounds (Keengwe, 2010). Further, the belief is that the provision of services in a culturally responsive manner will facilitate the communication not only in the school setting but will also generalize to other settings in the child's community.

Specialized Opportunities

The program offers international service learning opportunities in conjunction with curriculum specialization. Three specialization curriculum tracks for students to further develop their cultural competence in various service provision areas are provided: a) provision of bilingual services, b) children with developmental disabilities from culturally and socioeconomically diverse backgrounds, and c) the use of assistive technology with a focus on underserved populations. Each specialty track has its own admission criteria, required coursework, and clinical practicum experiences. Further, the program offers international service learning opportunities so that students can engage in global service provision.

La Conexion Bilingue (The Bilingual Connection) Track. This provides a combination of specialized coursework and practicum training to address the needs to serve Hispanic and/or Spanish-speaking children and adults with communication disorders. Graduate student clinicians who speak native to near-native proficiency in Spanish are eligible to become specialists in the assessment and treatment of monolingual/bilingual Spanish-speaking children and adults. Participants on this track are required to complete additional coursework including a course on bilingualism and Spanish Phonetics as well as 50 hours of bilingual clinical practicum experience. Hablemos! serves Spanish-speaking preschool children in their first/native language of Spanish. Assessment and intervention services are provided in Spanish and English. Graduate students may be placed in an off-campus practicum setting that serves a Spanish-speaking population if available. Further, due to the demographics of the student population and faculty, the bilingual clinic has extended its service provision to include Mandarin Chinese.

Children with developmental disabilities from diverse backgrounds specialty. The primary objectives of this specialty track are to 1) prepare highly-qualified SLPs through an interdisciplinary program focused on improving the outcomes for children with disabilities; and 2) increase the number of culturally competent SLPs to provide services to children from socioculturally diverse populations. It is an interdisciplinary project with a special education graduate program where students complete graduate coursework on children with developmental disabilities, special education law, learning style differences, and disparities in the educational system. Students participate in specialized clinical practice with a high percentage of students from culturally, linguistically, and economically diverse backgrounds. This is the first year of funding for this project.

Assistive and Augmentative Communication Specialty. This track prepares students to work with culturally and linguistically diverse children and their families in the areas of early intervention and assistive technology services. Students take a range of required and elective courses and seminars that infuse multicultural issues (e.g. literacy and low incidence disabilities) as well as special topics in diversity (e.g. working with CLD families). Students are further required to engage in research and/or grant writing to hone leadership and research skills by engaging in mentored student initiated research projects and professional presentations.

Students are required to complete a minimum of 50 hours of specialized training with one semester in either the bilingual clinic or an inclusive therapeutic preschool clinic which serves toddlers to preschool age children ranging from typically developing to children with dual diagnoses and complex communication needs. Students also provide parent consultation and training of families from diverse language and cultural backgrounds.

International service learning experiences. The program offers its students opportunities to participate in service learning experiences in different countries. Academic and clinical faculty have created a global immersion course which focuses on providing services internationally and prepares the students for the service learning experiences. The experiences vary depending upon the nature of the opportunity but generally include providing the local communities with information and materials regarding communication disorders, interacting with local families, educators and community agencies to provide preventative services, and conducting assessments upon request. Students have participated in service learning experiences in China and the Dominican Republic.

Discussion and Conclusions

Speech-language pathologists and audiologists have the responsibility to work toward achieving cultural competence. The ability to understand the needs of culturally and linguistically diverse learners is critical for a client's success and is now more urgent given the rapid and dramatic change of the population of the United States (Choate, 2004; McLesky et al., 2013). Children and adults with communication disorders who are culturally and linguistically diverse encompass a wide range of differences that may include ethnicity, socioeconomic status, ability, disability, gender, religion, and language (Choate, 2004). ASHA has long recognized the need for its members to be culturally competent. It has produced a variety of resources and developed policy documents for serving culturally and linguistically diverse populations such as the *Knowledge and Skills Needed by Speech-Language Pathologists and Audiologists to Provide*

Culturally and Linguistically Appropriate Services (ASHA, 2004) and *Cultural Competence in Professional Service Delivery* (2011b).

The framework presented represents best practices in its use of an integral infusion model by infusing multicultural/multilingual instruction throughout the curriculum and offering a specific course on multicultural issues (Horton-Ikard, Munoz, Thomas-Tate, & Keller-Bell, 2009; Stockman, Boult, & Robinson, 2008). The development of cultural and linguistic competence as a SLP is a dynamic process and provides graduate students with clinical experiences to implement and demonstrate culturally appropriate communication, knowledge, and skills. Through required coursework, specialized electives and seminars, and diverse clinical practicum settings, graduate students have the opportunity to learn and implement culturally sensitive, evidence-based practices. This is evidenced by the students' ability to identify appropriate intervention and assessment strategies, use culturally appropriate communication with clients and their families, and provide services integrating the client's beliefs based on his or her unique needs as evaluated by clinical supervisors.

This framework presents a model of a program aimed to prepare culturally competent scholars to provide services to an increasingly diverse and global society. It is designed with the understanding that the development of cultural competence occurs with cultural humility, the continual process of self-evaluation, self-reflection and an appreciation of the perspective of the client and significant stakeholders (Tervalon & Murray-Garcia, 1998) .

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USING TALKING PHOTONOVELAS FOR EDUCATION ABOUT STROKE: A DATA-DRIVEN TUTORIAL AND DEMONSTRATION

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ABSTRACT

To address health disparities, professionals and settings are called upon to develop new and creative approaches for health education purposes. In particular, one segment of the population that needs special attention are individuals who have low literacy levels. This population has been identified as at high risk for many conditions including hypertension and stroke. This article presents a tutorial for developing Talking Photonovelas (TPs) to educate about stroke for audiences who may not have the reading skills required to understand written materials usually presented at high readability levels. In addition, a demonstration on the use of the TP developed and a summary of results are included. After using the TP, adult students increased their scores. The percentage of students gaining an increase in scores varied depending on the TP subthemes. Finally, based on accuracy levels, it was determined that one TP view would not suffice to gain all the basic information needed about stroke, stroke prevention and how to proceed in the presence of a stroke victim.

KEYWORDS: health disparities, health literacy, stroke, photonovelas, fotonovelas, stroke education

Introduction

Literacy and Health Literacy

Pursuing preventative measures to avoid communication disorders and etiological factors includes developing information materials for hospitals, clinics, health fairs and other settings. However, there is a plethora of literature pointing to health education materials testing at readability levels above the literacy levels of the intended audience, including too much information, offering limited or no explanations of uncommon words, and containing instructions that are too complex.

In the field of communication sciences and disorders, the picture is quite similar. For example, Martinez (2010) gauged the readability levels of handouts and brochures disseminated by the American Speech-Language-Hearing Association (ASHA), National Institutes of Health (NIH), and the American Academy of Audiology (AAA). These are the agencies that are charged with educating the population about communication disorders, including the impact of stroke on communication skills. Martinez found that the average readability level of 51 brochures authored by these three agencies and addressing a diversity of topics, was grade 8.8and the reading levels ranged from grades 5.0 to 12.8. Only one-fourth of the brochures contained information at the sixth grade level or lower. In addition, the readability level of brochures related to stroke (N=5) averaged a grade of 12. Martinez's results run in concert with other studies about stroke related materials. For example, on-line materials have been gauged at 10.4 and 12.1 grade level depending on the formulas used (Hoffman & McKenna, 2006; Hoffman, McKenna, Worrall, & Read, 2004; Sharma, Tridimas, & Fitzsimmons, 2014; Vallance, Taylor, & Lavallee, 2008).

High readability levels of health related literature present a challenge to health educators when addressing the population that is low literate. The 2003 National Assessment of Adult Literacy (NAAL) (Baer, Kutner, & Sabatini, 2009) measured three types of literacy skills: prose, document and quantitative skills. Prose skills help readers to understand continuous texts in brochures and instructional materials. Document skills help to understand non-continuous texts such as maps, schedules, and drug and food labels. Quantitative skills comprise computational skills required for completing order forms and determining quantities of food to be served. The 2003 NAAL study reported that eleven million adults (above the age of 16) were found to be non-literates, and of those, 7 million may not respond to simple test questions, and the rest may present with language barriers. Also, another 30 million had no more than the most simple and concrete literacy skills (below basic) and 68 million could perform simple and everyday literacy activities (basic). These two groups –below basic and basic – comprise 43% of the population tested. The populations at risk were found to be those without High School diplomas, persons with no English spoken at home, Hispanics, African Americans, older persons (aged 65+) and those persons with multiple disabilities.

Beyond everyday literacy skills, health literacy skills may also be problematic to some within the African American, Hispanic, American Indian/Alaskan Native and multiracial sectors (Kutner, Greenberg, Jin, & Paulsen, 2006). The following are some definitions:

- "…the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (US Department of Health and Human Service, 2010a, 2010b).
- "…the use of a wide range of skills that improve the ability of people to act on information in order to live healthier lives. These skills include reading, writing, listening, speaking, numeracy, and critical analysis, as well as communication and interaction skills" (Canada's Office of Literacy and Essential Skills, 2011).
- "…a set of higher level skills to facilitate evaluating information, analyze risks and benefits, make calculations of medicines, and interpret test results among others." It also includes skills such as reading abilities, and oral and visual abilities used to clarify and understand pictures and graphs. The World Health Organization extends this definition by focusing on social and political issues that affect the health of clients. For them, health literacy is "the cognitive and social skills which determine the

motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health" (The World Health Organization, 2015).

Health literacy means more than being able to read pamphlets and successfully make appointments. By improving people's access to health information and their capacity to use it effectively, health literacy is critical to empowerment." By using the notion of empowerment they reflect the thoughts of Paulo Freire (1970) and others who view the role of education as that of empowering individuals and communities to take action and proactively change their situations through policy and organizational change.

Studies addressing the skills of patients also point to gaps in health literacy skills Apart from straight literacy skills, the 2003 NAAL also found that 14% of the population has below basic health literacy skills and 22% of the population has basic health literacy skills (Kutner et al., 2006). The Center for Disease Control and Prevention (2016) estimates that nine of 10 adults have difficulties with information that is unfamiliar, complex and technical. Studies regarding patients appear just as disconcerting. In a survey of 85 studies containing over 31,000 patients, it was found that 26% of the population had low health literacy skills and 20% had marginal health literacy skills (Passche-Orlow, Parker, Gasmararian, Nielsen-Bohlman & Rudd, 2005). Those most at risk include the elderly, persons with limited education, ethnic minorities, persons speaking languages other than English during childhood, immigrants, unemployed persons, low income populations, and Medicaid users (Kutner et al., 2006).

Since literacy and health literacy skills have been proven to correlate to health status, it is unsurprising that the report *Healthy People 2010* (U. S. Department of Health and Human Services, 2000) addressing health disparities recommended the aim of "*improved consumer health literacy* (Objective 11-2)" and identified health literacy as an important component of health communication. Thus, offering alternative communication methods for populations at risk such as listed above, addresses Healthy People 2010 overarching goal of eliminating health disparities. This article presents a tutorial for developing Talking Photonovelas (TPs) on stroke education for audiences who may not have the reading skills required to

understand written materials usually presented at high readability levels. Also included is a training demonstration of the use of the TP developed for a sample of adults with low-literacy levels and a summary of results.

Talking Photonovelas

When addressing literacy limitations, clinicians need to be aware of the difficulties faced by clients when receiving health education. Egbert and Nanna (2009) noted that low-literate individuals are challenged when obtaining health information, processing/understanding health information, and using health information for decision making.

A strategy that has been used with low-literate populations to educate them about health, education, politics and other issues are photonovelas. Photonovelas use stories to convey a message similar to comic books by relating a story using photographs and dialogue boxes or bubbles containing simple language. This format takes advantage of the strong oral traditions of some cultural groups such as African Americans and Hispanics, while also addressing the needs of other populations with low-literacy skills. They have been used effectively to disseminate information regarding health, education, and governance in underdeveloped worlds as well as the United States (Kepka, Coronado, Rodriguez, & Thompson, 2011; Nimmon, 2007; Rudd & Comings, 1994; Rural Women's Health Project, 2011; Unger, Cabassa, Molina, Contreras, & Baron, 2013; Valle, Yamada, & Matiella, 2006). Furthermore, recommendations have been made to emphasize narratives (with imaging) in adult literacy programs because non-literate populations are very much attuned to storytelling. In essence, since people live within narratives, the world is grasped through narratives and stories, those that individuals live themselves and those that are told to them. Therefore, many have advocated for integrating storytelling and have identified its effectiveness in adult literacy and health literacy programs, because they tap on factual information along with emotions and experiential learning (Caminotti & Gray, 2012; Day, 2009; Eck, 2006). As well, storytelling can also be used for scaffolding, an instructional approach which supports the learning of new information by integrating it to prior knowledge.

Talking Photonovelas (TPs) (Martinez & Lyons, 2004; Martinez, Smith, & Ellie, 2004) go one step further by using technology to enhance the story telling experience. The TPs are delivered through computers and accompany the pictures and dialogue boxes with voiceovers. The website www.myhealthstories.com includes examples of TPs with communication sciences and disorders content. This approach is innovative in that it uses computers to present the photonovelas which are accompanied by voice-overs. Voice-overs then enhance the learning experience for those who have problems reading, but offers the opportunity to learn aurally.

This study illustrates the production and use of Talking Photonovelas as a method to teach about stroke as part of prevention efforts to low-literate populations. Its purpose is to offer a systematic process to clinicians who want to engage in an educational approach with their clients as it pertains to stroke and its prevention.

Method

Participants

A total of nine African Americans, ranging in age from 26 to 62 years (M = 42.78), participated in the training. They included four females and five males whose educational levels ranged between 1st and 12th grade (M = 7.89). Table 1 provides the demographic information for the students. Each student had a reading level assigned to them through the literacy program based on prior literacy assessments. Their reading levels ranged between 1st and 8th grades (M = 3.89). Those students with a significant history of hearing, visual, cognitive impairments or prior stroke experience were excluded.

Materials and Procedures

Rationale. A concern in the field of communication sciences and disorders is the rate of strokes in individuals because they may directly impact patients' post-morbid communication skills. The concern increases with regard to African Americans and Hispanics since they are at a greater risk than other ethnic populations. Therefore, professionals are obliged to carry out more aggressive educational activities to those populations, in particular as it relates to prevention. Nevertheless, health education materials tend to contain advanced and specialized terminologies and high readability levels that preclude sectors of the African American population from increasing their knowledge about strokes, identifying symptoms and risk indicators, and carrying out rescue activities in case of a stroke incident.

Strokes present a larger danger to minorities such as African Americans and Hispanics who are most at risk of hypertension (Quiñones, Liang, & Ye, 2012). For example, there is likelihood that 50 % more African American adults, when compared to White adults, will experience a stroke, and they are 70% more likely to die from a stroke. In fact, for African Americans the risk of death from stroke is four times larger at ages 35-54, three times larger at ages 55-64 and two times larger at ages 65-74. Furthermore, they are more likely to become disabled and have difficulty with activities of daily living than their white counterparts. Putting them at risk are factors such as hypertension, diabetes, smoking, obesity, and physical inactivity which have also been identified as present in African Americans in higher rates than their white counterparts (Center for Disease Control and Prevention, 2016; Payne, 2016).

Proper management of controllable factors (i.e., diabetes, obesity, alcohol and tobacco use, smoking) requires awareness of risks and approaches for avoiding them. The majority of strokes are preventable, but many individuals are unaware of the populations at risk, or what symptoms to look for that may be specific indicators of stroke. Those were the findings when 39 studies between 1966 and 2008 were examined by Jones, Jenkinson, Leathley, and Watkins (2010). In summary, these studies reported that knowledge for recognizing and preventing stokes was very poor. In these studies, participants were asked, for example, to name symptoms and explain actions to take when presented with a stroke situation. It is vital to help populations' understanding that a stroke treated with urgency is key to preventing death or morbidity.

Themes. For validity reasons, a literature review served to identify important themes that would facilitate stroke prevention. The American Stroke Association (2011), National Stroke Association (2013, 2016), and the National Institute of Neurological Disorders and Stroke (2016) helped identify six basic themes.
Theme 1: Definition of stroke
Theme 2: Populations at risk
Theme 3: Risk factors

Theme 4: Stroke consequences
Theme 5: How to act
Theme 6: Definition of FAST.

With the themes identified, learning objectives were developed that served as the basis for producing the Talking Photonovela (TP) (or Talking Fotonovela) (see Appendix A).

Story. Since the intent of a TP is to educate through the use of stories that are relatable to the trainees, the story "Helping a Stroke Victim" was developed. For such purpose, the story revolved around a married couple having breakfast when the husband presents with a stroke. Later on, the wife and the daughter meet in the hospital and the wife relates the story to the daughter. The conversation with the daughter describes the definitions of stroke, the populations at risk, the risk factors, stroke consequences, and the behaviors noted in her husband that pointed to a stroke. Finally, the discussion addresses what to do when presented with a person having a stroke and the definition of FAST, which is an acronym that stands for Facial drooping, Arm weakness, Speech difficulties and Time. This mnemonic device helps detect and enhance awareness and responsiveness to stroke victim needs by anyone who is with them (National Stroke Association, 2016)

Script and dialogue. The first production step involved writing a script. Because the information related should be short with a readability level appropriate for low literate populations, each dialogue sentence was assessed and modified to accomplish the goal. The dialogue included high frequency, and low readability words, as well as low readability sentences. The dialogue contained 285 words with an average of 3.8 characters per word. Fifty-two sentences are presented with an average of 5.4 words per sentence. The Flesch Kincaid Readability Formula (Microsoft Word, 2007) was used to measure each sentence as well as overall readability level. The Flesch Kincaid average grade level obtained was 1.3, with sentences ranging between grades 0.1 and 12.8. The Mode for grades was 3.0. The highest ranking sentences presented lists, such as *"Asians, Hispanics and African Americans must be careful"* (Grade level 12.8) and *"Also, high blood pressure, high cholesterol, diabetes, or if you are too heavy"* (Grade level 8.5.) To facilitate reading understanding, they were accompanied by pictures and/or the sentences were parsed into dialogue boxes.

Storyboards. The story was further elaborated using story boards that presented each scene to be photographed as well as the dialogues. The elaboration of story boards is a necessary step that helps organize the project. Storyboards help to visualize how the story will flow by sketching out (like a comic book) what would be contained in each of the pictures of the TP, what may be important to remember, and the logical sequence of events. It also helps to envisage how the final product will look like therefore, making the production efforts more efficient. There are many story board templates available in the internet. For our purposes, two templates (see Appendix C) were used from Creativetemplate.net (2017). Each picture to be taken should be sketched out in these storyboards. While drawing complete scenes are useful (as in movie productions), drawing stick figures is sufficient. Figures may be placed from left to right in the order in which their dialogue will appear, therefore guiding us as to angles that will be photographed. Also, space is available to notate any emotional feelings that need to be portrayed, props to be used, setting/ambience, and other information. A second template was used to further elaborate each picture. Picture sketches were refined and the placement of dialogue bubbles was also polished. Dialogue boxes should be placed from left to right, and top to bottom in the appropriate dialogue order to facilitate reading. Other information such as props, setting, talent clothing, angles of pictures, etc. are also listed or commented upon in the storyboard.

Photography. Photographic production begins after story boards are developed. Suggestions include to keep color to a minimum, considering both foreground and background. For example, if the setting has a yellow background, the talent (actors) should avoid using yellow clothing. Props should also stand out, so that if a red telephone is used, it should not be placed on top of a red tablecloth. Also, as many photos possible of the same scenes from different angles should be taken. Although scenes in the storyboards have already been set up, extra photos are helpful in case another photo is needed to clarify a point or to strengthen the story's cohesion and coherence. Finally, one must keep in mind that photo-editing is needed for cropping out unnecessary visuals or for honing in on specific props or talents. There are many photo-editing software available, such as Adobe Photoshop (Adobe, 2007) used for our TP.

Slide show. Using Microsoft PowerPoint (Microsoft, 2007) a slide show was produced. Once photos were placed in a slide show, dialogue bubbles are placed. To do so, PowerPoint's toolbar offers the option to insert a shape called "callout" from where one can select a dialogue bubble. Dialogue bubble placement should be from left to right in the correct order of the dialogue and from top to bottom to facilitate reading. Inside the bubble the dialogue is typed trying to keep sentences on one line and always left aligned. Center alignment should definitely be avoided as it would interfere with readers' saccadic eye movements. The US Department of Health and Human Services, Centers for Medicate and Medicaid Services (2010) recommends using serif font, such as Times Roman.

Voice-overs. The next step is to do voice-overs. If the talent photographed is able, they can perform the voice-overs. Nevertheless, in this production, other talent performed the voice-overs. Doing voice-overs requires a separate production stage. At the beginning, the talent is given the script to study and, subsequently, rehearsals are carried out, which includes discussing the story. Later, the script is rehearsed without the slide show, addressing diction, intonational patterns, rate of speech and volume. Eventually the rehearsals include the slide show for synchronization/timing purposes. Finally, the voice-overs are recorded using PowerPoint's slideshow recording capabilities with a microphone attached to a lap top computer. When setting up the timing of slide shows, considerations must be made regarding future viewers timing needs for reading and listening to each slide. Nevertheless, if they are to be used by individual learners, then it is preferable for them to have command of the forward and back buttons to set their own pace. A copy of the completed TP is included in Appendix D.

The TP "Helping a Stroke Victim" was used to educate low-literate adults enrolled as students in an adult literacy program in a large metropolitan city. The students were given consent forms and attended an orientation meeting about the purpose of the training, what was involved in their participation, and how their privacy and confidentiality would be ensured. Because of the low literacy levels of the participants, the consent forms were read aloud and each section explained offering the participants the opportunity to ask questions. After the orientation, the participants signed the consent forms and

were individually interviewed to obtain demographic data.

Table 1. Demographic Characteristics of Participants (N=9)					
Participant	Age	Gender	Reading Grade	Education	Ocuppation
1	27	f	7	12	Supervisor
2	62	f	8	8	None
3	50	m	1	5	None
4	58	m	2	10	Vendor
5	47	f	5	7	None
6	40	m	3	12	None
7	27	m	4	10	None
8	48	m	4	6	None
9	26	f	1	1	None
Means	42.78		3.89	7.89	

Baseline scores. Before the training a baseline of knowledge was obtained for each student. The interview for baseline scores included open-ended questions about content based on the objectives of the training (see Appendix C). The information gathered was audiotaped.

Training. The students viewed the TP individually using a lap top computer. They were free to view the TP at their own pace. They were permitted to go back to any previous pages if they felt the need since they had control of the forward and back buttons in the computer. The clinician sat next to the participant as they viewed the PT.

Post lesson interview. The Post Lesson Interview included the same open-ended questions in the Baseline Interview addressing content. It also included open-ended questions about Use (how user-friendly was the tool) and Affect (how they felt about the knowledge they gained, if they could explain and advise others about stroke, and if they felt they could now take better care of themselves). The interview protocol is included in Appendix B. The Post Lesson interview was audiotaped to facilitate analysis.

Results

Content

The students' knowledge growth about content was measured by looking at differences between Baseline and Cumulative scores. That is, the participants' baseline interview responses (Table 2) were used as baseline data. Correct responses were given a score of 1. Correct responses in the post lesson interviews were also given a score of 1. A final cumulative score was obtained by adding baseline to post lesson scores. For example, if a respondent mentioned one risk factor during the baseline and then offered three more different risk factors during the post lesson interview, the final cumulative score would be four points. Table 2 also presents accuracy levels for each theme based on the target score of responses. When baselines and cumulative scores were compared the following percentage of the individuals increased their scores in all but one theme: Theme 1: from 22.2% to 55.5%; Theme 2: from 55.5% to 66.6%; Theme 3: from 55.5% to 77.7%; Theme 4 from 55.5% to 100.0%; Theme 5: from 66.6% to 77.7%; and Theme 7 from 0.0% to 44.4%. There was no percentage increase in Theme 6 (55% stayed stable). In summary, more individuals raised their scores in themes 4 (stroke effect/impact) and 7 (FAST explanation), followed by theme 1, then theme 3. Themes 2 and 5 presented with fewer individuals increasing their scores. A perusal at the accuracy levels obtained point to only a few individuals obtaining or surpassing 85% accuracy levels in any of the themes. Cumulative accuracy levels ranged from 0.00% to 250.00% (the latter due to offering more accurate information than target responses).

Table 2. Individual Performances in Raw Scores and Target Score Accuracy

	Theme 1 Stroke Definition Target Score 6				Theme 2 Populations at Risk Target Score 5				Theme 3 Risk Factors Target Score 5			
Participant	Baseline	Accuracy	Cummulative	Accuracy	Baseline	Accuracy	Cummulative	Accuracy	Baseline	Accuracy	Cummulative	Accuracy
1	0	0.00%	2	33.33%	1	20.00%	7	140.00%	3	60.00%	5	100.00%
2	0	0.00%	0	0.00%	2	40.00%	2	40.00%	0	0.00%	3	60.00%
3	0	0.00%	1	16.67%	0	0.00%	2	40.00%	0	0.00%	2	40.00%
4	1	16.67%	1	16.67%	1	20.00%	4	80.00%	1	20.00%	1	20.00%
5	0	0.00%	0	0.00%	1	20.00%	3	60.00%	2	40.00%	3	60.00%
6	1	16.67%	2	33.33%	2	40.00%	4	80.00%	3	60.00%	10	200.00%
7	0	0.00%	3	50.00%	1	20.00%	2	40.00%	0	0.00%	1	20.00%
8	0	0.00%	0	0.00%	1	20.00%	1	20.00%	0	0.00%	0	0.00%
9	0	0.00%	2	33.33%	1	20.00%	1	20.00%	1	20.00%	4	80.00%
Totals	2		11		10		26		10		29	

	Theme 4 Stroke Effect/Impact Target Score 2				Theme 5 Stroke Symptoms Target Score 4				Theme 6 How to Act Target Score 4				Theme 7 FAST Explanation Target Score 4			
Participant	Baseline	Accuracy	Cummulative	Accuracy	Baseline	Accuracy	Cummulative	Accuracy	Baseline	Accuracy	Cummulative	Accuracy	Baseline	Accuracy	Cummulative	Accuracy
1	1	50.00%	5	250.00%	1	25.00%	4	100.00%	1	25.00%	1	25.00%	0	0.00%	3	75.00%
2	0	0.00%	2	100.00%	2	50.00%	3	75.00%	0	0.00%	1	25.00%	0	0.00%	0	0.00%
3	1	50.00%	2	100.00%	0	0.00%	0	0.00%	0	0.00%	1	25.00%	0	0.00%	0	0.00%
4	2	100.00%	5	250.00%	2	50.00%	5	125.00%	1	25.00%	1	25.00%	0	0.00%	3	75.00%
5	1	50.00%	3	150.00%	0	0.00%	2	50.00%	0	0.00%	1	25.00%	0	0.00%	0	0.00%
6	0	0.00%	1	50.00%	1	25.00%	1	25.00%	1	25.00%	2	50.00%	0	0.00%	0	0.00%
7	0	0.00%	2	100.00%	0	0.00%	1	25.00%	1	25.00%	1	25.00%	0	0.00%	2	50.00%
8	0	0.00%	1	50.00%	1	25.00%	4	100.00%	1	25.00%	1	25.00%	0	0.00%	3	75.00%
9	2	100.00%	4	200.00%	2	50.00%	4	100.00%	0	0.00%	1	25.00%	0	0.00%	0	0.00%
Totals	7		25		9		24		5		10		0		11	

Note: Accuracy based on performance score and target score.

Using the Statistical Package for Social Science (SPSS), version 19 (IBM-SPSS, 2011) quantitative analysis were performed. Table 3 presents overall group performance. The mean Baseline score was 4.778 (SD = 2.587) and the mean Cumulative score was 15.111 (SD = 6.153). Table 4 shows the results of matched-pairs t-tests used to determine differences in performance between Baseline and Cumulative scores. The first analysis looked at overall performance of the group. There was a significant effect for the group (t = -7.46, df = 8, p= 0.00), suggesting growth in content knowledge. Further t-tests served to look at differences in score performance for each of the themes. They revealed that Cumulative scores were significantly higher than Baseline scores in all of the themes: Theme 1: Definition of Stroke, t = -2.68, df = 8, p = 0.03; Theme 2: Populations at Risk, t = -2.77, df = 8, p = 0.02; Theme 3: Risk Factors, t = 2.95, df = 8, p = 0.02; Theme 4: Stroke Repercussions, t = 6.00, df = 8, p = 0.00; Theme 5: Stroke Symptoms, t = -4.08; df = 8, p = 0.00; Theme 6: How to Act, t = -3.16, df = 8, p = 0.01; Theme 7: Define FAST, t = -2.48, df = 8, p = 0.04. It was therefore concluded that for each of the themes addressed in the PT, there was significant group growth in content knowledge.

Table 3. Group Performance by Theme (N=9)

	Theme	Baseline				Cummulative			
		Score	Range	M	SD	Score	Range	M	SD
1	Stroke Definition	2	0-1	0.222	0.441	11	0-3	1.222	1.093
2	Populations at Risk	10	0-2	1.111	0.601	26	0-7	2.889	1.900
3	Risk Factors	10	0-3	1.111	1.269	29	0-10	3.222	2.991
4	Stroke Effect/Impact	7	0-2	0.778	0.833	25	0-5	2.778	1.563
5	Stroke Symptoms	9	0-2	1.000	0.866	24	0-5	2.667	1.735
6	How to Act	5	0-1	0.556	0.527	10	1-2	1.111	0.333
7	FAST Explanation	0	0-0	0.000	0.000	11	0-3	1.222	1.481
	Total	43		4.778	2.587	136		15.111	6.153

Table 4. Comparison of Baseline and Cumulative Scores analysis using two-tailed t-tests (N=9).

		Baseline M (SD)	Cumulative M (SD)	T-Test	p
	Theme				
1	Stroke Definition	0.222 (0.441)	1.222 -91.093	*2.683	0.028
2	Populations at Risk	1.111 (0.601)	2.889 (1.900)	*2.775	0.024
3	Risk Factors	1.111 (1.269)	3.222 (2.991)	*2.949	0.018
4	Stroke Effect/Impact	0.778 (0.833)	2.778 (1.563)	*6.000	0
5	Stroke Symptoms	1.000 (0.866)	2.667 (1.732)	*4.082	0.003
6	How to Act	0.556 (0.527)	1.111 (0.333)	*3.162	0.013
7	FAST Explanation	0.000 (0.000)	1.222 (1.481)	*2.476	0.038
	All Themes	4.778 (2.587)	15.111 (6.150)	*7.464	0

Note. Df=8, *significant values noted in italics

Table 5. Pearson Correlation Matrix for Variables (N=9)

	Baseline	Cumulative
Reading	0.015	0.165
Gender	-0.173	-0.214
Age	0.094	-0.391
Education	0.401	0.561
Baseline		*0.858

Note. Df = 7, p = .05, critical p = .666, *significant values in italics

A series of SPSS Pearson Correlations statistical (IBM-SPSS, 2011) were performed on Baseline and Cumulative scores to examine the relationships between demographic characteristics and performances. The results of four demographic characteristic correlations are provided in Table 5. These correlations were statistically insignificant at the .05 level, df = 7. Correlations with Baseline scores were as follows: Reading Level, r = 0.015; Gender, r = -0.173; Age, r = 0.094; Education, r = 0.401. For Cumulative scores the correlations obtained were as follow: Reading Level, r = 0.165; Gender, r = -0.214; Age, r = -0.391; Education, r = 0.561. It is therefore concluded that demographic characteristics did not impact performance outcome in Baseline nor Cumulative scores. For the correlation between the Baseline and Cumulative scores performances, a level of significance was obtained at the .05 level (r = .856). Therefore, it should be noted that there is a relationship between participants' baseline scores and cumulative scores.

Use

Eight participants were able to offer comments regarding the user-friendliness of the tool. Of the group, seven (88.0%) found the story easy to understand, and one stated s/he had some difficulty. The words in the bubbles were found to be easy by 7 (88.0%) of the participants, and one also stated that it was still hard. About the pictures, all but one (88.0%) of the participants liked them. When asked if they liked listening to the story, all (100.0%) liked listening, with the following comments: *"Made it easier, it made it clear, it was better to understand."* One of the participants stated that *"First, it was hard, then it became easy."* When asked what they liked about the story, they stated that it gave a good view of stroke; it was helpful to learn about who is at risk; that learning about being diabetic scared him/her; that it helped to learn about the symptoms; and that they liked the story. All (100.0%) liked using the computer to learn, although two (25.0%) of them mentioned preferring books. All (100.0%) found the back and forward buttons easy to manipulate, and two of them actually needed to use the back button to understand better. Finally, all (100.0%) of the participants would like to learn more about health this way, and would recommend that others learn this way. They stated that *"It helped with comprehension, it was easier than reading books, and it was easy to do."* Finally, participants did not offer any ideas for improvement.

Affect

Eight participants responded to questions about how they felt about their abilities to address a stroke and to offer information to others. Six (75.0%) felt that they had a better understanding of strokes, and one was unsure. Some comments included *"Before he did not really understand, now knows the symptoms, it will be helpful, showed what needed to be done."* Nevertheless, only four (50.0%) felt they could explain what a stroke is, and two responded they could explain a *"little bit."* Of the eight, six (75.0%) felt they can identify the symptoms and seven (88.0%) felt they could explain them. Six (75.0%) participants felt they can explain the risk factors. All (100.0%) felt they knew what to do in the presence of a stroke incident. Finally, six (75.0%) expressed that because of the story they will take better care of themselves, and seven felt they could advise others about taking better care of themselves.

Discussion

The importance of continuing to educate the population about stroke in order to prevent the high levels of death and morbidity has called attention for the need to continue more aggressive preventative activities. Of prominence is the fact that minorities and low-literate populations are at higher risks of having strokes and being impacted than their white counterparts. Therefore, there is a need to create and disseminate more prevention materials, especially materials that are effective, by reducing the literacy demands of readers.

This article presents a data-driven tutorial and an example of using Talking Photonovelas (TP) as an alternative approach to other health educational approaches to teaching clients about stroke and its prevention. Photonovelas have historically been developed only in print material; therefore, the materials developed are innovative for their use with computers accompanied by voice-overs. Furthermore, this culturally-appropriate storytelling format may facilitate the learning experience as suggested in the literature.

The cohort of African American students who participated in the lesson were registered in an adult literacy program. Their ages ranged between 26 and 62 years of age, and their reading levels ranged between first and eighth grade. The students viewed the TP once. As a group, their performances improved after using the TP to learn about stroke. Moreover, they showed improvements with each of the seven sub-themes from pre to post training. However, further probing into each group showed variability in the percentage of students who actually increased their scores after viewing the TP. All of the individuals increased their scores when targeting the effects/impact of stroke (Theme 1). Three-fourths of individuals improved their scores after learning about risk factors (Theme 3) and stroke symptoms (Theme 5). Also, over two-thirds of the individuals improved their scores when addressing risk factors and stroke symptoms. In the areas of populations at risk, two-thirds of the students increased their scores. Half of the individuals were able to increase their scores when defining stroke. Finally, explaining how to act when presented with someone with a stroke and explaining what FAST stands for seemed to be the most difficult concepts to grasp, since for the former, no one increased their scores, and for the latter, less than half were able to improve their scores. Nevertheless, all themes showed significant differences between overall scores before and after the lesson especially in themes 2, 3 4 and 5 (populations at risk, risk factors, stroke effect/impact, and stroke symptoms respectively).

The participants' performances were not affected by the different characteristics of the students such as reading level, gender, age or education; yet, there was a positive correlation between the scores before and after the lesson. Thus, there may be a relationship between how much prior knowledge supports scaffolding for the new knowledge being obtained.

It was also important to gauge the user-friendliness or ease of use of the materials and activity procedures (e. g. laptop computer, using forward/backward buttons, pictures, dialogue bubbles). User-friendly designates hardware and software that is not difficult to learn, understand or use. The majority of the participants found it easy to understand, and they talked favorably about the pictures and the bubbles with words. All of them felt at ease using the computers and the buttons to control the TP. They would also like to learn about other health issues using this type of activity and would recommend it to other persons.

Finally, when the participants were queried as to how they felt about addressing stroke issues, most stated they had a

better understanding of stroke, but only half felt they could explain the concept. Most of them also stated that they could now identify and explain symptoms, as well as risk factors. All of them felt that they now know what to do when there is a CVA incident and they said that because of the story, they will take better care of themselves and could also advise others.

Conclusion

This tutorial may be used to guide developers in any area of communication sciences and disorders. The particular example demonstrated that with only one viewing there were increases in the knowledge the students had about stroke. Nevertheless, the accuracy levels may have increased if the students had the opportunity to view the TP more than once. It would be useful to continue gathering information about this particular TP, to find out how many trials it would take to obtain 85% accuracy and to refine themes with low percentages of individuals increasing their scores.

These materials may be used for prevention (i.e. educating), assessment (i.e. explaining expectations during a particular clinical exam), and treatment (i.e. recommending pre-morbid dietary or post-morbid rehabilitation activities). They may be used in waiting rooms, during interviews and educational activities. Further, with the increasing use of technology, they can be used in kiosks in public places, as well as with electronic pads and phones in apps. Also, educational groups may use the TPs to guide conversations and to reinforce knowledge gained. Just as well, the TPs can be printed out offering alternatives to documents with high readability levels. In keeping, the printout of these materials will not only serve the particular client but may also educate those family and community members with whom the materials are shared.

Acknowledgement

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	Objectives	Target Responses
Appendix A. Learning Objectives and Target Responses for Talking Photonovela		
After viewing the Talking Photonovela, the student will:		
Theme 1	define stroke.	•Stroke is like a brain attackSomething blocks the blood
		•Without oxygen cells die, Third cause of death in U. S.
		•Blood takes oxygen to the brain
		•Blood cannot reach the brain
		•Something blocks the blood
		•Third cause of death in U. S.
Theme 2	list populations at risk for having a strok	• More men have strokes
		• More women die of strokes
		• More strokes in women forty and over
		• Over the age of 55
		• African Americans, Hispanics, Asians
Theme 3	will name stroke risk factors	• Overweight
		• High blood pressure
		• High cholesterol
		• Diabetes
		• Drinking and smoking
Theme 4	name effects of stroke	• Death
		• Paralysis
Theme 5	name symptoms of stroke	• Headache.
		• Cannot smile, stiff face
		• Cannot raise arms.
		• Speech becomes slurred.
Theme 6	describe what can be done when a person is	• Ask questions
	having a stroke in front of them	• Determine symptoms
		• Remember FAST
		• Call 911
Theme 7	will describe what the acronym FAST stands for.	• F stands for Face, look for a smile
		• A stands for Arms, look to see if victim can raise them
		• S stands for Speech, look to see if he has slurred speech
		• T stands for Time, act fast and timely and dial 911

| Appendix B. Interview Protocol	
Area	Questions
Content	• What is a stroke?
	• What happens to the blood flow in the brain?
	• Why is it important that people learn about strokes?
	• Who can get a stroke?
	• What puts people at risk of a stroke?
	• What may happen to people when they have strokes?
	• What are the symptoms when a person gets a stroke?
	• What can you do at the moment when someone gets a stroke?
	• What does FAST stand for?
Use	• Did you find it easy to understand the story?
	• How did you find the words that were in the bubbles? Were they easy or hard to read?
	• What did you like about the story? What did you not like about the story?
	• How did you find the pictures? Did they help you learn more about stroke?
	• Did you like using the computer to learn about strokes? Why? Why not?
	• Did you like being able to listen to the story? Why? Why not?
	• Was it easy to use the button to turn the pages back and forth?
	• Did you need to turn the pages back to understand some more?
	• Would you like to learn more about health in this same way? Why? Why not?
	• How would you improve everything you have seen or done?
	• Would you recommend that others learn about stroke and other health matters this same way?
	• If you had a copy of the story, would you share it with others. With whom and how?
Affect	• Do you feel that you now have a better understanding of a stroke because of the story? Why? Why not?
	• Do you feel that you may be able to identify some of the symptoms in a stroke victim because of the story?
	• Do you feel that you know what to do if a person has a stroke because of the story?
	• Do you think you can explain to others about what is a stroke to others? Why? Why not?
	• Do you think you can explain to others the factors that put people at risk of strokes?
	• Why and how would you explain?
	• Do you think that you can explain to others about the symptoms? Why?
	• Do you think that you can explain to others about what to do with a stroke victim?
	• Do you think that because of the story, you may take better care of yourself? In which ways?

Appendix C

StoryBoards

Page: _____ of _____

Date: _____

Project Name: _____

By: _____
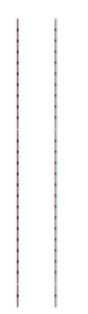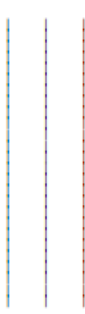
www.educationworld.com

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Creativetemplate.net (2017). *Storyboard Template*. Retrieved from http://www.creativetemplate.net/storyboard-
 template.html.

Fotonovela _____

page ___ of ___

Script _____

Picture Sketch

Dialogue

Dialogue

Special Directions

Directions

Page _____

Actors Needed

Place

Props Needed

Background

General Mood

Creativetemplate.net (2017). *Storyboard Template*. Retrieved from http://www.creativetemplate.net/storyboard-template.html.

Appendix D. Talking Photonovela.

Journal of the National Black Association for Speech-Language and Hearing

GENERAL PROFESSIONAL CONSIDERATIONS FOR USE WITH BILINGUAL CHILDREN

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ABSTRACT

Growth trends indicate that Spanish-English families are on the rise, and this leads to an increase in the likelihood of a monolingual clinician treating an individual with a language difference (Pew Research Center, 2008; Instituto Cervantes, 2016). The increasing diversity in languages presents a new challenge for monolingual healthcare providers in their efforts to work with bilingual Spanish-English clients and their families. This commentary provides discussion of the following professional considerations to meet the needs of those clinicians: (1) Establishing Rapport through Verbal Communication, (2) Written Communication, and (3) Bilingual Assessment Methods. A clinical scenario is included with each professional consideration to aid in practical application for service delivery in speech-language pathology or audiology. This commentary also provides a brief overview of the Spanish language as well as discussion on the use of culturally related terminology when working with clients and their families from Spanish-speaking countries.

KEYWORDS: bilingualism, service-delivery, professionalism, multiculturalism

Journal of the National Black Association for Speech-Language and Hearing

The United States (US) is home to countless bilingual individuals (Ryan, 2013). Hispanics make up the largest bilingual population within the US and account for 17% of the United States (US) population (United States Census Bureau, 2015). Growth trends suggest that the Hispanic population in the US will triple in size by 2050 making the US the largest Spanish-speaking country in the world after Mexico (Pew Research Center, 2008; Instituto Cervantes, 2016). Additionally, 59% of Hispanic children in the US are bilingual, which is leading to an increase of bilingual Spanish-English speaking children in educational settings across the nation (Instituto Cervantes, 2016). For this reason, healthcare providers can anticipate an increase of bilingual Spanish-English speaking children on their caseloads. This increase in bilingual patients and clients will also impact the field of speech-language pathology. The purpose of this scholarly commentary is to present and discuss three general professional considerations for service delivery to bilingual children and their families with particular emphasis on Spanish-English speaking children. Each consideration will be presented with a case scenario to assist the in maximizing clinical application regardless of the communication disorder. It is the authors' objective that the content of this commentary will be used by clinicians to enhance their professional clinical skills – regardless of the communicative area of concern – resulting in more effective and culturally sensitive service delivery.

Background

Based on growth trends of bilingual Spanish-English speaking families in the US, there is a significant chance that a clinician from a different cultural or language background will engage in a clinical experience with a bilingual Spanish-English speaking child or family. Furthermore, there is a chance that a monolingual English speaking clinician will service a bilingual speaking child with parents who are monolingual in a language different from the clinician (i.e., bilingual Spanish-English speaking child with a monolingual Spanish speaking parent). Thus, prior to the discussion on professional clinical factors, it is necessary to provide a brief background on cultural terminology and the language.

Hispanic versus Latino

While 'Hispanic' and 'Latino' are often used in a synonymous manner within the US, they are different in meaning. Historically, the term 'Latino' has been used to refer to individuals in the US whose ancestors originate from a Latin American country or Spain. The term 'Hispanic' was first used in the US Census in 1970 to describe a person of Mexican, Puerto Rican, Cuban, South, Central American, or other Spanish culture or origin (Clausing, 2017). This term is broad in nature and includes all who are from a Spanish-speaking country. For clinical purposes, Roseberry-McKibbin (2014) defines Hispanic as those individuals who originate from Spanish-speaking Latin American countries and/or Spain. Regardless of which term is preferred by a patient or family, it is important to note that the terms 'Hispanic' and 'Latino' are ethnicities and are not considered a race (e.g., White, African-American, Asian). Race has a biological basis and identifies and groups individuals together based on physical attributes. Ethnicity, on the other hand, is grounded on shared culture including language, traditions, and ancestry (Caballero, 2005; Roseberry-McKibben, 2014).

Which term is preferred by an individual – Hispanic or Latino – can vary. Results of a survey conducted by the Pew Research Center indicate that few (24%) Hispanic adults describe themselves using the terms 'Hispanic' or 'Latino and nearly half (51%) would prefer to be identified by their family's country of origin (e.g., Cuban, Venezuelan, Mexican). Results of the Pew Hispanic Center Survey further indicate that this preference varies by generation with immigrants preferring country of origin, while those who are generations removed from immigration prefer to use the term 'American' as a description. If made to choose between the two terms – Hispanic or Latino – 51% reported having no preference, while those that did have a preference favored Hispanic (33%) to Latino (14%) (Cohn, 2012).

Clinically, it is suggested that the clinician establish how the patient or family prefers to be ethnically and racially identified with the understanding that their choice may differ from the clinicians' perception. For example, a patient may physically appear to be of African descent (e.g., African-American), but identify as Hispanic or

choose to identify based on their country of origin (e.g., Colombian). The case history/intake form is an ideal opportunity to determine how the patient identifies. Clinicians are encouraged to include, as part of the demographic section of their case history/intake form, options for clients to select a race and/or ethnicity as well as write in a race or ethnicity that may not be listed.

The Spanish Language

Similar to other languages, Spanish is a language with dialectal differences prevalent across all areas where Spanish is spoken. Establishing an individual's country of origin or where they have resided can give some insight into potential variations that may be present in one's use of Spanish. In comparing English and Spanish, there are noticeable differences between the two languages (e.g., syntax, phonetic complexity; Roseberry – McKibben, 2014). Bilingual individuals, particularly children, who are in the process of learning both languages, may inadvertently confuse linguistic rules of one language for the other. Thus, it is imperative that clinicians become familiar with linguistic differences in order to effectively identify language errors due to language learning versus those that may be the result of a communication disorder. The clinician should seek information/resources regarding the linguistic differences and the typical and atypical speech and language development for the Spanish language. The clinician could consult with a bilingual speech-language pathologist and receive professional guidance (Rhea, 2014).

Additionally, given the dialectal differences that exist within the Spanish language, clinicians are again encouraged utilize the case history/intake form to provide the patient a chance to identify their country or countries of origin. This allows the clinician to research dialectal differences that may be associated with particular countries or regions. Clinicians are cautioned, however, to not assume that all patients will present with all dialectal variations typically associated with a region or country.

General Professional Considerations

As established by ASHA Code of Ethics, professionals are to provide quality services to individuals who are culturally and linguistically different (American Speech-Language-Hearing Association, 2016). This includes individuals who are bilingual. The following Professional Clinical Considerations are presented and discussed with the intent to impact the overall assessment and treatment of bilingual Spanish-English speaking children and their families: 1. Establishing Rapport through Verbal Communication, 2. Written Communication Considerations, 3. Bilingual Assessment Methods.

Consideration 1: Establishing Rapport through Verbal Communication

Verbal communication is often the foundation to establishing a strong and trusted relationship between a parent and clinician. For parents of bilingual children, verbal communication may pose a barrier for some. It can often be the case that parents of a bilingual Spanish-English speaking child may be monolingual Spanish speakers with limited or no proficiency in English. Regardless, clinicians must consider establishing verbal communication at the outset with the family in order to establish rapport and ensure that parents receive comprehensive information relating to their child's service delivery.

In most cases, this means making arrangements in advance for an interpreter to be present during interactions with the parent and/or family. It most cases, clinical settings often have established mechanisms in place to request an interpreter as needed. Ideally, clinicians who practice in communities with large bilingual populations – regardless of the language – will familiarize themselves with local interpreting resources immediately as to reduce the difficulty of securing an interpreter when one is actually needed.

It is important to note that it is less than ideal to utilize a family member as an interpreter. Bilingual family members, while proficient in the language, are not necessarily trained on how to interpret for diagnostic or intervention purposes. Particularly in an assessment setting, family members may not understand or agree with administration guidelines to ensure the standardization often required for some assessment tools.

For children, the decision for intervention is not up to the child, but to the parents. Thus, it is imperative that clinicians are clear that the parent fully understands the clinician's plan and recommendations. Securing a trained interpreter makes this possible. A professionally trained

interpreter can play an integral role in developing a strong client-clinician relationship resulting in a greater likelihood of a successful intervention outcome. Clinicians should remember that – even when using an interpreter – they must remain an active listener and display an appropriate sense of empathy towards the family through use of effective nonverbal communication. In some cases, parents are informed that their child has communication disorder or impairment through an interpreter. This can be difficult even for parents who share the same language as the clinician and even more difficult for those who do not share the same language and are, instead, receiving the diagnosis or treatment plan through the voice of an interpreter.

An additional point for this consideration addresses the way in which clinical information regarding the child is delivered to the parents. With a difference in language as a barrier, use of jargon with parents of bilingual children may create a breakdown in communication. Some parents may have a limited educational background or level and may not fully understand particular concepts related to speech and language. Verbal explanation of the concepts in a simple manner allows parents to understand and process the information provided as seen the following clinical scenario:

Clinical Scenario: A clinician receives a referral to assess a child for a concern of articulation. During the scheduling of the assessment, the clinic secretary mentions that the parent began their phone conversation in Spanish and switched to English once it was apparent that the clinic secretary did not speak Spanish. The clinic secretary added that the parent did appear to exhibit some difficulty understanding the content of the conversation in English and also used some Spanish words interchangeably with English during the conversation.

Clinical Response: The clinician should anticipate that a professional interpreter may be needed to aid in verbal communication with the parent and family during this visit. Prior to the assessment the clinician should arrange interpreting services and schedule a meeting with the interpreter prior to the assessment. During this meeting, the clinician has an opportunity to summarize the assessment plan and discuss any assessment methods or tools that may be important for the interpreter to understand prior to the assessment. This also provides the clinician with a moment to review any related

terminology that they may encounter during the assessment.

Consideration 2: Written Communication

In addition to verbal communication, considerations should also be made for methods of written communication with parents of bilingual children. Again, parents of bilingual children may have limited proficiency in English. Proficiency can vary depending on whether the user is speaking the language, writing the language or reading the language. Thus, it is important that clinicians are ready with written communication in both Spanish and English. The availability of forms in both languages give the parent the opportunity to provide comprehensive information regarding their child's developmental, medical history as well as information regarding their child's speech and language concerns. The information usually gathered through written form from an assessment is crucial for the clinician and provides invaluable insight about the child. When gathering written information, clinicians should include questions regarding the family's demographics as well as the child's exposure to language input and output. Professionals who do not acknowledge linguistic and cultural differences would be violating the Code of Ethics, and may misinterpret the diagnosis of the child from a language difference to a language disorder (Rhea, 2014). Additional information that was asked of the parents was their occupation, education level, languages spoken at home, the child's academic information, and the family's medical information. Since most of the parents who we interacted with were of Hispanic descent, our forms were translated to Spanish as seen in the following clinical scenario:

Clinical Scenario: A researcher is conducting a study examining speech disfluencies in bilingual Spanish-English speaking young children. A child arrives with her parents for their scheduled research visit. Upon arrival, both parents converse with the researcher fluently in English. The researcher begins the visit by providing the parents with the informed consent research form as well as a case history/intake form. Nonverbal communication from the parents suggest to the researcher that the parents are having some difficulty completing the form.

Clinical Response: Although the parents are proficient in their verbal use of English, it could be the case that they are less proficient in their ability to read and/or write in

English. Based on the nature of the study, the clinician has already anticipated this scenario and has already prepared an informed consent research form and case/history problem solve that has been translated into Spanish. The clinician can then offer the family assistance in completing the form and include the option of completing a Spanish version of both forms. In the future the clinician can minimize this occurrence by offering both versions of the forms (i.e., English version or Spanish version) at the beginning of the visit.

Consideration 3: Bilingual Assessment Methods

Moreover, an important factor in assessing Spanish-English speaking children is the process of evaluation and the materials used. An assessment must be non-biased for culturally and linguistically diverse individuals. Clinicians may use a variety of methodologies and approaches for treatment. A traditional approach to assessment refers to determining the child's skill level and comparing it to that of peers (Gutierrez-Clellen & Peña, 2001). This comparison will not accurately depict the child's capabilities and could lead to inaccurate diagnoses in culturally and linguistically diverse children. Research has provided an alternative approach to evaluating and treating culturally and linguistically different children, this approach is known as a dynamic assessment (DA). In this approach, the clinician will observe how the client learns and what is needed for the client to learn (Rhea, 2014). This approach takes into consideration the child's zone of proximal development (ZPD) (Gutierrez-Clellen & Peña, 2001).

Additional considerations should be choosing an appropriate standardized test based on the normative samples that reflect the language characteristics of the child who is being screened. Bilingual children, who perform in standardized tests which are based on the norms of monolingual children, tend to perform below average (Peña, Gillam, Bedore, & Bohman, 2011). An alternative to biased standardized testing may be the use of criterion-referenced tests (Rhea, 2014). These types of tests, focus on the assessment of specific behaviors that are established by the clinician and client. A professional should take a holistic approach when evaluating a bilingual child and should not only base the assessment on the use of norm-referenced tests only. English tests should not be the only type of tests administered to bilingual children, they should be provided with tests that

reflect their native language. Language samples can be gathered in the child's languages in addition to other assessments (Rhea, 2014) as seen in the following clinical scenario:

Clinical Scenario: A clinician is preparing to conduct an assessment on a bilingual Spanish-English speaking child who has been referred by her kindergarten teacher for concern with expressive language. The child currently attends a monolingual English only school. The child currently does not qualify for English language learning support due to her proficiency in English.

Clinical Response: Given that the child is bilingual in Spanish and English, the clinician prepares an assessment protocol that includes establishing the percentage of input and output the child has in both languages. This is usually done through parent-report and may involve formal assessment tools that have already established methods to determined percentage of input and output. The clinician has selected assessment tools that are normed on bilingual Spanish-English speakers and takes into account the language difficulty due to language learning versus a language disorder. The clinician understands that this will mean using assessment tools that are not commonly used for monolingual English speaking children, but would yield the best examination of language skills for this bilingual child.

Conclusion

Language barriers should not impact the quality of service delivery to bilingual children and their families. If anything, language barriers should motivate clinicians to anticipate areas of their service delivery where adjustments may be needed. While a bilingual child may be able to communicate with a clinician, the clinician must consider the child as a whole which includes their parents and, in some cases, extended family. It is up to the clinician to plan ahead, make any additional arrangements that may involve translating, interpreting or selecting different assessment materials. This will also require the clinician to educate themselves on a culture other than our own in order to guarantee the best relationship between the clinician, the child and their family.

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CHALLENGES AND REWARDS OF PRIVATE PRACTICE:
AN EXPLORATORY STUDY OF AFRICAN AMERICAN SPEECH-LANGUAGE PATHOLOGISTS

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ABSTRACT

This exploratory study examined the perceptions of African American speech-language pathologists who owned or co-owned a private practice about the challenges and rewards of working in this employment venue. Six participants were engaged in a focus group interview. The participants represented the major geographic regions in North Carolina. Client benefits, career challenges, and job satisfaction were discussed as thematic highlights. Interpretation of participants' comments revealed the need for culturally sensitive and culturally responsive service delivery when working with diverse populations. Such dynamics play a factor in establishing trust and rapport building between the client and clinician. Additionally, themes identified the need for advocacy and networking with critical stakeholders as key in the vitality of the profession and promoting more culturally and linguistically diverse professionals within the discipline. Further research is suggested to explore more generalizable results among a larger number and wider geographic range of private practitioners in speech-language pathology.

KEYWORDS: private practice, African American speech-language pathologists, job satisfaction, focus group methods, minority speech-language pathologists

Journal of the National Black Association for Speech-Language and Hearing

The field of speech-language pathology continues to evolve in providing state of the art evidence based practices to address communication disorders in diverse populations across the life span (Leonard, Plexico, Plumb, & Sandage, 2016). The overall aim of services provided by speech-language pathologists (SLPs) and audiologists is to optimize the individual's ability to hear, speak, and swallow thus improving quality of life (ASHA, 2007). These services are provided in a wide variety of employment settings. Specifically, over half (52%) of American Speech-Language-Hearing Association-affiliated SLPs are employed in schools and another 39.5% work in healthcare settings (ASHA, 2017a). The remaining 8.5% offer services in early intervention settings, individual homes, and private practice settings.

With regard to the number of SLPs opting to pursue private practice as an employment option, the findings of the ASHA 2015 Health Care Survey of 1,842 working SLPs revealed that 41% identified themselves as owners or co-owners of a private practice either on a full-time or part-time basis (ASHA, 2015). When the private practitioners were also asked about their work setting(s), it was revealed that 5% worked in a pediatric hospital; 8% worked in a rehabilitation setting; 12% worked in a general medical setting; 22% worked in skilled nursing facilities; 26% worked in home health agencies or clients' home and 27% worked in outpatient clinics or offices. Ninety-six percent of the respondents had master's degrees as the highest degree and 4% had a doctoral degree. The geographic distribution of the participants within the United States included the following: 20% worked in the Northeast; 21% worked in the West; 22% worked in the Midwest; and 36% worked in the South. Unfortunately, there was no indication of the race and/or ethnicity of the private practice SLPs surveyed in this study. It should be noted here that as opposed to findings from the 2015 ASHA Health Care Survey reporting 41% of SLPs working in private practice, more recent figures, based on *total* ASHA SLP membership (i.e., 162,473), reveal that 30% of its members are employed full-time or part-time as private practitioners (ASHA 2017a).

Most of the professional published literature on private practice in speech-language pathology has focused on the business essentials of private practice such as transitioning to private practice, financial management, marketing (Golper & Brown, 2004; Dougherty, 2014; Brown & Dougherty, 2015) or ethical dilemmas experienced by SLPs in private practice (Flatley, Kenny, & Lincoln, 2014). These publications are useful in their provision of information on how to start a practice, suggestions for networking, tips on billing and coding, and advantages/disadvantages associated with private practice. However, they provide little in the way of actual data on the experiences of SLPs in private practice or their perceptions of the challenges and rewards of private practice. The lone exception is a survey study, conducted by Fortson (2014) wherein she examined experience level, preparation and confidence levels of practicing speech language pathologists and audiologists in private practice.

The Fortson study included 24 SLPs and audiologists from the American Academy of Private Practice in Speech Pathology and Audiology and current private practitioners throughout the state of Arkansas. There was no control for gender, race, age, level of education, length of time as a licensed professional or geographic location. A 15-question online survey was distributed which provided identifying information such as demographic location, educational background, knowledge and skill sets associated with private practice, and an open-ended question for future directions in private practice. Survey questions were adapted from the ASHA Health Care Survey Report (2009a). A total of 64 individuals opened the online questionnaire, and 24 of the surveys were completed. Twenty-three participants were female, and one was male. Ages of participants ranged from 24 to 60 years. Twenty-three of the owners/co-owners held a master's degree and one had a doctoral degree. All participants were located throughout the state of Arkansas. The results suggest a variety of factors affect both the decision to pursue a private practice and the preparation necessary to become a successful private practitioner.

According to Fortson (2014), graduate education, clinical experience, attending professional conferences/conventions, and personal drive were all seen by participants as helpful in preparing them for private practice. Most of the respondents chose to start their own

private practice so they could have flexibility along with the opportunity to make more money. Additionally, the respondents felt that prior work experience in a variety of other settings best prepares clinicians for working in private practices. Attitudes and feelings towards healthcare reform was another area highlighted regarding its impact on private practice. Fortson (2014) noted that surprisingly, the majority of clinicians felt that there would be no significant changes to the way therapy is billed to insurance although, 64% of the respondents reported having difficulty with billing insurance companies for their work. Additionally, this research study revealed that private practitioners stated there needs to be a delicate balance of the costs, risks, and rewards. However, most felt that the rewards gained from the private practice were favorable.

Although the Fortson (2014) study used similar methodology as seen in ASHA's 2015 Health Care Survey, such as indicating highest degree earned by practitioners, identifying geographic locations of professionals and seeking insight into the attitudes and feelings of practitioner satisfaction, neither study provided information on the race and/or ethnicity of their respondents. Given the trend towards more SLPs opting to own or co-own a private practice (ASHA, 2009a, b; 2015; 2017a), it is not implausible to speculate that more clinicians of color are likewise following this employment trend. Moreover, underrepresented SLPs, such as African American professionals, may face similar challenges and garner some of the same rewards as majority private practitioners. Approximately three percent of ASHA-certified SLPs are non-Hispanic Blacks or African Americans and 81 percent are non-Hispanic Whites (ASHA, 2017a). Interestingly, Black and African American medical doctors, another health professional group likely to engage in solo or small collaborative private practice, comprise only four percent of the physician workforce, (Association of American Medical Colleges, 2014). What both of the latter professions share is that next to nothing is known about the perceptions of African American professionals regarding challenges and opportunities they face as private practitioners.

To summarize, the service delivery setting of private practice in speech-language pathology continues to grow and be viewed as a desirable platform for provision of clinical service within the profession. Private practice in speech-language pathology requires a delicate balance of cost, risks, and rewards. What is also known is that the evolving efforts to reform healthcare will affect practicing speech-language pathologists in major ways, service delivery models are evolving (e.g., telepractice), the demographics of the United States will continue to diversify as will the clinical service-seeking population of the nation, and it is important to engage those with experiences in the profession regarding the biggest impact on private practice in the future. It is unknown what percent of African American SLPs work as private practitioners.

While it was beyond the scope of the current report to determine the number of African American SLPs working as private practitioners in the U.S. or regionally, we determined that it was important to examine a small segment of such practitioners in one state, North Carolina, to identify trends and themes such as motivation to enter private practice, highest degree earned, perceptions of the role cultural sensitivity and competence play as factors in client satisfaction and comfort, and challenges (present and future) faced by African American SLPs in private practice. We reasoned that this initial exploratory study of African American SLPs in private practice could shed light on their perceptions of some of the challenges they face on a daily basis, their motivations for pursuing private practice ownership, features of their practice that may attract clientele, and rewards associated with private practice ownership. Thus, the purpose of this study was to examine the perceptions of African American SLPs, who owned or co-owned a private practice, toward the challenges and rewards of working in this employment setting.

Method

Participants

Potential participants for this study were recruited from the membership of the Carolina Association of Minority Speech-Language Pathologists. Of the 84 members of this professional group, 23 (27.3%) were identified as owners or co-owners of a private practice. These 23 private practitioners were contacted by the authors through an email containing an explanation of the study and an invitation to participate. According to ASHA (2017b), there were 465 African American licensed SLPs in North Carolina in December 2016. Thus, our potential pool of participants represented 4.9% of African

American SLPs practicing in North Carolina. Ultimately, six professionals agreed to participate in the study.

All participants were African American female SLPs working in the state of North Carolina who were owners or co-owners of a private practice in speech-language pathology for five years or longer. The participants represented the major geographical locations in the state: Raleigh, NC; Lumberton, NC; Charlotte, NC; and the Greensboro/High Point, NC metropolitan area. The age range of the participants was between 37-44 years old (see Table 1).

The participants reported providing clinical services for clientele between the ages of 3 and 22 years of age. The highest level of education for five of the participants was a master's degree in speech-language pathology with one participant holding a doctoral degree in speech-language pathology. One of the participants was identified as a bilingual speech- language pathologist. As shown in Figure 1, participants reported having practiced in a variety of settings prior to becoming a minority private practice owner.

All participants indicated that prior to opening a private practice they worked in public schools, early intervention and home health settings. Two of the six participants specified that they had also worked in skilled nursing settings as well as inpatient and outpatient rehabilitation sites. On average, participants worked 7.3 years (range = 5-11 yrs.) in other settings prior to opening a private practice.

A moderator designated for the focus group discussion used in this study met the guidelines and criteria as outlined in the research literature as best practices for conducting focus group interviews (Krueger & Casey, 2000). The moderator was identified as an African American female with 10 years of professional experience in academia as a Program Director and Assistant Professor in an undergraduate program in Speech-Language Pathology and Audiology. Additionally, the moderator was a state-licensed, ASHA-certified SLP holding a doctoral degree in speech-language pathology and with over 18 years of clinical experience in clinical settings including early intervention, home health, skilled nursing facilities, public school settings, and private practice.

Table 1. Profile of African American Private Practice SLP Participants

Participants	Location of Practice in North Carolina	Age of Participants	Years of Experience as a Licensed SLP	Years of Experience as a Private Owner
1	Raleigh/Durham	44	12	5
2	Fayetteville	37	10	5
3	Charlotte	43	20	9
4	High Point & Greensboro	42	19	14
5	High Point & Greensboro	41	18	7
6	High Point & Greensboro	41	15	10

Figure 1. Work Settings of Participants Prior to Becoming Private Practitioners
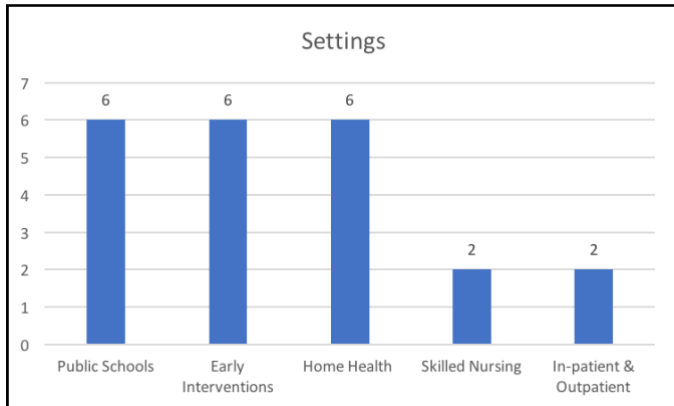
Materials

Focus group questions were developed from current literature in the field of speech-language pathology with additional questions based on the focal point of this current research highlighting multicultural considerations. The focus group questions consisted of an opening question, introductory question, transition question, key questions and ending questions as outlined for best practices regarding the general types of questions used in focus group interviews (Villard, 2003). The session was video recorded with an Apple iPhone 7 which offered high definition video recording.

In addition to coordinating the video recording, the moderator and a student research assistant served as the transcribers of the recorded content of the focus group meeting. The research assistant was a senior undergraduate student who had completed the following courses with a grade of B+ or better: Clinical Practicum in Speech-Language Pathology; Clinical Methods Practicum in Speech-Language Pathology; Information Processing; Technical Behavioral Research; and Social Statistics.

Procedures

A focus group interview method was used in this study. Given the aim of this study, focus group interviews were deemed appropriate because they nurture different perceptions and points of view and are used to gather information for discovery, benchmarking, evaluating, and verifying perceptions, feelings, opinions and thoughts

(Patton, 1990, p. 9). A description of the use of focus groups in research is provided in Appendix A.

A local community center situated in the central region of the state served as the site of the meeting. This location was selected as it required no more than one-and-half hours of driving time of the participants. Once the participants arrived the moderator directed all to a large round table and they were given name tags to wear. The total time of the focus group interview was two hours. The focus group meeting proceeded as follows:
1. The moderator welcomed and opened the discussion with asking the following questions:
Opening Questions:
    a. Tell us your name, age, and how long you have owned your private practice in speech-language pathology?
    b. Please share with us your educational background and highest level of education as well as how long you have been a practicing speech language pathologist?
    c. Please share how you feel that your educational background prepared you for owning a private practice.
    d. What is your experience practicing speech therapy outside of a private practice? If you have, please specify those settings (e.g., public schools, early intervention, etc.) and how many years you worked in them.
    e. Including yourself, how many employees (i.e., SLPs, SLP Assistants) make up your practice?
2. After the welcome and opening questions, the participants were engaged in the transition question which allowed for a more in depth discussion of the opening questions.
Transition Question:
    a. What motivated you to become the owner of a private practice? What clientele do you predominately serve?
3. Once the transition question was posed, the focused (key) questions were asked:
Focused (Key) Questions:
    a. Why do you feel clients are drawn to your particular practice? Do you feel that cultural sensitivity and cultural competency play a factor in client satisfaction and comfort?
    b. What have you found to be the biggest challenge(s) for your private practice as a minority owner in this discipline?

c. What have you found to be the biggest reward(s) for your private practice as a minority owner in this discipline?

d. What do you anticipate being the largest challenge for minority-owned private practice in the next 5 years?

e. What advice would you give to other minority speech-language pathologists interested in private practice?

4. Finally, an ending question was provided to bring the session to closure. The ending question was as follows:

a. Is there anything we should have talked about, but didn't?

To provide sufficient time for all participants' voices to be represented in the focus group session, 20 minutes was allotted for responses to each focused (key) question.

Data Analysis and Interjudge Reliability

Following the focus group meeting, the moderator and student research assistant viewed the video recording of the meeting and transcribed all of the participants' comments. For each question, they noted the main ideas that occurred in the answers to identify recurring ideas/comments that became themes. Following the review session, the observations from the moderator and research assistant were judged to be 90% reliable. Thereafter, both individuals again reviewed the transcripts and recordings to achieve a 100% consensus.

Results

While participants agreed unanimously (6/6) that their educational background prepared them well for the *clinical aspects* of private practice, most (5/6) stated their educational background did not adequately prepare them for the *business aspects* (i.e., marketing, staffing, and fiscal management) of private practice ownership. All respondents said their experiences in the "working world" and "self-preparation" on matters of business were the primary factors in preparing them to enter private practice. Respondents reported that the number of professional employees staffing their practice averaged three SLPs and two speech-language pathology assistants (SLPA) (range = 2 SLPs/2SLPAs to 4 SLPs/2 SLPAs).

The participants' five most frequently stated responses to the first portion of the transition question, 'What motivated you to become an owner of a private practice?' are presented in rank order as follows:

1. "To provide services for clients I am interested in."
2. "Control my own destiny/Be my own boss/Autonomy."
3. "No limits on income."
4. "Disenchantment with a system that was not meeting the needs of underserved/minority/bilingual children and families."
5. "To serve the community from which I came."

Additionally, their responses to the second part of the transition question, 'What clientele do you predominantly serve?' included:

1. Infants to 4 years of age
2. School age children (K-6)
3. Minority and bilingual children. Children of all racial/ethnic groups
4. Low income children and families

Examples of participants' representative responses to the five focused questions and response rates based on the themes extrapolated from the transcripts are shown in Tables 2 through 6. The first key question that was discussed involved reasons why the participants felt clients were drawn to their practice. The themes that were extrapolated and delineated in Table 2 included: (1) offering personalized services which includes meeting them where they are whether in the home setting or in an outpatient/clinic environment; (2) providing culturally sensitive care which involved empathy; (3) demonstration of scholarship in practice (knowledge base of clinician, use of evidence based interventions); and (4) diversity in experiences with working with minority populations. All of the practitioners reported that their clients felt a level of comfort with interacting with them and felt as though "we (the clinicians) understood what they were going through". These reports are supported by the literature regarding providing culturally sensitive and responsive services to CLD populations (ASHA, 2017c). The participants, in turn, also expressed that it is important to offer high-quality services to their clientele and that failing to do so would be ". . . counterproductive to business even if the practice was owned by a person of color."

Table 2. Key Theme Identified and Responses to Question 'Why Are Clients Drawn Your Practice?'

Focused Question	Key Theme Identified and Representative Participant Responses
Q 1: Why do you feel clients are drawn to your particular practice?	**Practice-Population Match** "Specialization area of practice is serving bilingual and African American school-age students and we are able to be empathetic and understand cultural variations." **6 out of 6 respondents (100%)** "We have *lots* of professional experience working with culturally and linguistically diverse clients and families." **6 out of 6 respondents (100%)** "We value relationship building, personalized services, short-notice/term assignments, culturally sensitive care and scholarship in practice." **5 out of 6 respondents (83%)** "Our ability to build rapport with our clients and families and our use of culturally-appropriate assessment and intervention approaches." **4 out of 6 respondents (66%)** "Willingness to serve clients living in so-called 'less desirable' communities of the city or county." **4 out of 6 respondents (66%)** "Use of marketing strategies that show inclusiveness with regard to staff, pictures of clientele, and mission(s) of the practice." **3 out of 6 respondents (50%)**

The second key question focused on perceived challenges that occurred being a minority private practitioner in speech-language pathology. This focused question led to the following thematic responses listed in Table 3: (1) the ability to find therapists who are also culturally diverse and/or bilingual; (2) maintaining a well-balanced work and family life; (3) being able to reach out to larger private practice owners for advice or/and collaboration and (4) finding consistent referral sources.

Many participants observed that the continued shortage of minority SLPs nationally has been (a) a barrier in diversifying the profession; (b) could, in certain contexts, limit the delivery of culturally and linguistically sensitive and responsive services to culturally and linguistically diverse (CLD) clients and families and populations; and (c) increase the difficulty in finding and hiring CLD and/or culturally competent SLPs. The ability to "juggle" work and home life was also a focus point within the discussion. Most participants felt as though, specifically, for minority female owners, being able to maintain a personal and professional balance can be challenging and that they must carefully plan their daily family life (e.g., time for spouses/significant others/children, vacations, spiritual life). The participants reported being simultaneously pulled by the need to successfully manage and expand their business. All owners stated they were able to strike the professional-personal balance through support from family, staff and others.

Interestingly, 100% of the participants discussed the fact that it is very difficult to collaborate with many of the larger private practices or seek referral sources from other practitioners perceived as "the competition". In particular, they observed that small businesses may not have enough resources to compete with larger practices in order to expand. Participants stated that a possible solution to the latter challenge was merger with another practice although; concerns about maintaining some semblance of autonomy were raised.

Table 3. Key Theme Identified and Responses to Question 'Biggest Challenges Faced?'

Focused Question	Key Theme Identified and Representative Participant Responses
Q 2: What have you found to be the biggest challenge(s) for your private practice as a minority owner in this discipline?	**Hiring Good Personnel, Networking and Referrals** "Finding therapists that are also culturally diverse." **5 out of 6 respondents (83%)** "Perhaps being a small minority private practice that serves in so many roles professionally and personally, the difficulty with balancing daily operations and plans for expansion of business with family responsibilities is challenging." **5 out of 6 respondents (83%)** "Reaching out to larger private practice owners for advice and information has been difficult." **6 out of 6 respondents (100%)** "Like all (non-minority and minority) practices, the paperwork load can be overwhelming if not managed properly." **6 out 6 respondents (100%)** "Maintaining a balance between work life and personal/family life." "Making certain that business is not prioritized over family." **5 out of 6 respondents (83%)** "Finding consistent referral sources." "Penetrating the majority/non-minority client market." **3 out of 6 respondents (50%)** "Reluctance of some clients to work with minority SLPs." **1 out of 6 respondents (16%)**

Thirdly, the participants were asked to identify the rewards of being a minority private practice owner in speech-language pathology. Themes that were highlighted among the participants and shown in Table 4 included the following: (1) flexibility of work schedule; (2) the ability to attract diverse clientele and build rapport with clients in high-need populations; (3) reported that clients enjoyed being served by someone who "looks like them"; (4) additional source of income diversity versus traditional clinical settings and (5) the ability to inspire and train future SLPs to promote diversity in the profession.

The fourth key question focused on the largest challenges facing minority private practices over the next five years. As indicated in Table 5, 100% of the participants reported that reimbursement fees and rates as well as the proposed new healthcare reform proposed under the new presidential leadership were problematic and somewhat "scary". The participants were concerned with provisions for an increase in reimbursement rates due to the stagnation of the last five to seven years as well as the protection of the IDEA law legally granting special needs services for those populations in need.

Table 4. Key Theme Identified and Responses to the Question 'Biggest Rewards of Being a Minority Private Practice Owner?'

Focused Question	Key Theme Identified and Representative Participant Responses
Q 3: What have you found to be the biggest reward(s) for your private practice as a minority owner in this discipline?	**Professional, Personal and Financial Rewards** "Clients enjoy being served by someone who looks like them." **6 out of 6 respondents (100%)** "Ability to attract diverse clientele." **6 out of 6 respondents (100%)** "Rapport building with clients in high impact populations." **6 out of 6 respondents (100%)** "Flexibility" **6 out of 6 respondents (100%)** "Endless opportunity for income generation." **6 out of 6 respondents (100%)** "A sense of personal accomplishment." **6 out of 6 respondents (100%)** "Some referring agencies/personnel, being aware that we are a minority-owned practice with a good reputation, will send CLD clients to us almost exclusively." **5 out of 6 respondents (83%)** "Inspiring, recruiting, training future minority SLPs." **5 out of 6 respondents (83%)**

Table 5. Key Theme Identified and Responses to the Question 'Largest Future Challenges Faced by Minority Private Practitioners?'

Focused Question	Key Theme Identified and Representative Participant Responses
Q 4: What do you anticipate being the largest challenge(s) for minority-owned private practices in the next 5 years?	**Future Challenges** "Reimbursement fees - will they increase?" **6 out of 6 respondents (100%)** "New health care laws that will significantly limit health insurance and care options for clients and impact our businesses." **6 out of 6 respondents (100%)** "Finding (employing) minority SLPs/non-minority SLPs who are culturally competent and bilingual." **5 out of 6 respondents (83%)**

Finally, the participants provided input regarding what advice they would provide future SLPs interested in private practice. Comments emanating from this theme and shown in Table 6 included: (1) gain employment in a variety of clinical settings to "master your craft"; (2) be comfortable with the pay scale (salary, per session, contract work versus employee); (3) do your homework and educate yourself on the business aspects of ownership and (4) be aware of potential/actual ethical dilemmas and maintain a strong ethical foundation.

Table 6. Key Theme Identified and Responses to Question 'What Advice Would You Give to Minority SLPs Interested in Private Practice?'

Focused Question	Key Theme Identified and Representative Participant Responses
Q 5: What advice would you give to other minority speech-language pathologists interested in private practice?	**Advice to Minority SLPs Considering Private Practice** "Work full time in another setting to master your craft before starting a private practice." **6 out of 6 responses (100%)** "Be comfortable with the pay scale." **6 out of 6 respondents (100%)** "Have a well-developed set of 'people skills' because you will be working with a wide variety of people and agencies such as employees, clients/families, referral agencies, other SLPs, education and health professionals, administrators, etc." **6 out of 6 respondents (100%)** "Do your homework. Educate yourself on the business aspects of a practice." **6 out of 6 respondents (100%)** "Hire good people (SLPs and staff) and invest in them." **6 out of 6 respondents (100%)** "Develop a workable professional-personal life balance." **6 out of 6 respondents (100%)** "Beware of ethical dilemmas and maintain your ethical core." "You can make a lot of money in private practice while conducting yourself in an ethical way." **5 out of 6 respondents (83%)** "Learn how to network with other practices, professionals, agencies and be comfortable doing it." **5 out of 6 respondents (83%)**

Discussion

To our knowledge, the present exploratory study represents the first examination of the views of African American private practitioners in speech-language pathology regarding their motivation to enter and remain in private practice and the challenges and benefits associated with private practice. Focus group methods were used to capture salient themes regarding client attraction to participants' practices; uniqueness of service offerings; and challenges and rewards within the private practice sector for African American SLPs.

The discussion among African American female private practice owners revealed some themes that were consistent with the one study conducted with other private practitioners of unspecified race/ethnicity, (i.e., Fortson 2014). Trends regarding challenges in the future with health care reform and reimbursement rates have been an ongoing concern among private practitioners within the disciplines of speech-language pathology and audiology as well as other healthcare professions. Due to these increased concerns among practicing SLPs, efforts to support advocacy through discussions with national organizations such as ASHA and the National Black Association for Speech-Language and Hearing (NBASLH), healthcare advocates and agencies, politicians, and families of persons with communication disorders will be imperative for the vitality of the profession.

The responses of African American owners of private practices in SLP also provided insight into specific factors that promote client satisfaction when serving predominately culturally and linguistically diverse populations. Themes that arose from this discussion included rapport building, empathy with families, and cultural responsiveness. Such themes suggest that in addition to the clinical and technical skills being taught in training programs in communication sciences and disorders nationwide, emphasis on interpersonal communication skills when interacting with families representing underrepresented populations is equally critical. Paul (2014) stated "Our ability to listen actively and nonjudgmentally, our capacity for empathy and perspective taking, and our skill in absorbing and sharing information will serve as the linkage between research, experience, and client perspective" (p. 204).

Establishing a trusting relationship with underrepresented populations that are faced with limitations of resources was another theme that resounded during the focus group discussion with minority private practitioners. Providing culturally sensitive service delivery for this clientele is increasingly critical due to the changing population demographics in the United States. These ongoing and anticipated demographic shifts suggest that as speech-language pathologists providing assessment and intervention services, the need to incorporate cultural sensitivity and cultural responsiveness as best practice standards is imperative. Moreover, the need for more specialized training workshops regarding communication and culture for private practitioners serving diverse populations is essential. We would be remiss in not stating the need for greater representation in the profession and by extension, private practice, of SLPs from culturally and linguistically diverse populations to serve the needs of an increasingly diverse nation. This fact was underscored by the participants in this study who all lamented the challenges associated with finding and hiring culturally competent and racially, ethnically and linguistically diverse SLPs to staff their practices.

In conclusion, career satisfaction and advancement within the private practice sector was thematic throughout the group discussion. Highlights of the discussion focused on more efforts and provisions for small private practitioner opportunities to network with larger companies within the discipline in more collaborative efforts. Such networking opportunities would allow smaller private practice owners such as the participants in this study, resources for expansion. Challenges of competition and maintaining autonomy were discussed. However, regardless of these challenges, the rewards and benefits of being a minority private practice owner were well worth it in the opinions of our participants. The flexibility of work schedule, surmounting limitations on income generation, ability to work with diverse clients, having a role in training future minority SLPs and the freedom to be your own boss were viewed as rewards.

As SLPs providing services within an ever-changing society, it is imperative that best practice standards remain at the forefront to meet the needs of a diverse population. Advocacy regarding healthcare reform and insurance reimbursement rates will take ongoing efforts by stakeholders. Moreover, ensuring that clients receive the most comprehensive services will be critical for the future of the profession. Meeting the needs of our clients which include considerations of family structure and dynamics is important. The ongoing efforts of ASHA and the National Black Association for Speech-Language and Hearing (NBASLH) to promote and recruit more culturally and linguistically diverse practitioners and establish advocacy programs and interest groups for minority-owned private practice owners represent an avenue to promote inclusivity and networking efforts among all professionals within the discipline.

Limitations

There are some factors that could limit the generalizability of our findings. First, a small number (6) of African American owners of SLP private practitioners, all of whom were female and working in one state, participated in this study. Future studies should incorporate regional and national perspectives of African American private practitioners (females and males) which could broaden the findings of the present study. However, alternatives to focus group methods may be needed in regional or national studies of minority private practitioners given the substantial volumes of qualitative data generated and the difficulty in analyzing same. Second, as noted by Leung (2009), the focus group method relies heavily on assisted discussion to produce results; consequently, the facilitation of the discussion is critical. The quality of the discussion depends on the skill of the moderator, who should be well trained and preferably from the target population, yet not affiliated with the researchers (to ensure impartiality). The moderator for the present study was an experienced speech-language pathologist, university educator, trained group facilitator and private practitioner of longstanding.

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Journal of the National Black Association for Speech-Language and Hearing

Appendix A

A Note on the Use of Focus Groups: Involving People in Measuring Quality and Impact

Scholars have historically utilized surveys and interviews for gathering information useful for planning and evaluating programs (Fowler, 2009). These approaches have also been utilized by the American Speech-Language-Hearing Association to analyze trends such as clinical work settings; membership and affiliate counts; healthcare surveys; and caseload surveys for school based speech-language pathologists (ASHA, 2009a; ASHA 2015). However, a group method for gathering information, focus group interview, has become increasingly popular (Rennekamp & Nall, 2009). Historically, focus groups arose in the early 1940s as social science researchers were looking for alternatives to interviewer-dominated methods. One of the first uses of focus groups was to examine morale during World War II. During the latter years, focus groups were utilized among the business community for customer satisfaction purposes. It was not until the 1980s that focus groups were embraced in the academic community.

According to Rennekamp and Nall (2009) focus groups are "a special type of group used to gather information from members of a clearly defined target audience. A focus group is composed of five to ten people who are similar in one or more ways and are guided through a facilitated discussion on a clearly defined topic to gather information about the opinions of the group members" (p.1). "Group members can influence each other by responding to ideas and inquiry that may not otherwise be brought out in measuring the quality and impact of a current or potential program" (Villard, 2003). Focus group interviews are a qualitative method that consists of a carefully designed "discussion: which allows people to express their points of view in a group setting and provide researchers with indicators of program impact. "Focus group interviews nurture different perceptions and points of view and are used to gather information for discovery, benchmarking, evaluating, and verifying perceptions, feelings, opinions and thoughts (Patton, 1990, p. 9). Villard, (2003) stated, "While the purpose of focus groups is to promote self-disclosure among participants in a group(s) by ascertaining their perceptions, feelings, opinions and thoughts, focus group interviews are not intended to help groups or researchers reach decisions or establish how many people hold a particular view like statistics" (p. 22). Instead, "focus groups are most productive when used to determine information on new proposals or programs, determine the strengths and weaknesses of a program, assessing whether a program is working and in the evaluation or success of a program" (Greenbaum, 1993, p.11). Additionally, they provide a vehicle for being flexible in questioning, the encouragement of dialogue and exchange of ideas, and the generating of a hypothesis (Patton, 1990). Focus groups are used to gather the information needed for decision-making or guiding action.

There is a systematic approach when preparing for a focus group interview. The first step in conducting a focus group interview is to determine the purpose of the study and who should be studied. Participants should be representative of the group. Part of determining the purpose is to consider the information "users" of the gathered information---who they are, what they want and why they want the information (Krueger, 1988). The users usually include the decision makers or resource allocators related to the professional, business or educational organization. A key component in conducting successful and productive focus group interviews is identifying appropriate and informative questions to be asked of the participants. According to Villard (2003) "the questions should have a stimulus (topic discussion) and a response (clues to the answer to how people are expected to answer). The sequencing of the questions must establish a pattern for asking questions, be descriptive, allow for opinions, feelings and perception to arise and stem from the participants knowledge and/or skill" (pp.1-2). There are five general types of questions used in focus group interviews which include: (1) opening questions; (2) introductory questions; (3) transition questions; (4) key questions; and (5) ending questions. "The specific order in which the questions are asked is called the questioning route. It is important to estimate the time required to exhaust the discussion on each question. These time estimates can be used to help manage the focus group discussion" (Villard, 2003). Emphasis is noted that effective moderators of focus groups require mental discipline and skill in facilitating group interaction. Moderators must listen attentively with sensitivity and try to understand the perspective of each participant.

Data analysis consists of examining categorizing, tabulating or otherwise recombining the "evidence" collected during the focus group to address the initial propositions of the study (Villard, 2003). The purpose of the study drives analysis. There are typically three sources of information that are used in the analysis. First are the moderator's notes. The second is memory. The third source is the audio tape-recording the session, if one was made. Analysis of focus group data involves three steps: indexing, management, and interpretation. Stewart and Shamdasani (1998) describe each analysis as follows:

Indexing-Involves reading transcript or notes and assigning codes or "labels" to each piece of relevant information. Often codes are written in margins. The codes or labels link together pieces of text which represented a common viewpoint or perspective related to one of the key questions or central purposes of the study.

Management-Collecting together all of the extracts of text which have been allocated the same code or label.

Three management methods are typically used. One method is to cut apart individual responses and use piles to cluster similar extracts. Another method is to use a word processor to "cut" and "paste" extracts. There is also an option to use software specifically designed for analysis of qualitative data.

Interpretation-One technique is analytic induction. This technique involves development of a summary statement which is true of each extract or piece of text in the pile or group. These statements often become key themes which are communicated in reports of the study (pp. 2-4).

At the conclusion of the focus group-based study a written report of the study is often prepared and discussed with key stakeholders. The report consists of the purpose of the study, description of the procedures used, summary of findings, and the implication of those findings often presented as recommendations. Additionally, it is often common to discuss several key themes which emerged (Villard, 2003).

SELF-ASSESSMENT OF CULTURAL RESPONSIVENESS IN SPEECH-LANGUAGE PATHOLOGY

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ABSTRACT

All practicing speech-language pathologists (SLPs) are required to demonstrate cultural competence when engaged in ethical clinical practice as a board certified practitioner. While graduate training programs are required to provide a curriculum that addresses Multicultural/Multilingual Issues (MMI; e.g. academic and clinical experiences), SLPs have expressed a lack of confidence in their delivery of culturally competent services to diverse populations. The purpose of this study is to examine the self-reported frequency with which SLPs use culturally responsive strategies as a result of their graduate training experience. A 45-item electronic survey was disseminated to SLPs holding a Certificate of Clinical Competence who indicated whether they had completed an MMI-dedicated course during their graduate studies. While results indicated that both the Infused Only (IO) model and the Dedicated and Infused (DI) model have a statistically significant effect on the service delivery of SLPs to culturally and linguistically diverse populations, those who took an MMI-dedicated course utilize culturally responsive strategies more consistently than those who did not. The implications of these findings suggest that CSD curriculum must be reformed in response to current research across disciplines, which supports general infusion with dedicated coursework for producing culturally and linguistically responsive clinicians.

KEY WORDS: cultural competence, graduate programs, curriculum, ASHA standards, culturally responsive service delivery, cultural humility

The exponential growth in the cultural and linguistic diversity in the U.S. has a significant impact on the delivery of services to the general population across disciplines including education, healthcare, and public policy (DHHS, 2013; IDEA, 2004; Tervalon & Murray-Garcia, 1998). That impact is reflected in legal policies that address necessary modifications to service delivery methods that meet the needs of all individuals as to not be "racially or culturally discriminatory" (IDEA, 2004). The Individuals with Disabilities Education Improvement Act of 2004 (IDEA) regulates service delivery to students from diverse backgrounds by requiring all assessments to be "administered in the child's native language or mode of communication" in order for the scores to be valid for the purposes of placing the child in special education (IDEA, 2004, p. 18). Moreover, school educators and administrators have the responsibility of assisting the students' families in overcoming cultural and linguistic barriers (IDEA, 2004). The U.S. Department of Health and Human Services Office of Minority Health (DHHS/OMH) provides the National Standards on Culturally and Linguistically Appropriate Services (CLAS), which enumerate principles of operation that should be upheld in all healthcare institutions for the diminishing of health disparities between racial and ethnic groups related to healthcare access (DHHS, 2013). These guiding principles intend to ensure that all individuals - regardless of their cultural and/or linguistic background - receive the highest quality of care possible. Therefore, healthcare institutions are charged with the responsibility of developing goals and policies that facilitate a culturally/linguistically safe, responsive, and respectful environment (DHHS, 2013).

In recognition of CLAS, the American Speech-Language-Hearing Association (ASHA), summarizes specific knowledge and skills that are necessary for speech-language pathologists and audiologists to render culturally sensitive and appropriate services to their clients (ASHA 2004). ASHA's Practice Portal - a website with information and resources on various professional issues in speech-language pathology and audiology - lists CLAS as a resource on its "Cultural Competence" page. Both ASHA and DHHS reiterate that while gaining knowledge and being aware of issues related to culturally/linguistically diverse (CLD) populations is the foundation for cultural competence, it is only the starting point. In order to effectively serve CLD clients, clinicians must apply their cultural knowledge in strategic and practical ways (DHHS, 2013).

The inclusion of Multicultural/Multilingual Issues (MMI) into the curriculum of communication sciences and disorders (CSD) programs is repeatedly mentioned throughout the requirements for accreditation put forth by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) and the Council for Clinical Certification in Audiology and Speech-Language Pathology for the past three years (CFCC; CAA, 2014). Students who graduate from accredited programs are expected to demonstrate clinical competence as evidenced by both knowledge and skills within all areas in the scope of practice for speech-language pathologists (CAA, 2014). ASHA specifies that CSD programs that meet the standards for accreditation are those which "provide opportunities for students to acquire and demonstrate skills in... delivery of services to culturally and linguistically diverse populations" (ASHA 2014, para. 3.1B). Moreover, Standard IV-C of the *2014 Standards and Implementation Procedures for the Certificate of Clinical Competence in Speech-Language Pathology* requires that clinicians take a cultural and linguistic approach to understanding communication and swallowing disorders. Standard IV-D continues by stating that this approach is to be utilized on all levels of clinical practice, including prevention, assessment, and intervention. Additionally, clinicians must engage in effective communication with their clients by both acknowledging and respecting cultural and linguistic differences and demonstrate these skills in their practicum experience during their graduate training (ASHA, 2012).

The Professional Practice Competencies in the new CAA standards - effective August 1, 2017 - now includes a section on cultural competence, which requires that students comprehend their own cultural background and the impact of the client's cultural background on service delivery (CAA, 2016). Cultural competence is also included as an integral part of effective communication skills (CAA, 2016). The gravity of cultural competence in speech-language pathology is reflected in ASHA's statement that "discrimination in any professional arena and against any individual for any reason, whether subtle or overt, ultimately dishonors the professions and harms

all those within the practice" (ASHA, 2017, para. 8). The force of this statement obligates graduate training programs to develop and maintain a quality multicultural training experience for its students in the classroom and in the clinic so that they produce clinicians who consistently view their practice from a culturally informed perspective.

The methods by which MMI content is delivered vary. There are two general methods of inclusion currently in use by CSD programs for incorporating MMI into the curriculum: Infused Only (IO) and Dedicated and Infused (DI), which indicates a course that is specifically dedicated to MMI. The outcomes resulting from each method have not been investigated. Data of this nature will contribute to determining the most effective means of producing culturally competent clinicians. The purpose of this study is to examine the self-reported frequency with which SLPs use culturally responsive practices as a result of their graduate training experience. To this end, this study addresses the following questions:

- Does the graduate training model (e.g. Infused Only (IO) and Dedicated and Infused (DI)) have a significant impact on SLPs' service delivery to CLD populations?
- How effective are pre-professional training models, (IO) and (DI) in producing culturally responsive SLPs?
  - What culturally responsive practices do SLPs report as a result of their graduate training experience?
  - Which instructional model (e.g. IO or DI) is most effective in preparing SLPs in the delivery of culturally responsive services to CLD families?

History

ASHA's Black Caucus published a call to action in a 1969 position statement that urged ASHA to require all CSD programs to include courses in sociolinguistics, Black history and Black dialect, and to teach Standard English as a second dialect in their curriculum (Taylor, Troud, Hurst, Moore, & Williams, 1969). Fifteen years later, ASHA conducted a Self Study Survey that examined self-reported knowledge regarding service to CLD populations (ASHA, 1985). Seventy-seven percent of the certified SLPs who participated in the study reported that they lacked the knowledge and skills necessary for delivering culturally responsive services (ASHA, 1985). As a result, ASHA published the paper, *Clinical Management of Communicatively Handicapped Minority Language Populations,* the Association's first position statement on non-standard dialect speakers (ASHA, 1985). Its purpose was to describe the competencies and strategies involved in addressing the needs of CLD clients within the construct of a positive clinician-client relationship that is founded on interpersonal skills sufficient to supersede communication barriers. This type of interaction requires specialized training (ASHA, 1985), a component that was not mandated by ASHA until 1994 (Stockman, Boult, & Robinson, 2004). ASHA revitalized its mission to increase cultural competence across the Association in a 2004 paper issued by its Multicultural Issues Board entitled *Knowledge and Skills Needed by Speech-Language Pathologists and Audiologists to Provide Culturally and Linguistically Appropriate Services* (2004). In this document, ASHA reiterates its expectation of its clinicians to consider cultural-linguistic differences in identifying, assessing, treating, and managing disorders in the areas of language, articulation and phonology, resonance/voice/fluency, swallowing, and hearing/balance. Cultural competence is equally relevant in all areas of clinical practice for the purposes of establishing rapport, achieving accurate differential diagnoses, and selecting functional materials and treatment strategies. ASHA (2004) emphasized that when a clinician acknowledges that his/her knowledge and/or skills do not satisfy the needs of the client, the clinician must refer or consult accordingly in addition to seeking further training in areas in which his/her clinical performance is inadequate.

In 2010, ASHA published a series of checklists designed to guide clinicians' self-reflection in regards to MMI. The checklists cover three domains - Personal Reflection, Policies and Procedures, and Service Delivery - as each of these areas must be addressed through a culturally sensitive lens in order to produce maximally effective results (ASHA, 2010). In addition to the three checklists, ASHA published an interactive quiz that allows clinicians to evaluate their knowledge concerning laws, demographics, and CLD communication and service delivery in the form of multiple choice questions and open responses to case studies (ASHA, 2010). ASHA's Practice Portal includes a "Cultural Competence" page in which the association acknowledges the gap in multicultural research in the field of speech-language

pathology. Thus, the document defines culture within the context of communication. The document explains that communication is shaped by culture to the degree that the two are inextricably connected. One cannot address communication without addressing culture. This discussion reiterates the need for clinicians to engage in ongoing self-assessment in order to move beyond awareness to application, and from application to advocacy (ASHA, n.d., "Cultural Competence"). Thus, it is the ethical duty of speech-language pathologists and audiologists to ensure that their services are culturally responsive. For this reason, ASHA adopted the term "cultural humility" (ASHA, n.d., "Cultural Competence"). This term was coined by medical doctors Tervalon and Murray-Garcia (1998) and is cited in the speech, language, and hearing literature by Kohnert (2008). Unlike cultural competence, cultural humility extends beyond the acquisition of discrete pieces of information and encompasses attitude and disposition. It involves critical thinking, problem-solving, and decision making skills that make use of cultural knowledge. The culturally humble clinician challenges the status quo and advocates for every client, particularly those who are challenged by cultural and linguistic barriers (Tervalon & Murray-Garcia, 1998). The lack of MMI proficiency undermines even the most rigorous evidence-based practice. In fact, disregarding cultural variables in clinical practice leads to delayed identification and intervention, which in turn leads to miscommunication and mistrust (ASHA, n.d., "Cultural Competence").

Cultural and Linguistic Competence [Issues in Ethics] (ASHA, 2004) was established by ASHA's Board of Ethics to address the following: (1) clarify the terminology surrounding MMI research and practice and (2) discuss cultural and linguistic competence in terms of the Code of Ethics (ASHA, 2017). Acquiring the knowledge and skills associated with culturally responsive service makes visible improvements to quality of service (Ortiz et.al., 2011; Paradis, Schneider, & Duncan, 2013; Sullivan & Bal, 2013; Tervalon & Murray-Garcia, 1998). However, to achieve true cultural competence, clinicians must consistently partake in reflective exercises that foster the attitude and disposition conducive to forging productive relationships with their clients (Tervalon & Murray-Garcia, 1998). In this manner, the professional-client dyad is built upon mutual respect and genuine concern for the client's well-being.

The following definitions are the cornerstone of cultural responsiveness in service delivery.

- *Cultural and linguistic competence is a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations.* (ASHA, 2017, para. 5)
- *Competent care is providing service that is respectful of, and responsive to, an individual's values, preferences, and language. Care should not vary in quality based on ethnicity, age, socioeconomic status, or other factors.* (ASHA, 2017, para. 6)

Each of these definitions speaks to having both the skills and the disposition for culturally competent practice. In other words, the skill set must be met with an attitude or philosophy that is congruent with an appreciation for diversity. The new CAA Standards refers to this competency as "Concern for Individuals Served," which involves "care, compassion, and… empathy" (CAA, 2016). In addition to treating non-standard dialects and other languages as equals, clinicians must not only acknowledge, but respect and respond appropriately to differences between themselves and their clients in regards to race, ethnicity, religion, age, national origin, gender, gender identity/expression, sexual orientation, and socioeconomic status (ASHA, 2017). All of these factors constitute an individual's cultures. The Board of Ethics concludes that the multiplicity of cultural and linguistic diversity merits specialized training for students, clinicians, and researchers in order to nurture the level of education and sensitivity necessary to uphold ASHA's professional and ethical standards for providing "appropriate services to all populations" (ASHA, 2017). This should compel clinicians and researchers to pursue continuing education in MMI. Supplementary studies in cultural and linguistic diversity are a necessity for all professionals, regardless of their personal cultural identity and experience.

Attitude/Disposition

Traditionally, MMI instruction has consisted of summarizing facts about a specific culture, and students are encouraged to consider the acquired information when working with clients from that culture. However, such an approach has the potential to inadvertently encourage students to form stereotypes about ethnic groups, giving

the student what Tervalon and Murray Garcia (1998) referred to as a "false sense of security" (p. 119). The authors note that measuring cultural competence in simple, quantitative terms (such as performance on assessments like the MCATs) is potentially dangerous. Despite having had cultural competence training, physicians have been found to project stereotypes onto clients that differ from them culturally, resulting in suboptimal care. For example, African American patients are half as likely to undergo surgery for ophthalmologic diseases (e.g. glaucoma) and twice as likely to become blind as a result (Javitt et al., 1991). Similarly, Latino patients are half as likely to receive pain medication for bone fractures regardless of their English language abilities or insurance status despite having reported the same level of pain as their white counterparts with the same type of fracture (Todd, Lee, & Hoffman, 1994; Todd, Samaroo, & Hoffman, 1993). Minority patients and patients living in poverty receive less information regarding their condition and less interaction overall from their doctors (Hall, Roter, & Katz, 1988). The key to preventing disparities such as these are self-awareness and self-evaluation, especially for healthcare professionals, who exercise a form of power over their clients - marginalized groups in particular (Tervalon & Murray-Garcia, 1998). Tervalon and Murray-Garcia (1998) logically suggested that recognizing one's own power and biases coupled with culturally responsive strategies, such as patient-focused interviewing and community-based care, diminishes the need to remember details about specific cultures.

The same need for self-reflective practices to deal with personal biases is also clearly demonstrated in the school setting. There is evidence that CLD students are often overrepresented in special education based on gender, race, socioeconomic status, and number of suspensions (Sullivan & Bal, 2013). General education teachers have been found to refer English Language Learners for special education when their difficulties are due to other sociocultural factors (Ortiz, et al., 2011). Within the discipline of speech-language pathology, bilingual children are overdiagnosed when clinicians evaluate them without proper training and assessment tools; and they are underdiagnosed when clinicians refrain from administering a comprehensive evaluation due to lack of knowledge and fail to consult the appropriate professional(s) such as bilingual SLPs or interpreters (Bedore & Peña, 2010; Langdon, 2016). CSD programs

must incorporate effective training to combat the negative consequences that cultural blindness and cultural insensitivity precipitate. Some suggested measures that develop and assess the cultural competence of healthcare professionals are observation, informant interviews, journals, and community feedback (Tervalon & Murray-Garcia, 1998). Other methods of instruction that incorporate some of these measures have been implemented and documented in CSD courses. They are outlined in the next section.

Methods of Instruction

The methods by which MMI is incorporated into CSD curricula are varied. However, there are two general methods that are very distinct: *infused* and *dedicated*. ASHA cites Stockman (2003) in defining an infused course, emphasizing the contrast between infusion and inclusion. The latter denotes an addendum model in which MMI content stands alone as its own unit on the syllabus, secondary to the core content of the course - a model that is not appropriate for MMI instruction. True infusion, however, entails that MMI penetrates all topics covered in the course so that the manner in which the topics are taught is fundamentally different from a discussion of the topic alone, without reference to MMI (Stockman, 2003). A dedicated course, on the other hand, has cultural and linguistic diversity as its core content. Addressing MMI is the primary - if not sole - purpose of the course.

Despite the lack of empirical research regarding the efficacy of MMI instruction, a number of educators and researchers support and have documented positive outcomes resulting from curriculum designs based on self-reflection. Tervalon and Murray-Garcia (1998) discussed the necessity of "self-critique and self-awareness" in order to be able to engage other cultures in a way that does not marginalize them as "the other." One must handle one's own biases and prejudices that manifest in thought and action to truly respect and honor the values, beliefs, and traditions of those who have a different cultural background than oneself. The authors offer several activities that aid in this process, including but not limited to small-group discussions, journals, role models, and videotaping with feedback. These approaches should not only aid students and individuals, but should be implemented at the institutional level (e.g. graduate training programs) in order to ensure that the

institution is operating on goals and policies that create a culturally sensitive environment for students, faculty, and the community.

The principles described by Tervalon and Murray-Garcia (1998) have been successfully applied in CSD courses. For example, Mahendra, Bayles, Tomoeda, and Kim (2005) published a comprehensive summary of the use of Weimer's model of learner-centered education (LCE) for MMI instruction (Weimer, 2002). Unlike traditional teacher- and content-centered models, LCE gives the student and the instructor equal power in creating the learning environment and developing course content. In the course guided by Mahendra et al. (2005), course content focused on major cultures of the world - both their general characteristics and their variability. Equally as important to the course content was the learner's experience. Because the authors recognize that "beliefs influence behavior," the students were encouraged to examine their own upbringing, traditions, and worldview as a prerequisite for developing cultural competence in the clinical environment. In order for this process to be successful, the classroom must be established as a safe and respectful environment in which all views are received without penalty. Students are evaluated at each of the five stages of the course - learning about world cultures, defining one's own culture, recognizing stereotypes and biases in behavior, understanding cultural conflict, and strategies to reduce and resolve cultural conflict. Evaluations are such that they monitor acquisition of skills rather than information, ensuring that both content and process are preparing students to engage in continuous education.

Similarly, Durant-Jones (2009) implemented a transformational teaching and learning approach, described by McGonigal (2005), in a group case study involving a six-week MMI course that included lectures, small-group work, and cross-cultural learning experiences that took students outside of the classroom and into the community. Based on pre and post cultural awareness screenings, pre and post surveys, personal journals, a comparative analysis paper, a final project, course evaluations, and interviews, the students experienced a fundamental attitude shift regarding cultural diversity and clinical practice. They reported that because MMI was not addressed as an "afterthought," they gained a deeper understanding of "key issues" and

recognized that cultural competence "requires on-going learning" (Durant-Jones, 2009).

Knowledge and Skills Outcomes

Literature and resources concerning MMI across disciplines have rapidly grown over the past decade. However, graduate training programs in CSD have been described as deficient in exuding the fervor and the level of commitment to cultural concerns needed to raise awareness and encourage students, faculty, and professionals to develop cultural competence. A survey by Stockman, Boult, and Robinson (2008) revealed that 56% of 731 ASHA-accredited CSD programs give minimal attention to MMI. The faculty of these programs judged that their students were only moderately prepared to serve CLD populations. While ASHA encourages CSD programs to integrate MMI into all courses in addition to including a course specifically dedicated to MMI, only 31% of the programs surveyed offered courses dedicated to MMI (ASHA, n.d.; Stockman, et.al., 2008). Tellis, Tomaselli, and Roseberry-McKibbin (2012) reported that despite agreement that providing an MMI dedicated course is important, few programs offer such a course. In 2015, ASHA reported statistics identifying only 62 of the 316 (20%) accredited CSD programs had a multicultural emphasis (ASHA, 2015).

Stewart and Gonzalez (2002) identified three major areas that determined a training program's capacity for developing culturally competent clinicians: expanding and sustaining diversity within the profession; increasing the quantity and quality of MMI research; and strengthening academic and clinical training. A survey of ninety-one programs across the country revealed that most had difficulty with minority recruitment and retention and that programs were not consistent in providing diverse practicum experiences (Stewart & Gonzalez, 2002). These results were confirmed by Horton-Ikard and Muñoz (2010) upon evaluating 133 CSD programs according to the Multicultural Competency Checklist (MCC; Ponterotto, Alexander & Grieger, 1995). Of the participating programs, 25% reported integrating MMI across the curriculum; less than 40% had conventional means for assessing the cultural competence of its faculty and students; and 48% had established a multicultural resource center.

A number of studies have characterized the perspectives of graduate students in CSD programs as well as those of practicing SLPs. Campbell and Taylor (1992) found that most of the 713 participating SLPs reported having deficits in the assessment and intervention of CLD populations. Wallace (1997) found that 43% of 37 SLPs had received no MMI training in their graduate program, while another 57% received minimal training. Sixty-two percent of the respondents felt incompetent in regards to serving adult CLD populations with neurogenic disorders. In 2001, only 24% of SLPs had completed MMI coursework (Roseberry-McKibbin, Brice, & O'Hanlon, 2005). One hundred sixty-seven undergraduate and graduate students in New York City CSD programs performed poorly on an evaluation that assessed knowledge of common features of nonstandard dialects (Levey, 2004). The current body of research on cultural competence in speech-language pathology illustrates that overall knowledge and skills pertaining to MMI are weak, thus necessitating a reformation of CSD curriculum and instruction.

Defining Culturally Responsive Behaviors

Evidenced-based practice (EBP) in speech-language pathology is defined as "the integration of research evidence with practitioner expertise and client preferences and values into the process of making clinical decisions" (ASHA, n.d.; "Evidence Based Practice"). This principle is symbolized by a triangle, for which each of the three points represents one of the components of EBP: current best evidence, clinical expertise, and client/patient values. The use of the triangle as a symbol should serve as a reminder that each of the three components is equal in importance (ASHA, n.d.; "Evidence Based Practice"). While current best evidence is provided in the literature regarding specific assessment and treatment practices, it is the clinical expertise that allows the clinician to consider the client's values when applying best practice. Thus, in order to integrate the three components of EBP, a clinician who operates according to EBP is one who practices cultural humility. A comprehensive paper on Cultural Competence in ASHA's Practice Portal provides practical ways to translate cultural humility into clinical practice. Culturally responsive practice promotes the use of dynamic assessment and culturally appropriate assessment and therapy materials. A family centered approach that involves family interviews, dissemination of information and consultation/referral to bilingual therapists, interpreter/translators and other professionals is recommended best practices when working with CLD families (ASHA, n.d.; "Cultural Competence"). Wyatt (2012) provides guidelines for assessing multicultural and international clients, noting the challenges of cross-cultural communication, the application of non-standardized and alternative assessments and engendering trust through the use of family interviews. Focusing on early intervention and service to school-age children, Davis and Banks (2012) promoted the use of ecologically-valid, family-centered services to the families of preschool and school age children.

The principles of cultural humility serve as the foundation of culturally responsive practices as these principles place the focus of every clinical encounter on the client and his/her family regardless of their specific culture or the dominant culture at large (Tervalon & Murray-Garcia, 1998). Culturally responsive practice also respects the dynamic nature of culture by making the client and the family the focal point rather than culture itself. In this manner, services are relevant to the client regardless of the degree to which a particular family identifies with the non-dominant and dominant cultures that influence them. The efficiency of culturally responsive strategies, then, makes the frequency of their use a major concern for the efficacy of the field of speech-language pathology.

Method

Participants

Forty (n=40) ASHA-certified SLPs between the ages of 25 and 75 years participated in the study. Fifty percent (50%) of the participants were between the ages of 36 and 55 years. The participants earned their Master's degree in Speech-Language Pathology between the years 1961 and 2014, with the most participants (15; 37.5%) having received their degree between 2001 and 2010. Nine participants (22.5%) earned their degree between 1981 and 1990. Thirty (75%) participants were Caucasian/White, four (10%) were African American/Black, one (2.5%) was American Indian or Alaskan Native, one (2.5%) was Asian or Pacific Islander, one (2.5%) was Hispanic/Latino, and three (7.5%) belonged to other racial/ethnic groups. Thirty-nine (97.5%) participants spoke English as a first language,

and eight (20%) spoke another language in addition to English. Thirty-eight (95%) were female.

Instrument

An electronic survey was created using a web-based survey program, Empliant™ software (see Appendix A). The survey included an introductory paragraph outlining the purpose of the survey followed by 45 questions pertaining to the participant's coursework, clinical practicum experience, and current practices used when serving CLD populations. The specific practices included in the survey were: dynamic assessment, diverse materials (e.g. food, objects, books, and pictures), family interviews, dissemination of information to high risk populations, and consultation/referral to bilingual therapists, interpreters/translators, and other professionals (ASHA, 2017). Multiple choice questions, open-ended questions, and rating scales were used to elicit information regarding their education, past and present clinical experience and practice, caseload demographics, and disposition. Finally, participants shared their personal philosophy regarding culturally responsive services and rated their level of preparedness for working with CLD populations. The survey did not elicit any identifying information and was completed anonymously. All surveys were submitted electronically.

Procedure

Fliers, email lists, and online communities (e.g. the LinkedIn group, "Speech Language Pathology Resources," ASHA Facebook page, etc.) were used to recruit ASHA Certified speech-language pathologists working at state and national associations, private practices, and public schools. Recruitment materials briefly described the study in the following terms: *The goal of the survey is to summarize the strategies implemented by practicing Speech-Language Pathologists (SLPs) as they relate to culturally and linguistically diverse (CLD) populations in order to evaluate the impact of different curriculum designs.* Prospective participants were also made aware that their participation was voluntary and that the results would be anonymous. The survey was accessed via an anonymous weblink, through which all responses were aggregated using Empliant™ software.

Data Analysis

To examine the impact that graduate training had on the clinical practice of the respondents, the data were analyzed using the Tri-Squared Test, a four-step process that converts qualitative data into quantitative data with high precision (Osler & Mutisya, 2013). First, trichotomous categorical variables and trichotomous outcome variables were identified. Second, effect size and sample size were established with the corresponding alpha level. Third, mathematical hypotheses about the relationship between categorical variables were formulated. Finally, the Tri-Squared test was used to determine which relationships were significant (Mutisya, Osler, Bitting, & Rotich, 2014). The Trichotomous T–Square Three by Three Table was designed to analyze the research questions from an Inventive Investigative Instrument with the following Trichotomous Categorical Variables: a_1 = Dedicated and Infused; a_2 = Infused Only; and a_3 = Dedicated Only. The 3×3 Table has the following Trichotomous Outcome Variables: b_1 = Consistently (Often to Regularly); b_2 = Intermittently (Infrequently to Rarely); and b_3 = Occasionally (Sometimes). The Tri-Squared Test 3x3 Matrix was organized according to the research questions and analyzed to test the significance of the research findings related to the Mathematical Research Hypotheses, H_0: $Tri^2 = 0$ and H_1: $Tri^2 \neq 0$, respectively. The effectiveness of each model was then determined.

Results

This study examined the impact that graduate training models - Dedicated and Infused, Infused Only, and Dedicated Only - have on certified SLPs' current practices patterns with respect to culturally and linguistically diverse populations. Although service to bilingual populations was addressed in the survey, service to this population involved a unique set of circumstances that merits a separate discussion. The present article focused on survey results pertaining to service to monolingual CLD populations.

In regards to graduate training experience, 32.5% (13) of respondents reported that their graduate program offered an MMI-dedicated course that was required for all students in addition to MMI content that was infused in other courses; 67.5% (27) did not take an MMI-dedicated course, but reported that MMI content was infused into at

least one other course. The courses that were most likely to include MMI content were Diagnostic Methods (25.5%), Language/Literacy (26.5%), and Articulation & Phonology (26.5%). Less than 10% of respondents indicated that MMI content was infused into AAC (7.8%), Swallowing/Fluency/Voice (4.9%), Hearing/Balance (2.9%), or Research Design (2%). Four respondents (3.9%) indicated that they did not receive or recall receiving MMI content in any of their coursework. There were no respondents (0%) that reported that their graduate program only offered MMI-dedicated courses without infused courses. Every program that offered an MMI-dedicated course also infused MMI content throughout the curriculum. The effectiveness of each of the models reported - Dedicated and Infused (DI) and Infused Only (IO) - is evaluated.

Does the graduate training model have a significant impact on SLPs' service delivery to CLD populations?

The data were analyzed using the Trichotomous–Squared ("Trichotomy–Squared", "Tri–Squared" or "Tri–Square") statistical analysis procedure (Osler, 2012). The Trichotomous–Squared Three by Three Table was designed to analyze the research questions from an Inventive Investigative Instrument with the following Trichotomous Categorical Variables: a_1 = Dedicated and Infused; a_2 = Infused Only; and a_3 = Dedicated Only. The 3×3 Table has the following Trichotomous Outcome Variables: b_1 = Consistently (Often to Regularly); b_2 = Intermittently (Infrequently to Rarely); and b_3 = Occasionally (Sometimes). The Inputted Qualitative Outcomes representing the impact of graduate training models on SLP service delivery to CLD populations are reported in tabular format, shown in Figure 1.

Figure 1. Outcomes of the Tri–Squared Test for Cultural Responsiveness by Graduate Training Model

		TRICHOTOMOUS CATEGORICAL VARIABLES		
$n_{Tri} = 40$ $\alpha = 0.20$				
		a_1	a_2	a_3
TRICHOTOMOUS OUTCOME VARIABLES	b_1	99	107	0
	b_2	9	17	0
	b_3	11	50	0

The Tri–Square Test Formula for the Transformation of Trichotomous Qualitative Outcomes into Trichotomous Quantitative Outcomes to Determine the Validity of the Research Hypothesis is as follows:
$$Tri^2\ d.f. = [C-1][R-1] = [3-1][3-1] = 4 = Tri^2_{[mean]}$$

The Tri–Square Test Formula for the transformation of trichotomous qualitative outcomes into trichotomous quantitative outcomes to determine the validity of the research hypothesis is as follows:
$$Tri^2 = T_{Sum}\ [(Tri_x - Tri_y)^2 : Tri_y]$$

The Tri^2 Critical Value Table = 5.989 (with $d.f. = 4$ at $\alpha = 0.20$). For $d.f. = 4$, the Critical Value for $p > 0.20$ is 5.989. The Calculated Tri–Square Value is 18.12, thus, the null hypothesis (H_0: None of the instructional models have a significant effect/impact on the culturally responsive practices of SLPs) is rejected by virtue of the hypothesis test which yields the following: Tri–Squared Critical Value of $5.989 < 18.12$, the Calculated Tri–Squared Value (Osler, 2012).

Figure 1 shows that the respondents primarily selected the "Infused Only" Categorical Variable at "Consistently" ($a_2b_1 = 107$) in terms of their diverse experiences in their

respective graduate program and subsequent practice. All Trichotomous Categorical Variables are reported respectively as follows: "Dedicated and Infused" (DI) as "Consistently" ($a_1b_1 = 99$), "Intermittently" ($a_1b_2 = 9$), and "Occasionally" ($a_1b_3 = 11$); "Infused Only" (IO) as "Consistently" ($a_2b_1 = 107$), "Intermittently" ($a_2b_2 = 17$), and "Occasionally" ($a_2b_3 = 50$); and "Dedicated Only" (DO) as "Consistently" ($a_3b_1 = 0$), "Intermittently" ($a_3b_2 = 0$), and "Occasionally" ($a_3b_3 = 0$). As the data displays, there was no DO data in regards to MMI curriculum reported by any of the respondents. The null hypothesis (H_0) is rejected at $p > 0.20$ is 5.989. Thus, the qualitative standard Tri–Squared 3 by 3 data illustrate that both the DI model and the IO model have a significant impact on the use of CLD clinical practice strategies.

How effective are pre-professional training models in producing culturally responsive SLPs?

The second research question the current study addressed is the effectiveness of respondents' graduate training in producing culturally responsive SLPs. This question is examined in two parts:
a) *What culturally responsive practices do SLPs report as a result of their graduate training experience?* This question examines participants' responses to clinical practice items.

b) *Which instructional model is most effective in preparing SLPs in the delivery of culturally responsive services to CLD families?* This question examines four different measures of effectiveness: overall level of efficacy (average of responses to clinical items), feelings of preparedness, perceived contribution of graduate program to preparedness, and personal philosophy (i.e. attitudes and disposition).

What culturally responsive practices do SLPs report as a result of their graduate training experience?

Tables 1-4 display the percentage of respondents that reported using culturally responsive strategies consistently (regularly to very often) in the DI group and the IO group. Both the DI group and the IO group conduct dynamic assessments and use diverse materials more often than they conduct family interviews and disseminate information. This suggests that the respondents do not engage in frequent contact with the families of the clients receiving direct services. The IO group engages with families/caregivers about half of the time while the DI group interacts with families about 75% of the time. The data demonstrate that the DI group is more likely to report using culturally responsive strategies (e.g. dynamic assessment, diverse materials) consistently than the respondents in the IO group in their current practice.

Table 1. Descriptive Statistics for Clinical Practice Item No. 1 - Dynamic Assessment with CLD Clients

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.92
2. Infused Only	0.72

Table 2. Descriptive Statistics for Clinical Practice Item No. 2 - Diverse Materials with CLD Clients

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.92
2. Infused Only	0.78

Table 3. Descriptive Statistics for Clinical Practice Item No. 3 - Family Interviews with CLD Families

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.77
2. Infused Only	0.56

Table 4. Descriptive Statistics for Clinical Practice Item No. 4 - Disseminating Information to CLD Families

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.77
2. Infused Only	0.56

Which instructional model is most effective in preparing SLPs in the delivery of culturally responsive services to CLD families?

Table 5 reflects the average percentage that each group engages in culturally responsive practices. The data show that the DI group, on average, utilizes culturally responsive strategies more often than the IO group (83% > 61%).

Table 5. Descriptive Statistics for average of Clinical Practice Items No. 1-11

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.83
2. Infused Only	0.61

Table 6 displays the percentage of respondents from each group who report feeling prepared for working with CLD populations. Seventy-seven percent of the DI group reports feeling "prepared" or "very prepared" to work with CLD populations while only 37% of the IO group feels "prepared" or "very prepared." While the majority of the DI group reported feeling prepared (69.2%), the majority of the IO group reported feeling somewhat prepared (40.7%). Table 7 displays the percentage of respondents from each group who agree that their graduate program contributed to their knowledge and skills related to serving CLD populations. Seventy-seventy percent of the DI group "agree" or "strongly

agree" that their graduate program contributed to their knowledge and skills regarding CLD populations compared to 19% of the IO group. Likewise, 77% of the DI group report that their graduate training contributed to their disposition regarding service to CLD populations compared to 37% of the IO group (Table 8). For all items, respondents from the DI group gave overwhelmingly more positive responses. The DI group reported feeling significantly more prepared for working with CLD populations and attributed the associated knowledge, skills, and disposition to their graduate training experience.

Table 6. Descriptive Statistics for Non-Clinical Practice Item No. 1 - Feelings of Preparedness

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.77
2. Infused Only	0.37

Table 7. Descriptive Statistics for Non-Clinical Practice Item No. 2 - Contribution of Graduate Training on Knowledge and Skills

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.77
2. Infused Only	0.19

Table 8.

Descriptive Statistics for Non-Clinical Practice Item No. 3 - Contribution of Graduate Training on Disposition

Cultural and Linguistic Level of Variation	Overall Outcome As a Percentage
1. Dedicated and Infused	0.77
2. Infused Only	0.26

On average, 77% of the DI group agree that their graduate program contributed to their knowledge, skills, and disposition regarding service delivery to CLD populations compared to 22.5% of the IO group. These data suggest that the DI model is more effective in preparing clinicians for serving CLD populations across clinical and non-clinical variables.

Qualitative Responses
In order to achieve true cultural competence, "Clinicians must consistently partake in reflective exercises that foster the attitude and disposition conducive to forging productive relationships with their clients" (Tervalon & Murray-Garcia, 1998). Attitude is a critical element that speaks to one's cultural competence as well as one's overall "professionalism". Consequently, this survey required participants to complete the statement, *"My philosophy on providing culturally/linguistically responsive service is…"*. Personal philosophy speaks to one's attitude and disposition and reveals respondents feelings of preparation. Personal philosophy is further translated to reveal professionalism, evidenced along a continuum of cross-cultural behaviors.

In comparing open-ended responses to perceived level of overall preparedness, three trends emerged. First, participants whose open-ended responses reflected cultural humility - open-minded, given to lifelong learning, consulting families and communities as experts - were most likely to rate themselves as "prepared" or "somewhat prepared." Only one of the respondents who verbalized cultural humility reported being "very prepared" (see Table 9).

Second, those whose philosophy was founded on one dimension of culture also rated themselves as "prepared" or "somewhat prepared" (see Table 10). Third, those who gave a response of "neutral" for level of overall preparedness demonstrated little to no understanding of culturally/linguistically responsive service (see Table 11). Each open-ended response is situated on the continuum of cultural competence proposed by Cross, et. al. (1989) and cited by ASHA (n.d., "Cultural Competence"). The continuum moves from cultural destructiveness, to cultural incapacity, to cultural blindness, to cultural pre-competence, to cultural competency, to cultural proficiency (Cross, et al., 1989; Kohnert, 2008). Keywords that illustrate the participant's stage on the continuum are emphasized in italics.

Table 9. Open-Ended Responses Reflecting Cultural Humility

Feeling of Preparedness	My philosophy on providing culturally/linguistically responsive service is...	Stage on Continuum of Cultural Competence
Somewhat prepared	*Constantly evolving* based on *experience* and *continuing education*. I want to be as *respectful and responsive* as possible, but I know I still have a lot to learn. I am always open to learning more. This is an *extremely important* area to me...I try to be very sensitive to the linguistic traditions of the children and families I serve.	Cultural Competency
	Even with courses and several years of experience, I feel like it is a *constant learning process* that *will continue* throughout my career.	Cultural competency
Prepared	To *understand the perspective of my client*'s belief system as it relates to assessment and intervention so that I can incorporate these perspectives into my clinical practice approach *without inadvertently imposing my beliefs* and view.	Cultural Competency
	To treat all of my clients with *respect and compassion* regardless of their background by being *sensitive to their experiences* and cultural expectations.	Cultural Competency
Very Prepared	The principles and activities of *culturally/linguistically responsive service* should be appropriate and *infused throughout the clinic* to include *partnerships with communities* served.	Cultural Proficiency

Table 10. Open-Ended Responses Reflecting One Dimension of Culture

Feeling of Preparedness	My philosophy on providing culturally/linguistically responsive service is...	Stage on Continuum of Cultural Competence
Somewhat prepared	It is important to preserve the *first language* of a child so that their *family dynamics* remain strong.	Cultural Pre-Competence
	I use a *native non English school aide* or assistant or bilingual or native Spanish speaking teacher when I test.	Cultural Pre-Competence
	Not sure what my philosophy is.	Cultural Incapacity
Prepared	Provide the information in the *language* that parents request it to be in.	Cultural Pre-Competence
	It is important to know and understand a *variety of cultures*.	Cultural Pre-Competence

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Table 11. Open-Ended Responses of Participants Reporting Neutral Preparedness

Feeling of Preparedness	My philosophy on providing culturally/linguistically responsive service is...	Stage on Continuum of Cultural Competence
Neutral	Please note that I completed my training by 1968 at which time there was *no focus on CLD issues.* It was during the time that ASHA began requiring a Master's Degree for certification and practicums and courses were often part of the undergraduate program. ASHA was not the American Speech Language and Hearing Ass but Speech and Hearing. Issues at that time included obtaining the recognition that our profession dealt not just with speech but also language. Thus my training experiences were far different from those in the last couple of decades. Our mission was to *provide quality services to persons with communication disorders of all cultural and linguistic backgrounds.*	Cultural Incapacity
	Sometimes it is *very difficult* and you may *have to do research* to serve those clients.	Cultural Pre-Competence
	Equality.	Cultural Blindness
	My work is primarily with *non-verbal* students.	Cultural Incapacity

These trends speak to the nature of traditional perspectives on cultural competence, by which competence is measured by knowledge of "so called facts" or stereotypes about particular cultures. As a result of this approach, clinicians who practice with cultural humility view their perceived lack of knowledge regarding specific cultural characteristics as a deficit (Table 9). However, on the continuum of cultural competence, they are culturally competent or culturally proficient. This means that they accept and respect cultural differences, consistently engage in self-assessment and education, and use their knowledge of culture effectively throughout their clinical practice. Further, culturally proficient practice is applied on an institutional level pursuing ongoing improvement and advocacy through leadership (Cross et al., 1989; Kohnert, 2008).

On the other hand, those who have learned various facts about the culture(s) represented on their caseloads or who use interpreters or a second language during service delivery feel some level of preparedness despite their fragmented understanding of culture (Table 10). This pattern demonstrates the "false sense of security" described by Tervalon and Murray-Garcia (1998). Those whose responses were one-dimensional demonstrate cultural incapacity or cultural pre-competence (Table 10).

Cultural incapacity describes one who does not intend harm, but personal bias and an ethnocentric perspective make their practice discriminatory (Kohnert, 2008). Cultural pre-competence reflects a level of personal awareness of one's own values and behaviors while actively engaging in activities that promote a greater understanding of more "implicit aspects of culture" (Kohnert, 2008). While this stage may seem positive, clinicians who are culturally pre-competent are at risk for perpetuating stereotypes and inadvertently causing harm to those they serve. Thus, the open-ended responses show that while culturally humble clinicians and those who have yet to reach cultural competence rate themselves as having the same level of preparedness, the continuum of

cultural competence illustrates that the two groups are, in fact, quite different. Additionally, those who were neutral about their level of preparedness gave open-ended responses that communicate the notion that culturally and linguistically responsive services are reserved for specific populations so that cultural competence is not required for those who do not serve CLD populations (clients and families whose culture differs from that of the clinician) on a regular basis (Table 11). These participants' responses range from cultural pre-competence to cultural incapacity. The responses of each of these subgroups of clinicians suggest a deficiency in the current methods by which MMI content is addressed in CSD curricula.

Discussion

The survey data in this study are consistent with previous literature demonstrating that, overall, the knowledge, skills, and disposition of SLPs do not adhere to ASHA ethics and standards regarding culturally responsive services for CLD populations. For over 30 years, ASHA has been developing recommendations and guidelines related to MMI. Still, ASHA-certified speech-language pathologists overall feel unprepared to work with CLD populations. Moreover, they do not credit their graduate programs for contributing to the knowledge and skills they do have in regards to MMI. The constructive information that these data provide is that including a course that is dedicated to MMI in CSD programs in addition to infusing MMI content across the curriculum, improves outcomes in clinical practice post-graduation.

In addition to indicating a need for MMI-dedicated coursework in CSD programs, the present data reveal which culturally responsive strategies are more likely to be practiced and which strategies are avoided. Regardless of their graduate training, SLPs are consistent in performing dynamic assessments and using diverse materials; however, they are less likely to conduct family interviews and disseminate information to high-risk populations. This trend suggests that SLPs are not consistently engaging in family-centered care. Contributing factors may be the absence of family-centered training outside of early intervention settings and barriers in the clinical context or community that makes getting in contact with families difficult. In their open-ended responses, two participants identified the availability of resources and the "realities" in which they work as obstacles to providing the highest quality services possible.

In regard to factors contributing to knowledge, skills, and disposition, some participants cite personal experience and contact with CLD populations as the source of their learning rather than their graduate training program. The insight that participants gained from experience supports the value of the transformational teaching and learning approach, which includes cross-cultural interactions outside of the classroom as a cornerstone of the curriculum (Durant-Jones, 2009). It is important to note, however, that some participants who took an MMI-dedicated course as a part of their CSD graduate curriculum reported that their graduate program did not significantly contribute to their knowledge, skills, and disposition regarding MMI. Moreover, offering an MMI-dedicated course did not necessarily indicate that a CSD graduate program was perceived as being committed to cultural and linguistic diversity. This pattern reiterates the importance of institution-wide policies and goals that hold both faculty and students to a high standard of clinical excellence for all people. Cultural humility must begin at the level of the institution in order to produce culturally humble clinicians that consistently follow evidence-based practice and uphold the ASHA Code of Ethics.

Limitations

While this study shows trends in culturally responsive practice as a function of graduate training experience that are supported in previous literature, the sample size is small. In addition, the geographic distribution of participants is unknown. Therefore, the diversity of graduate programs represented in the sample is unknown.

Future Directions

In order to gain a more detailed understanding of the impact that graduate training has on the development of students' cultural proficiency, future studies should evaluate graduate programs regarding MMI infusion in the curriculum and in the framework of the institution. Factors to be included in such an evaluation that have already been shown in the literature to have an effect on MMI instruction include the recruitment and retention of minority faculty and students (Horton-Ikard & Muñoz, 2010; Stewart & Gonzalez, 2002) as well as syllabus

review and faculty perspectives (Halvorson-Bourgeois, Zipse, & Haynes, 2013). Faculty and student perspectives should be combined to gain a comprehensive view of which program characteristics are important to faculty and students as well as which characteristics have the most influence on clinical outcomes. In this manner, the field can develop guidelines and resources that support graduate programs that are moving towards creating a more culturally responsive environment.

Conclusions

Culture is coded into language to the extent that cultural norms, customs, and values must be integrated into every aspect of speech and language services. Failing to do so negatively impacts the validity and reliability of assessment and the efficacy of intervention. Further, cross-cultural conflict may surface as the results of poor client-clinician relations. ASHA standards specify that cultural competence is an essential aspect of graduate training and clinical practice, and the association cites cultural humility and cultural proficiency as the gold standard. Therefore, SLPs must not only be aware of possible cultural differences, but also understand how to navigate cross-cultural interactions regardless of what the specific cultural differences are. Further, SLPs must value the culture of each client and family such that engaging in culturally responsive service delivery is standard practice rather than a cumbersome add-on to be used with specific populations. In order to achieve this level of cultural humility, ASHA encourages graduate programs in CSD to offer courses dedicated to MMI in addition to infusing MMI across the curriculum. Thus, cultural humility is the result of institutions that commit to excellence in MMI instruction by infusing MMI throughout the curriculum, including an MMI-dedicated course as a part of the core curriculum, and exposing students to cultural and linguistic diversity in their practicum experiences.

Regardless of geographic location or demographic characteristics, cultural humility is a philosophy that will improve the clinical practice of all clinicians. Cultural humility is the foundation of cultural proficiency. While cultural proficiency is a constantly evolving set of principles and practices, graduate programs must create an environment where culturally responsive practices are a part of the institutions culture and is evident throughout the program. Graduate training programs must demonstrate a vested interest in culturally responsive

practices as a part of their infrastructure as well as throughout their curriculum and practice, consequently improving service delivery to CLD populations.

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EFFECTS OF MOTHERS' AND PRESCHOOLERS' COMMUNICATIVE FUNCTION USE AND DEMOGRAPHICS ON CONCURRENT LANGUAGE AND SOCIAL SKILLS

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ABSTRACT

Achievement gaps exist between children from racial/ethnic minority and low SES homes and their peers, yet clear explanations for the gap have been elusive. In addition to vocabulary, some are examining pragmatics to help understand the gap, as functional language can a) reflect how caregivers stimulate language; b) show how preschoolers communicate and; c) affect academic performance. The purpose of this study was to examine links between linguistic performance and the communicative functions (CFs) of typically developing African American, European American, and Latino American preschool boys and girls and their mothers. CFs were coded from one learning and play mother-child interaction (*N*=95) from the National Center for Early Development and Learning's (NCEDL, 2005) study of Family and Social Environments. Relationships among CFs, demographics and performance on standardized language, receptive vocabulary, and social competence measures were analyzed. Mother *Reporting*, mother *Reasoning*, mother *Total Utterances*, gender, and poverty predicted performance, while *Predicting* was the only child CF to predict performance. Associations between gender, poverty, and mothers' CFs suggest that lower performance for boys and children who are poor may reflect a lack of experience rather than a lack of basic communicative competence, as few child CFs were related to performance. By implication, determinations of language deficits in CLD children should consider that observed difficulty may be due to differences in early exposure to some CFs by their mothers or how teachers are measuring performance.

KEYWORDS: preschool, mothers, pragmatics, development, achievement

Children from homes of lower socioeconomic status (SES), which is a measure of economic and social position based on occupation, income, and education, experience an achievement gap. The gap is especially apparent between boys from culturally and linguistically diverse (CLD) backgrounds and their female counterparts from European American (EA), middle SES backgrounds, despite focused programs designed to close the gap (Barbarin, 2013; Jensen, 2009; Owens, 2016; Rothschild, 2016). Demographic differences in word knowledge have been cited as potential reasons for deficiencies in language, cognitive, social, and academic performance (Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; Hart & Risley, 2003), but the concentration on word deficiency alone has been viewed as too simplistic or as playing a smaller role than once thought (Avineri et al., 2015; Rothschild, 2016). A more comprehensive investigation would include other language domains like pragmatics.

Pragmatics involves use of utterances and non-verbal communicative intent in social contexts (Ninio & Snow, 1996). The skills of making inferences about others' mental states, understanding emotions, and understanding mistaken beliefs are correlated with communicative competence, vocabulary, and metalinguistic skills (Hoff, 2003). Conversely, pragmatic deficits relate to social difficulty that can manifest as behavioral problems and ensuing academic failure (Barbarin, 2013; Timler, Vogler-Elias, & McGill, 2007). Communicative Functions (CF) are within the domain of pragmatics and defined as reasons for communicating. Even though adults appraise CFs when referring children for special services and cultural differences in pragmatic discourse can be misinterpreted as behavioral problems (Delpit, 1995), CFs have not always been recognized as a crucial reason for disproportionality (Nungesser & Watkins, 2005). Thus, knowledge of diverse CF development and its influence on aspects of children's daily lives could inform practice (Hyter, Rivers, & DeJarnette, 2015; Marquis & Baker, 2014).

Communicative Function Definition and Hierarchy

Generalization of CF research has been hampered by variation in CF operationalization where they have been coded at the utterance level, social interaction level, or interaction context level (Chapman, 1981; Goffman, 1976; Ninio, Snow, Pan, & Rollins, 1994; Ninio & Snow, 1996; Pinnell, 2002; Searle, 1975). Although Tough (1984) provided a foundation for coding of preschool CFs, little cross-cultural information or published norms on CF development exist and few studies (Blake, 1993; Hammer & Weiss, 1999; Pellegrini, Brody, & Stoneman, 1987) have described racial/ethnic minority mother-child interactions in terms of the proposed CFs.

Further, social cognitive researchers have shown that CFs advance from earlier emerging, directing functions to later emerging CFs used to inform or gather information (Bruner, 1986; Carpendale, 2006; Carpenter, Mastergeorge, & Coggins, 1983; Hudson & Fivush, 1991; Lucariello, Hudson, Fivush, & Bauer, 2004; Owens, 2016; Pears & Moses, 2003; Tough, 1984; Westby, 2012), but inquiry into whether the emergence pattern holds across cultures is lacking. For example, although later emerging CFs like *Projecting* or *Predicting* are more difficult for all preschoolers because they are still in an egocentric stage, hindering their ability to take others' perspectives (Greene & Burleson, 2003; Lucariello et al., 2004), Hwa Froelich, Kasambira, and Moleski (2007) rarely observed these CFs in preschoolers that were African American (AA) and low SES. Therefore, study of the emergence of CFs across cultures and its relationship to school readiness is also of theoretical importance.

Theoretical Framework

Examination of whether CF use varies by sociocultural factors is grounded in developmental, cognitive, linguistic, and sociocultural theories. Increased complex expressive language is indicative of more complex ideas and receptive language, which allows children to process others' input in order to produce an appropriate response (transactional model of development), can develop at a faster rate than expressive language (Becker, 1994; Bredekamp & Copple, 2009; McLean & Snyder-McLean, 1999; Snow, 1994). Parts of expressive language and cognitive development are similar across humans, but variations in emergence of specific linguistic structures occur across cultures (DeHouwer, 2009; Paradis, Genesee, & Crago, 2011). Thus, Vygotsky's (1962) theory that cognitive and linguistic development is socially constructed and scaffolded by adults is pivotal to

researchers who posit that development must be considered within social and cultural contexts (Berk & Winsler, 1995; Bodrova & Leong, 2007; Bredekamp & Copple, 2009; Castro, García, & Markos, 2013).

As teaching academic language through play in natural environments is developmentally appropriate practice, the cultural context of the home might influence academics (Bodrova & Leong, 2007; Bredekamp & Copple, 2009). However, play can differ where some parents teach as done in mainstream schools, while others teach differently. Their children may experience conflicting interaction rules if their home culture is not in congruence with the school culture (Barbarin, 2010; 2013; Hall, 1989; Halliday, 2002; Heath, 1982). A strong home-school congruence has been moderately linked to school readiness (Barbarin et al., 2010) so this study could explore whether culturally influenced language from home relates to preschool academics.

The relationship between CFs and academics (Tough, 1984) is supported by theory that cognitive development occurs via talk with others (Vygotsky, 1962; Piaget & Inhelder, 1969). When children describe their actions and ascribe meaning to those actions, they are also learning to think and develop understanding (Tough, 1984). For instance, didactic interactions where children ask and answer questions are comprised of various CFs essential to access of school curriculum, such as *Directing*—requests for information or *Responding*—response to a question (Ryder & Leinonen, 2003; Vazquez, Delisle, & Saylor, 2013). CFs are also linked to social outcomes because social competence, "…encompasses skills and abilities relating to all aspects of interpersonal problem solving, from the self-regulation of emotions aroused in social interaction, to the negotiation of solutions in interpersonal conflicts" (Mills & Rubin, 1993, p. 98). Social proficiency is characterized by emotional impulse control, amicable behavior, assertiveness, sharing, helping, and comforting of others (Burleson & Kunkel, 1996; Eisenberg et al., 2001; Leaper & Smith, 2004) and

socially and emotionally competent children will more likely experience positive psychosocial outcomes such as peer acceptance, reduced loneliness, and more meaningful relationships (Hart, Newell, & Olson, 2003; Rubin, Coplan, Nelson, Cheah, & Lagace-Seguin, 1999). Yet, researchers have not often scrutinized CFs needed to demonstrate social proficiency, and the influence of CFs on learning may be a clue in the achievement gap mystery (Barbarin et al., 2010; Rothschild, 2016).

Parental Factors Influencing Differences in Child Communicative Function Use

Differences in parent discourse have been attributed to race/ethnicity[1] (Chen, 2011; Coolahan, McWayne, & Fantuzzo, 2002; Flynn & Masur, 2007; Fuligni & Brooks-Gunn, 2013; Green, 2002; Hart & Risley, 2003; Hyter et al., 2015; Lewis, 2000; Ochs & Schieffelin, 1984; Qi, Kaiser, Milan, & Hancock, 2006) and researchers have characterized parenting styles using the CFs of *Directing*, *Reasoning*, *Responding*, and *Reporting* (Blake, 1993; Hammer & Weiss, 1999; Pellegrini et al., 1987). More responsive and sensitive styles that include Expanding, Explaining, and Supporting (Barbarin & Jean-Baptiste, 2013) positively affect child language (Mesman, van Ijzendoorn & Bakermans-Kranenburg, 2013; Paavola, Kunnar, & Moilanen, 2005; Rowe, 2012; Tamis-LeMonda et al., 2001), while lower level, Active-restrictive (Coolahan et al., 2002) or authoritarian styles consist of adults directing the interaction, leading to less variety in the child's language (Kloth, Janssen, Kraaimaat, & Brutten, 1998). Authoritarian parenting is reportedly more common in parents who are AA (Becker, 1994; Chen, 2011; Teichman & Contreras-Grau, 2006). Roberts, Jurgens, and Burchinal (2005), however, found that responsiveness during storybook reading occurred often for mothers who were AA and of low SES, and was the best predictor of early literacy and language. Mesman et al. (2013) also observed parental sensitivity that augmented child development in racial/ethnic minorities.

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[1] Race is defined as groups of people with similar physical and biological traits considered significant by society, resulting in people treating others differently because of said traits (e.g., skin color). Ethnicity is shared cultural heritage characterized by traditions and perspectives that distinguish one group from another. While racial traits are inherited, ethnic traits are learned.

As race/ethnicity is self-reported in the current study and entities such as the American Anthropological Association (AAA) have identified difficulty in objectively separating race from ethnicity in large data collection efforts, consolidation of the two categories has been suggested to be more meaningful to Americans (AAA, 1997).

Child Demographic Factors and CFs

As with parent communication styles, previous studies suggest racial/ethnic variations in child development, and gender and SES have been associated with differences in word knowledge. Hwa-Froelich et al. and Stockman's data showed that children who were AA enrolled in Head Start may have CF usage that differs from Tough's (1984) mostly EA sample. Riojas-Cortez (2000), however, found Mexican American preschoolers to display CFs similar to their peers who are EA when allowed sociodramatic play without restriction on their ability to draw on their home culture. Hammer and Weiss (1999) also found similar CF use between children who were EA and AA regardless of SES, yet the language goals and play between low SES and middle SES mothers who were AA varied.

Earlier studies suggest boys use simpler types of *Reporting* (Hwa-Froelich et al., 2007), while girls gain cooperative strategies, affiliative speech, talkativeness, and advanced cognitive complexity earlier (Leaper & Smith, 2004; Tonyan & Howes, 2003). Though this may be the nature of girls and boys, parents use a more explaining style with boys (Kloth et al., 1998) and more casual style with girls (Pellegrini et al., 1987), possibly contributing to variance in CFs as shown by Leaper, Tenenbaum, and Shaffer's (2004) meta-analysis and Middleton's (1992) sample of children who were from AA and low SES homes.

Although there is evidence of links between CF use and other language measures in younger children, few pragmatic studies have included older preschoolers in relation to academic performance, despite later preschool being a crucial time in development (Hudson, Shapiro, & Sosa, 1995). Thus, examination of CFs in 4-year-olds is warranted. The few studies analyzing communicative functioning have concerned a) age of onset of particular pragmatic skills; b) how skills are acquired; c) individual differences that emerge in acquisition and; d) the order and speed of acquisition (Leaper & Smith, 2004; Ninio & Snow, 1996). Using the following research questions, the current study diverges by analyzing the potential influence of CF use and demographics on language and social competence performance:

1) To what extent do the frequency and proportion of (overall talk) of Early Emerging, Late Emerging, Total Child CFs, and Total Mother CFs across gender, poverty status, and race/ethnicity relate to performance on standardized measures of a) receptive vocabulary; b) expressive and receptive language and; c) teacher perception of social competency?

2) To what extent do the frequency and proportions (of overall talk) and type of individual CFs across gender, poverty status, and race/ethnicity relate to the performance on standardized measures of a) receptive vocabulary; b) expressive and receptive language and; c) teacher perception of social competency?

Method

Data from the Familial and Social Environments (Family) study, which was a supplement to the National Center for Early Development and Learning (NCEDL) Multistate Study of Prekindergarten were used in this study. Two hundred forty childcare centers (40 per state) were randomly selected from six states (GA, NY, OH, KY, IL, and CA) for the NCEDL study. The Pre-K programs were public or private, full or part day, and had diverse geography and educational requirements for teachers. The average day lasted 4.8 hours, 71% percent of teachers had a bachelor's degree, and 50% were early childhood education or child development majors. One classroom from each center was selected randomly to account for variation in teacher credentials and school day duration. Two boys and two girls were then randomly selected from each classroom for a total of 960 participants. A subset of the NCEDL sample (511 families) from five states (GA, NY, CA, IL, and OH) participated in the Family component, with 296 consenting to home-based interviews, from which the mother-child interaction was observed. See Aikens et al., (2008) for more Family supplement details.

Participants

Twenty-five interviewers contacted families via postcards and conducted follow-up, scripted phone calls to schedule home visits and obtain written consent. Ninety-five, English-speaking EA, AA, and Latino American (LA) dyads with complete data at the time of the analysis were drawn from the Family study. The distribution of this subset was 35% AA (60% poor, 40% not poor), 37% EA (46% poor, 54% not poor), and 28% LA (35% poor, 65% not poor), with 54% of the sample being girls. Fifty-one percent (*n*= 48) had incomes $\leq$ 150% of the federal

poverty guideline which was $32,107 for a family of five (USDHHS, 2001). The mothers' mean educational level in the NCEDL dataset was 12.9 years, with 41% declaring a high school diploma as their highest grade, and 17% having not graduated from high school. All children were 4 years old and met the age criteria for kindergarten eligibility the next year. The average age at the time of assessment was 53.86 months (*SE* = 0.21, range 48.12-59.60 months).

Procedures

Dyads were videotaped at home during an Early Childhood Research Network (NICHD, 20003) interaction for up to 30 minutes with a Mean duration of 15.14 minutes (*SD*= 3.98). One task prompted play and two tasks were designed to be difficult for 54-month-olds to complete independently (NICHD, 2003). Mothers were asked to a) teach the child how to complete a maze on an Etch-a-Sketch toy; b) teach the child to solve a block puzzle and; c) engage in free play with animal puppets. Videos were transcribed and placed in Microsoft Excel 2000 for coding.

Development of coding system. Joan Tough's (1984) CF coding system is designed for children older than age 3 through adulthood, with codes divided into broad categories including cognitive distinctions showing variations in intent, making the taxonomy more comprehensive and detailed than others (Ninio et al., 1994). An adaptation of Tough's system with the addition of *Responding* from Stockman's (1996) study of preschoolers enrolled in Head Start who were AA was used. Thus, CFs refer to seven major categories: *Responding*: providing nonverbal/verbal replies; *Self-Maintaining*: communicating needs; *Directing*: guiding/controlling others' actions; *Reporting*: referencing an activity or reflecting on an event; *Reasoning*: explaining a process; *Predicting*: using language to anticipate or get others to anticipate; and *Projecting*: expressing how others might feel. Five of the codes were mutually exclusive with one code per utterance, except in one case where double coding was

allowed when participants reasoned with directive language, which reflected difficulty researchers have had assigning one CF per utterance (Llinares & Pastrana, 2013). For example, "You check if that's an open way first before you go" was coded as both "*Directing*: Guiding or Controlling the Listener's Actions" and "*Reasoning*: Explaining a Process."

Training and reliability. The first author trained three research assistants (RA) who were EA, AA, and Asian American to transcribe. Language samples were segmented into Communication Units (C-Units), which are independent clauses and their modifiers (Loban, 1976). Craig, Washington, and Thompson-Porter (1998) segmented by C-Units as they permit single words such as, "oh," "yes," "nope," and other types of nonclausal verbalizations to serve as utterances, as long as they are an immediate response to an adult. From this point on, C-Units will be called "Utterances". When disagreements arose, the RAs and first author came to a consensus about how the utterance should be transcribed or coded. Once 90% word-by-word agreement was reached on practice cases, the RAs began independent transcription. Reliability was calculated for 15% of the transcripts, and checks were randomly executed to ensure that reliability remained ≥ 90%. Interrater reliability was calculated as number of agreed utterances/total number of utterances, resulting in a range of 89%-98%.

The first author then trained one RA to code for CFs by reviewing the coding system and practicing on non-study interactions. The same seven CFs were used for both children and mothers. Interclass Correlation Coefficient (ICC) estimates and their 95% confidence intervals were calculated using SPSS statistical package version 24 (IBM, 2016) based on a mean-rating (k = 3), absolute agreement, 2-way mixed effects model. The first author coded the entire sample and interrater agreement was calculated on 20%, resulting in an ICC of .907, for all codes combined, which is excellent reliability, with its 95% confidence interval ranging between .720 and .961. The ICC for child codes was .692, which approaches acceptable reliability of .700, and ICC for mothers' codes was .934, which is excellent reliability.

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Table 1. Communicative Function Code Definitions

		Major Code	Subcode	Example
Earlier Emerging	13-15 mo. (Carpenter, Mastergeorge, & Coggins, 1983) 10-12 mo. (Ninio & Snow, 1996)	Responding	Verbal or nonverbal reply or response to questions	"Yes" or nodding of head in response
			Positive reinforcement or encouragement in response to action	"Good job!"
	10-12 mo. (Ninio & Snow, 1996)		Verbal imitation of another's utterance	Child: "Yipee!" Mom: "Yipee!"
			Responses used to maintain the interaction or indicate understanding	"Uh-huh", or "Okay", or "I hear you"
	8-9 mo. (Carpenter, et al., 1983)	Self-maintaining	Communicating to meet the speaker's needs to protect territory, property, or interests Criticizing others	"This is my space!" or "I want some ice cream." "You're always acting silly."
	10-12 mo. (Ninio & Snow, 1996)		Expressing emotions	"I'm sad."
	10-12 mo. (Ninio & Snow, 1996)		Collaborating in actions with others including negotiating of presence and negotiating mutual attention	"Can I play?" or "Look at this."
	10-15 mo. (Bates, Camaioni & Volterra, 1975) 10-14 mo. (Ninio & Snow (1996) 3:6-5:7 for *indirect* Requests for Action (Garvey, 1975)	Directing	Guiding or controlling the listener's actions	"Turn it." or "Stop!"
	9-10 mo. (Carpenter, et al. 1983) 32 mo. (Ninio & Snow, 1996)		Guiding one's own actions	"I go this way."
	16-36 mo. (USDHHS, 2015)		Requesting information	"How do I do it?"
	10-15 mo. (Dore, 1975) 8-36 mo. (USDHHS, 2015)	Reporting	Labeling	"That's a dog."
	9-13 mo. (Carpenter, et al., 1983)		Reference to details	"The lion is brown."

	9-13 mo. (Carpenter, et al., 1983)		Reference to an activity, incident, or reflection on an event	"I went to the park." or "She keeps coming in here."
			Reference to sequence	"One, two, three…" or "First he sits, stands, then last he walks."
Later Emerging	after 32 mo. (Ninio & Snow, 1996) 48-60 mo. (USDHHS, 2015)	Reasoning	Expressing cause-effect or dependent relationships	"When you turn this knob, it goes up."
	48-60 mo. (USDHHS, 2015)		Explaining a process	"So you have to go left to get to the circle."
			Justifying actions or behaviors	"I shook it because it was messed up."
	48-60 mo. (USDHHS, 2015)		Making comparisons	"It looks like that block."
	48-60 mo. (USDHHS, 2015)		Questioning to scaffold and promote understanding	"What shape do you think goes there?"
	16-36 mo. (USDHHS, 2015)		Identifying a problem	"It's too big for that."
	16-36 mo. (USDHHS, 2015)		Identifying a solution to a problem	"Smaller one can fit."
	3-5 years old (Hudson, Shapiro, & Sosa, 1995; Hudson & Fivush, 1991; Lucariello, Hudson, & Fivush, 2004) 16-36 mo. (USDHHS, 2015; Ninio & Snow, 1996)	Predicting	Using language to anticipate events or to get another person to anticipate events	"I'm going to have stew for dinner." or "We're going to play with puppets later."
	36 mo. 48-60 mo. (USDHHS, 2015)	Projecting	Expressing how others might feel or describing situations not experienced by the speaker	"That must make you sad" or "Giraffes must get scared of lions."
	25-30 mo. social pretend play scripts (Bretherton 1984; Gearhart 1983; Howes, Unger, & Matheson, 1992; Nelson & Seidman 1984) 16-36 mo. (USDHHS, 2015)	Imagining	Using language in the process or act of pretending	"Roar! I'm Mr. Lion and am eating you!"

Measures. Spring scores for all three measures were used to allow teachers time to become accustomed to the child.

Parent questionnaire (NCEDL, 2005). Race/ethnicity and family income were established via parent-report. The determination of poor status was household income $\leq$ 150% of the federal poverty guideline (USDHHS, 2001).

Teacher report of social skills. Each teacher completed the *Teacher Child Rating Scale* (TCRS, Hightower et al., 1986), which is a rating of the socio-emotional adjustment.

Language assessments. The *Peabody Picture Vocabulary Test-3rd edition* (PPVT-III, Dunn & Dunn, 1997) tests receptive vocabulary. The *Oral and Written Language Scale* (OWLS, Oral Expression Scale, Carrow-Woolfolk, 1995) measures expressive and receptive language.

Data Analysis

There were no missing data, and distributions of race/ethnicity, gender, and poverty were normal. CFs were slightly skewed right, as 36/95 of the children did not demonstrate *Predicting* and 77/95 had no *Projecting*. A square root transformation was used to change the scale and smooth the data distribution. Although child *Predicting* and *Projecting* distributions were still skewed right after the transformation, these variables remained since they represent higher level CFs that may yet be emerging in typical 4-year-olds; or might not have been elicited as often.

To avoid over fitting, the stepwise method was used so that only variables that increase the probability of *F* by at least 0.05 were included and those where the *F* increased by less than 0.1 were excluded. Adjusted R squared (R^2_{adj}), which is the multiple correlation coefficient of determination, was used to identify how much variance in the performance measures could be accounted for by the set of CFs and demographic factors. For each unit increase in a significant predictor, the child performance measure score would increase or decrease by the number of unstandardized beta coefficients. To meet assumptions for running stepwise linear regressions, Pearson's correlations were examined. There was multicollinearity between mother race/ethnicity, and child race/ethnicity as

99% of them were of the same race/ethnicity. Thus, only child ethnicity was used in the model. There was a linear relationship between the predictor variables and each performance measure. The scatterplot showed that the residuals were not distributed in any pattern with the predicted values, so the models did not violate the assumption of homoscedasticity. A visual check of the residuals histograms showed the errors were close to being normally distributed. The P-P plot showed some deviation from normality between the observed cumulative probabilities of 0.0 and 0.5 but it appeared to be minor. Overall, there did not appear to be a severe problem with non-normality of residuals.

Three stepwise multiple linear regression models were conducted to explore whether frequencies of Total Utterances, Early Emerging, and Late Emerging CFs, and demographic variables of poverty, child race/ethnicity, and gender predicted the performance measures of vocabulary (PPVT-III), language (OWLS), and social competence (TCRS). For the second, follow up question based on whether Early or Late Emerging CFs in research question one become significant, stepwise multiple linear regression models were conducted to explore whether frequencies of individual CFs and demographics predicted the performance measures. The analyses were repeated with proportions of CFs to control for varied talkativeness, instead of frequencies. The term 'talkativeness' (Leaper & Smith, 2004) refers to Total Utterances.

Results

To verify that samples were comparable, total seconds spent in each interaction, duration of the block task, duration of the maze task, and duration of free play served as dependent variables in three Independent Samples Median tests with demographics as independent variables. As the tests showed no significant differences by group, the lengths of the interactions were considered comparable and used in their entirety. Descriptive statistics for scores on the PPVT-III, OWLS, and TCRS by gender, race/ethnicity, and poverty are in Table 2.

Frequencies

Predictors of receptive vocabulary by emergence frequency and talkativeness. Descriptive statistics for frequencies of mother and child Early

Emerging, Late Emerging, and Total Utterances by gender, race/ethnicity, and poverty are in Table 3. The best fitting model for prediction of the PPVT-III produced $F(4, 90)= 8.78$, p= .01, with an $R^2_{adj} = .249$ accounting for 25% of the variance. Children's predicted PPVT-III scores were equal to 97.708 +2.502 (*Mother Early Emerging*) -3.91 (*Mother Total Utterances*) + 8.44 (*Child Late Emerging*) -8.198 (poverty). *Mother Early Emerging* CFs (β= .72, p=.01) and *Child Late Emerging* (β= .20, p=.05) had positive regression weights and *Mother Total Utterances* (β= -.82, p=.01) and poverty (β= -.28, p=.02) had significant negative regression weights, showing PPVT-III scores were positively affected by mothers using Early Emerging CFs and children using Late Emerging CFs, while poverty and *Mother Total Utterances* negatively affected PPVT-III score.

Predictors of expressive and receptive language by emergence frequency and talkativeness. The best model for prediction of the OWLS produced $F(1, 93)= 7.40$, p= .02, with an $R^2_{adj} = .064$ accounting for 6% of the variance. Children's predicted receptive and expressive language scores were equal to 100.234 - 6.78 (poverty). Poverty (β= -.27, p=.01) had a significant negative regression weight, indicating that children from homes of poor status were expected to have lower OWLS scores.

Predictors of social competence by emergence frequency and talkativeness. The best fitting model for prediction of the TCRS produced an $F(1, 93)= 6.08$, p= .02, with an $R^2_{adj} = .051$ accounting for 5% of the variance. Children's predicted social competence scores were equal to 3.446 + .380 (gender). Gender (β= .25, p=.02) had a significant positive regression weight, indicating that girls were expected to have higher TCRS scores. As only *Mother Early Emerging* and *Child Late Emerging*, poverty, and *Mother Total Utterances* were significant in the initial regression analysis for the PPVT-III, only individual CFs from those categories were used in the follow up analysis. No follow-up analyses were conducted for the OWLS or TCRS as no Early, Late, or Total CFs were significant in the initial analysis. Descriptives for individual child CF frequencies by race/ethnicity, poverty, and gender are in Table 4.

The best fitting model for vocabulary produced $F(4, 90)= 12.66$, p= .01, with an $R^2_{adj} = .332$ accounting for 33% of the variance. Children's predicted receptive vocabulary scores were equal to 97.863 + 3.959 (*Child Predicting*) + 4.288 (*Mother Reporting*) – 2.824 (*Mother Reasoning*) – 8.506 (poverty). *Child Predicting* (β= .22, p=.01) and *Mother Reporting* (β= .39, p=.01) had significant positive regression weights, indicating children who used more *Predicting* with increased *Mother Reporting* were expected to have higher PPVT-III scores, while *Mother Reasoning* (β= -.45, p=.01) and poverty's (β= -.29, p=.01) negative regression weights indicated lower scores for children who were poor with mothers who did more *Reasoning*. Descriptives for individual mother CF frequencies by race/ethnicity and poverty, and gender are in Table 5.

Proportions

Predictors of receptive vocabulary by emergence proportions and talkativeness. The best fitting model for prediction of the PPVT-III produced $F(2, 92)= 9.54$, p= .01, with an $R^2_{adj} = .154$ accounting for 15% of the variance. Children's predicted PPVT-III scores were equal to 49.869 +46.133 (*Mother Early Emerging* proportion) -10.950 (poverty). *Mother Early Emerging* proportions (β= .25, p=.01) had a positive regression weight while poverty (β= -.37, p=.01) had a significant negative regression weight, showing PPVT-III scores were positively affected by mothers using a larger proportion of Early Emerging CFs, and negatively affected by being poor.

Predictors of expressive and receptive language by emergence proportions and talkativeness. The best fitting model for prediction of the OWLS produced $F(1, 93)= 7.40$, p= .02, with an $R^2_{adj} = .064$ accounting for 6% of the variance. Children's predicted OWLS scores were equal to 100.234 -6.776 (poverty). Poverty (β= -.27, p=.02) had a significant negative regression weight, showing OWLS scores were negatively affected by being poor.

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Table 2. Descriptives of Child Outcomes by Race/Ethnicity, Poverty, and Gender

Outome		European American				African American				Latino American			
		Poor		Non Poor		Poor		Non Poor		Poor		Non Poor	
		Girls (*n*= 9)	Boys (*n*= 7)	Girls (*n*= 10)	Boys (*n*= 9)	Girls (*n*= 11)	Boys (*n*= 9)	Girls (*n*= 6)	Boys (*n*= 7)	Girls (*n*= 6)	Boys (*n*= 6)	Girls (*n*= 9)	Boys (*n*= 6)
PPVT-III	M	93.33	97.86	101.30	107.00	89.45	76.67	95.33	92.57	91.17	100.50	100.44	104.50
	(SD)	*(14.25)*	*(13.26)*	*(19.25)*	*(15.44)*	*(11.47)*	*(16.42)*	*(9.56)*	*(8.46)*	*(13.38)*	*(10.78)*	*(8.09)*	*(9.52)*
OWLS		95.67	98.57	99.60	107.44	91.00	85.89	98.83	97.00	93.00	93.33	101.78	93.33
		(9.58)	*(8.96)*	*(15.69)*	*(15.04)*	*(8.93)*	*(12.43)*	*(13.75)*	*(12.97)*	*(14.53)*	*(7.53)*	*(10.27)*	*(7.53)*
TCRS		3.90	3.16	3.80	3.48	3.63	3.10	4.18	3.64	3.62	3.62	3.92	3.48
		(.78)	*(.90)*	*(.68)*	*(.88)*	*(.73)*	*(1.12)*	*(.44)*	*(.78)*	*(.68)*	*(59)*	*(.62)*	*(.54)*

Note. M = Mean, SD = Standard Deviation, Child Outcomes: PPVT-III= Peabody Picture Vocabulary Test 3rd Edition; OWLS = Oral and Written language Scale; TCRS = Hightower Teacher Child Rating Scale.

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Table 3. Descriptives of Talkativeness and Frequency of Early and Late Emerging Communicative Functions by Race/Ethnicity, Poverty, and Gender

| CF | | EA Children | | | | AA Children | | | | LA Children | | | | Mothers Poor | | | Mothers Non Poor | | |
| | | Poor | | Non Poor | | Poor | | Non Poor | | Poor | | Non Poor | | | | | | | |
		Girls (*n*= 9)	Boys (*n*= 7)	Girls (*n*= 10)	Boys (*n*= 9)	Girls (*n*= 11)	Boys (*n*= 9)	Girls (*n*= 6)	Boys (*n*= 7)	Girls (*n*= 6)	Boys (*n*= 6)	Girls (*n*= 9)	Boys (*n*= 6)	EA (*n*= 16)	AA (*n*= 20)	LA (*n*= 12)	EA (*n*= 19)	AA (*n*= 13)	LA (*n*=15)
CLATE	M	7.28	9.46	12.18	8.56	9.55	8.28	11.26	9.36	7.57	10.38	10.29	10.93						
	(SD)	*(3.18)*	*(3.45)*	*(3.22)*	*(2.94)*	*(2.96)*	*(3.51)*	*(3.20)*	*(5.26)*	*(4.15)*	*(4.95)*	*(1.85)*	*(2.09)*						
CEARLY	*M*	15.33	16.29	20.21	15.61	16.46	15.53	16.13	16.17	14.86	17.19	19.03	18.81						
	(SD)	*(2.37)*	*(5.25)*	*(4.07)*	*(2.19)*	*(4.19)*	*(4.81)*	*(3.29)*	*(5.59)*	*(3.75)*	*(5.02)*	*(3.60)*	*(2.10)*						
TOTCH	*M*	8.63	9.21	11.84	9.14	9.43	8.92	9.14	9.28	8.23	9.94	10.74	10.85						
	(SD)	*(1.76)*	*(2.83)*	*(2.37)*	*(1.57)*	*(2.46)*	*(2.61)*	*(1.89)*	*(3.21)*	*(2.42)*	*(3.16)*	*(1.60)*	*(1.33)*						
MLATE	*M*													16.60	18.86	19.22	18.80	20.82	21.15
	(SD)													*(3.74)*	*(4.48)*	*(4.46)*	*(4.40)*	*(4.85)*	*(3.31)*
MEARLY	*M*													22.30	24.22	25.57	25.52	26.28	25.98
	(SD)													*(4.18)*	*(5.40)*	*(3.84)*	*(4.06)*	*(3.63)*	*(2.69)*
TOTMO	*M*													15.32	17.49	17.62	17.43	18.66	18.36
	(SD)													*(3.11)*	*(3.41)*	*(2.93)*	*(3.12)*	*(3.24)*	*(2.07)*

Note. M = Mean, SD = Standard Deviation, CF = Communicative Functions, CLATE = Child Frequency of Late Emerging CFs, MLATE = Mother Frequency of Late Emerging CFs, CEARLY = Child Frequency of Early Emerging CFs, MEARLY = Mother Frequency of Early Emerging CFs, TOTCH = Total Child Utterances, TOTMO = Total Mother Utterances.

Table 4. Descriptives of Frequencies of Child Communicative Functions by Race/Ethnicity, Poverty, and Gender

Communicative Function		European American				African American				Latino American			
		Poor		Non Poor		Poor		Non Poor		Poor		Non Poor	
		Girls (*n*= 9)	Boys (*n*= 7)	Girls (*n*= 10)	Boys (*n*= 9)	Girls (*n*= 11)	Boys (*n*= 9)	Girls (*n*= 6)	Boys (*n*= 7)	Girls (*n*= 6)	Boys (*n*= 6)	Girls (*n*= 9)	Boys (*n*= 6)
Self-Maintaining	M	2.33	2.40	2.61	1.61	1.92	1.53	2.21	1.71	2.17	1.72	2.62	2.17
	(SD)	(0.62)	(1.19)	(0.86)	(0.85)	(0.75)	(1.46)	(0.85)	(1.39)	(0.93)	(0.68)	(0.94)	(0.93)
Directing		3.91	4.24	5.57	4.51	4.52	4.20	4.55	4.30	3.63	5.30	5.16	3.63
		(1.07)	(1.63)	(1.30)	(1.84)	(1.34)	(1.59)	(1.24)	(1.60)	(1.34)	(1.69)	(1.63)	(1.34)
Reporting		4.25	4.39	6.25	4.91	4.88	4.82	4.82	4.91	4.91	5.20	5.64	5.87
		(1.18)	(1.41)	(1.04)	(1.24)	(1.57)	(1.25)	(0.70)	(1.83)	(1.17)	(2.26)	(1.56)	(1.30)
Reasoning		2.70	2.72	4.89	2.97	2.88	2.40	3.00	2.67	2.07	3.37	3.48	4.03
		(1.78)	(2.01)	(2.19)	(1.48)	(1.26)	(1.51)	(1.00)	(1.82)	(1.70)	(1.93)	(0.93)	(1.03)
Predicting		0.27	1.00	0.97	1.14	1.24	1.02	1.27	0.70	0.28	0.97	0.60	1.33
		(0.54)	(0.71)	(0.71)	(0.53)	(1.19)	(0.84)	(1.13)	(1.33)	(0.63)	(0.52)	(0.59)	(0.28)
Projecting		0.00	0.43	0.34	0.00	0.25	0.11	0.50	0.20	0.65	0.40	0.27	0.17
		(0.00)	(0.53)	(0.73)	(0.00)	(0.58)	(0.33)	(0.84)	(0.53)	(0.99)	(0.64)	(0.54)	(0.41)
Responding		4.83	5.25	5.78	4.60	5.13	4.98	4.54	5.25	4.24	4.97	5.60	5.37
		(1.51)	(1.93)	(1.37)	(0.48)	(1.73)	(1.68)	(1.29)	(1.83)	(1.14)	(1.16)	(1.34)	(0.97)

Note. M = Mean, SD = Standard Deviation.

Table 5. Descriptives of Frequency of Mother Communicative Functions by Race/Ethnicity and Poverty

Communicative Function		European American Poor (*n*= 17)	European American Non Poor (*n*= 19)	African American Poor (*n*= 20)	African American Non Poor (*n*= 13)	Latino American Poor (*n*= 11)	Latino American Non Poor (*n*= 15)
Self-Maintaining	M	1.47	1.73	2.20	1.96	1.61	1.92
	(SD)	(0.97)	(0.85)	(0.79)	(1.33)	(0.92)	(0.83)
Directing		10.15	10.19	11.78	12.12	11.16	11.50
		(2.15)	(2.09)	(2.30)	(2.05)	(2.20)	(1.41)
Reporting		5.55	6.78	5.37	6.24	6.54	6.17
		(1.27)	(1.33)	(1.64)	(0.96)	(1.18)	(0.85)
Reasoning		8.51	9.62	10.04	10.49	9.48	10.62
		(2.52)	(2.75)	(1.81)	(2.83)	(2.33)	(1.47)
Predicting		1.56	2.13	1.74	2.07	1.83	2.01
		(1.02)	(0.88)	(1.23)	(1.13)	(1.19)	(0.78)
Projecting		1.12	0.92	1.02	1.09	1.14	1.12
		(0.86)	(0.74)	(0.69)	(0.89)	(0.87)	(0.94)
Responding		5.12	6.82	4.86	5.96	6.26	6.39
		(1.04)	(1.00)	(1.66)	(1.29)	(1.28)	(1.37)

Note. M = Mean, SD = Standard Deviation.

Predictors of social competence by emergence proportions and talkativeness. The best fitting model for prediction of the TCRS produced $F(1, 93)= 6.081$, p= .02, with an $R^2_{adj} = .051$ accounting for 5% of the variance. Children's predicted TCRS scores were equal to 3.446 + 3.80 (gender). Gender ($\beta= .25$, p=.02) had a significant positive regression weight, showing TCRS scores were positively affected by children being girls. Since proportion of *Mother Early Emerging* CFs and poverty were significant in the first regression for the PPVT-III, only individual CFs from the *Mother Early Emerging* category and poverty were used in the follow-up analysis. No follow-up analyses were conducted for the OWLS or TCRS as no Early, Late, or Total CFs were significant in the initial analysis.

Individual predictors of receptive vocabulary. The best fitting model for vocabulary produced $F(2, 92)= 18.35$, p= .01, with an $R^2_{adj} = .270$, accounting for 27% of the variance. Children's predicted receptive vocabulary scores were equal to 60.858 – 7.731 (poverty) + 110.633 (*Mother Reporting*). Poverty ($\beta= -.26$, p=.01) had a negative regression weight, and *Mother Reporting* ($\beta= .42$, p=.01) had a significant positive regression weight, showing that children whose mothers used more *Reporting* were expected to have higher PPVT-III scores, while being poor predicted lower PPVT-III scores.

Overall, no child CFs predicted performance when proportions of CFs were used, and only *Child Predicting* predicted the PPVT-III when frequencies were analyzed. Both *Mother Reasoning* and *Mother Total Utterances* were negative predictors of PPVT-III scores when analyzing frequency of CFs, but neither predicted performance as proportion variables. For both frequency and proportion models, however, *Mother Reporting* positively predicted the PPVT-III and frequencies for both *Mother Early Emerging* and *Child Late Emerging* CFs positively predicted the PPVT-III. When considering demographics, poverty negatively predicted both the PPVT-III and OWLS. In general, there were few associations among individual child CFs and race/ethnicity, while poverty, gender, and mother CFs were stronger predictors.

Discussion

The authors posited that specific CFs might correspond with skills required to execute preschool academic processes assessed in the Head Start Child Early Learning Outcomes Framework (USHHS, 2015), such as, language development or social and emotional development. *Predicting* was the only one of the *Child Late Emerging* CFs that predicted receptive vocabulary, however. Since *Predicting* is later emerging with only 36/95 of children using any, it is understandable that it would be associated with students who have more advanced communication skills (Hoff, 2003; Nichols, 2000). The fact that none of the other child CFs were associated with performance was somewhat surprising, but may indicate that the children had reached a base level of CF use by this age and/or that mothers' CFs might be more influential on language and standardized tool performance at age 4 than child CFs.

Indeed, mother CFs had more influence on PPVT-III performance, with increased mother *Reporting* linked with higher scores and mother *Reasoning* predicting lower scores. Given that *Reasoning* is a Later Emerging CF and usually associated with more complex language skills, this result does not match previous work showing *Reasoning* to be advantageous (Crowley et al., 2001; Gleason & Schauble, 2000; Kloth et al., 1998; Rowe, 2012; Vernon-Feagans et al., 2013). Previous studies have measured children longitudinally, though, rather than concurrently as in the current study which might contribute to the difference in *Reasoning* results.

When comparing the current definition of *Reasoning* with other studies, however, noteworthy differences are revealed. For example, Gleason and Schauble (2000) included inferences in their *Reasoning*, but the current study did not. Rather, Gleason and Schauble's code of making an inference could have been *Reasoning*--expressing a causal and dependent relationship, *Predicting*--using language to anticipate events, or *Projecting*--expressing how others might feel, in the current study, depending on the utterance context. Crowley et al. (2001) determined that the more explanatory the parents were, the more likely the children would be to produce their own explanations and reasons. If mothers' *Reasoning* utterances were less explanatory and more directive, though, this may partially explain *Reasoning*'s contribution to lower child performance in the current study, as this represents a less sensitive/responsive parenting style (Coolahan et al., 2002; Flynn & Masur, 2007). *Mother Reasoning* was often coded with *Mother Directing* because mothers sometimes used more of a directive style to relate why or

how a child should do something. The two CFs also constituted the largest proportions of the interactions across all mothers (Kasambira Fannin, Barbarin, & Crais, in press). Hence, perhaps a deconstruction of this study's *Reasoning* sub-categories and *Directing* subcodes might elucidate how *Reasoning* might be indirectly operating negatively during an interaction.

Like earlier studies (Hammer, 1999; McDonald & Pien, 1982; Nelson, 1973), mothers who were poor used more *Directing* and less *Responding* (Kasambira Fannin et al., in press), yet, *Mother Directing* itself was not a predictor of lower vocabulary, which has been associated with race/ethnicity and poverty. Pine (1992b) commented on researchers who deem low SES and minority mothers as more "intrusive" or "bossy," owing to increased directives. Pine refutes this idea by observing that, because parents of low SES have been found to talk less, the amount of utterances in their language samples will be smaller, which is true for high context cultures (Hall, 1989), possibly skewing interpretations that base comparisons on relative frequency of types of utterances. In addition, the less naturalistic method of language sample collection used in several studies may cause low SES parents to be more inhibited, while middle SES parents may be more apt to demonstrate how well they interact with their child, resulting in more utterances with no significant increase in directives (Avineri et al., 2015; Pine, 1992b). Hence, it may seem as if mothers who are low SES are more directive when they may actually have fewer utterances from which to calculate relative frequency of CFs. This is why proportions were also examined in the current analyses, but they yielded little difference from the frequency analyses.

In contrast, *Mother Reporting*, which is in line with Dickinson and colleagues' (2008) finding, seems to be highly responsive and is often used by mothers to answer questions or make comments in response to the child's actions or utterances. The two levels of Directing and Explaining in Kloth et al.'s (1998) study parallel, respectively, with *Early Emerging* versus *Late Emerging* CFs coded in the current study. Consequently, using later emerging CFs like *Mother Reasoning* might not be as sensitive to the child's language needs as use of simpler mother CFs like *Reporting* (Dickinson et al., 2008). In fact, the thought that mothers using language strategies that may not be as developmentally appropriate when reasoning is consistent with Girolametto and Weitzman's

(2002) data showing that early emerging reporting encourages child talkativeness and expressive language that requires responding. Accordingly, current regression showed that mothers using more *Reporting* had children with higher PPVT-III scores.

Mother talkativeness suppressed PPVT-III scores initially, but once follow-up analysis was conducted, *Mother Total Utterances* fell out of the statistical model. For the proportion analyses, *Mother Total Utterances* was not a predictor, suggesting that, despite those from low SES homes having significantly less *Total Utterances* (Kasambira Fannin et al., in press), in line with Hart & Risley's (2003) word gap data, this variable was not a deficiency that affected child performance (Hyter et al., 2015), which is supported by Hall's (1989) description of high context cultures that may have less utterances as a cultural difference.

It is of interest that race/ethnicity did not predict performance on measures that have historically shown disproportionality for CLD children (Abel, Schuele, Barako Arndt, Lee, & Guillot Blankenship, 2016; Qi et al., 2006; Washington & Craig, 1992). This may show that when examining the achievement gap, low SES is a stronger predictor (Jensen, 2009). On the PPVT-III and OWLS, children who were poor scored significantly lower. Thus, when considering poor vs. not poor poverty parameters in relation to vocabulary, this research supports the word-gap literature (Hart & Risley, 2003; Hoff, 2003; Rowe, 2012).

In a related analysis of the current dataset, the CF of *Self-Maintaining* distinguished boys from girls (Kasambira Fannin et al., in press) where boys did less and this result, coupled with the current result of boys being rated lower for social competence by teachers suggests consequences for boys in preschool classrooms. *Self-Maintaining* is needed for the domain of Language Development which includes self-expression by using appropriate words or gestures to relate feelings, needs, or opinions; and Social and Emotional Development which entails resolving conflicts by expressing wants/needs, standing up for their ownership rights, and learning about oneself by talking about one's own interests (USDHHS, 2015). As indicated by Leaper and Smith (2004), "… the ability to coordinate the use of self-assertive and affiliative communication functions is generally viewed as the hallmark of the highest levels of psychosocial competence (see Selman,

1989) (p. 993)". Therefore, teachers may perceive boys' reduced affiliative speech (Leaper & Smith, 2004), reduced ability to express emotions (Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996), and reduced *Self-Maintaining* use as deficient social skills. Presuming that *Self-Maintaining* corresponds to Leaper and Smith's (2004) self-assertive speech, however, these results are contradictory as boys demonstrated *less Self-Maintaining* in the current dataset, but more self-assertive speech in Leaper and Smith's (2004) review. Thus, analyses of *Self-Maintaining* subcodes such as a) Protection of self and self-interests: Ex: "This is my space"; b) Criticizing others or themselves: Ex: "You always do that wrong" and; c) Expressing emotions about self: Ex: "That makes me mad when you do that" may help clarify these *Self-Maintaining* results, as not all subcodes have the same positive or negative connotation. Conflicting results for gender are not completely unexpected, however, because the current study's teaching and play interactions diverged from the activities and settings included in Leaper and Smith's (2004) meta-analysis. In fact, because the children in this study were being taught during two out of three tasks, this context may not have allowed demonstration of *Self-Maintaining* as much as when engaged in free play. However, the age group, gender comparison, and goal to examine CFs matched.

Another analysis of the NCEDL dataset (Early et al., 2010) showed that these boys were more often involved in didactic interactions with teachers during routines and meals, characterized by discipline and explaining rules such as "sit still" or "be quiet". This was likely a result of boys not adhering to the rules as easily as girls, leading to discipline for misbehavior; and once disciplinary interactions occur, boys' decreased expression of emotions or needs (*Self-Maintaining*) makes didactic experiences more challenging. The teachers' lower ratings of the boys' social skills in the current study, coupled with Early et al.'s (2010) larger analyses of the same children supports the well-documented concept that boys are more often perceived as misbehaving or involved in conflict, and expelled or referred due to aggression and disruptive behavior (Barbarin, 2013; Gillam, 2005). In essence, less *Self-Maintaining* (Kasambira Fannin et al., in press) may relate to increased discipline and the perception of boys having lower psychosocial competence.

One limitation of this study was that only seven major categories in Tough's (1984) coding system were analyzed. Although these categories provided a wealth of information, few were significant predictors of variance in performance. Yet, results do provide future direction on subcategories to be examined. Other NCEDL variables like teacher/preschool quality or family variables were not analyzed, and those may have explained more variance. Once participants were grouped by demographics, the subgroups became small but the overall sample size (N=95) was larger and more diverse than some past studies of preschoolers and CFs. The use of secondary data also posed a limitation, in that, although improved from initial editions, measures like the PPVT-III and OWLS are known to result in disproportionality which may be showing for participants who were poor. For future design, assessments like the *Diagnostic Evaluation of Language Variation Norm-Referenced Test (DELV-NR)* (Seymour, Roeper, & de Villiers, 2005) or *Bilingual English Spanish Assessment (BESA)* (Peña, Gutiérrez-Clellen, Iglesias, Goldstein, & Bedore, 2014) might serve as more accurate language measures. The DELV-NR can be used with any race/ethnicity and determines if there is a language difference or disorder for those who do and do not speak a dialect of Standard American English; and the BESA ensures bilingual assessment for children from Spanish speaking homes.

Clinical Implications

Some important results emerged and continued research in pragmatics may have implications for CLD preschoolers. The finding that *Mother Reporting* predicted child vocabulary provides additional information on how adults can promote vocabulary development. Although it is more complex, *Reasoning* may not be the most effective way for mothers to increase their children's lexicon and language skills at age 4. Instead, *Reporting* might be a better way to augment receptive vocabulary development since it allows the mother to model and expand on the child's words when labeling or referring to details about an object (Justice, 2002). Furthermore, that *Child Predicting* was also related to vocabulary suggests that teachers encourage prediction, so as to affect other language domains like vocabulary. In addition, strategies to enhance the language environment, such as, provision of costumes and symbolic materials for dramatic play could help elicit later emerging CFs which are important for preschool

play and learning (Pinnell, 2002). Study of how adults can model all *Self-Maintaining* types for boys and prepare the environment to foster expression of all CFs is also important.

Poverty predicting lower scores on the OWLS and PPVT-III reflects the possibility that the relationship between consistent language stimulation in the home and learning may be mediated by SES (Jensen, 2009; Lareau, 2004). Because of the intersection of low SES and AA and LA status in the U.S., the results could be reflecting how the OWLS and PPVT-III are standardized tools on which children from low SES minority homes tend to score lower (Coolahan et al., 2002; Flynn & Masur, 2007; Gutman et al., 2003; Hart & Risley, 2003; Rowe, 2012; Teichman & Contreras-Grau, 2006).

These data add to the scientific corpus on how 4-year-olds and their mothers demonstrate CFs and potential associations with academic performance. Previous research has shown perceived discipline problems for boys and an achievement gap in language and vocabulary for children from low income homes. Because children are socialized at home and in school and their CF use is reflective of their own experiences shaped by gender, race, SES or interaction partner (Becker, 1994; Chen, 2011; Hall, 1989; Leaper & Smith, 2004; Leinonen, 2003; Pellegrini et al., 1987), CLD children may not be familiar with specific types of adult language input or assessment strategies encountered at school entry (Barbarin, 2010; Halliday, 2002; Rothschild, 2016; Washington & Craig, 1992), even though differences should not necessarily be considered deficient (Avineri et al., 2015; Labov, 1969; Pine, 1992a; Rothschild, 2016).

No racial/ethnic differences predicted performance, however, but because racial/ethnic minorities are overrepresented among low SES groups, researchers should continue to parse the combined effects of race/ethnicity and social class. In addition, normative data on CFs across cultures is lacking, impeding our ability to make resolute conclusions concerning CFs' effects on academic performance. Yet, we surmise that gender, poverty, and mother CF use appear to be related to performance and further exploration of these predictors may inform those who study the achievement gap and the potential pragmatic mismatch between home and school that influences preschool education and discipline.

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NBASLH MEMBERS' PERCEPTIONS OF COMMUNICATION SERVICES TO TRANSGENDER INDIVIDUALS

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ABSTRACT

People who are transgender often seek resources to help them express their preferred gender identity. These resources include pursuing the services of speech-language pathologists (SLPs) for communication and voice therapy. However, there are few clinically and culturally competent SLPs who are able to serve the transgender population. An important aspect of cultural competence is the assessment of attitudes toward culturally diverse populations. Few studies have explored how SLPs view their professional role and ethical obligations in providing services to transgender people. The purpose of this article is to assess how SLPs and students of speech-language pathology perceive their responsibilities in the treatment of transgender clients. An electronic survey was completed by 127 students and professionals at the 2017 annual meeting of the National Black Association of Speech Language and Hearing (NBASLH). The results indicated that the majority of respondents agree or strongly agree that serving transgender clients is within their scope of practice, and is their ethical obligation. However, few participants indicated that they had been trained in this area or had plans to pursue training. Implications for ways to increase the number of culturally and clinically competent SLPs serving this population are provided.

KEYWORDS: cultural competence, transgender, perceptions of health providers, speech-language pathologists, communication services

People who are transgender have a gender identity that is different from their assigned sex at birth (Fenway Health, 2010). Because communication is an important aspect of human behavior and gender expression, many transgender, transsexual, and gender non-conforming people seek the assistance of speech-language pathologists (SLPs) (World Professional Association for Transgender, 2011). Treatment targets for communication services with transgender populations include voice therapy for modification of pitch, intonation, resonance, and speech rate; and nonverbal communication patterns such as gestures, posture, and facial expressions (Davies & Goldberg, 2006). Transgender women are more likely to seek communication services because of the lack of medical, surgical, and hormonal interventions for voice feminization (Bodoin, Byrd, & Adler, 2014). Transgender individuals may encounter many challenges in expressing their unique gender identity. In general, there is a lack of resources to meet the health needs of lesbian, gay, bisexual, transgender, and queer, and/or questioning, (LGBTQ) populations, and in particular those who are transgender individuals (Bradford, Makadon, Stall, Goldhammer, & Landers, 2008). Currently, there is a paucity of clinically and culturally competent speech-language pathologists to serve the transgender population (Mayer, Bradford, Makadon, Stall, Goldhammer, & Landers, 2008).

Cultural competence has long been a point of emphasis for the American Speech-Language-Hearing Association (ASHA) and its members. ASHA established The Office of Multicultural Affairs (OMA) in 1969 with the purpose of helping ASHA members provide quality services in an increasingly pluralistic American society. ASHA and the OMA provide a variety of resources to help clinicians work toward cultural competence including a Practice Portal, a variety of guidelines and reports, and other educational materials. One of these is an official statement from ASHA (2004) describing the particular knowledge and skills needed to provide culturally and linguistically appropriate services in speech-language pathology and audiology. This document details the professional and clinical competencies of culturally competent providers across specific clinical domains such as language, articulation/phonology, voice, fluency, dysphagia, and hearing/balance. This statement, along with many others

from ASHA and the OMA, describes how cultural diversity is derived from many factors, including race, ethnicity, religion, socioeconomic status, age, mental/physical disability, sexual orientation, and gender identity. However, it has been argued that a specific focus on how to serve the needs of LGBTQ populations has been lacking (Hancock & Haskin, 2015; Masiongale, 2009). In more recent years, there have been an increasing number of resources that assist in the clinical service delivery of transgender individuals (Adler, Hirsch, & Mordaunt, 2006; Azul, Nygren, Soderstein, & Neuschafer-Rube, 2017; Decakis, 2002; Gelfer, 1999). However, there has been a limited amount of research on the role of cultural competence in serving transgender populations and the attitudes of speech-language pathologists in this.

The Relevancy of Cultural Competence and Therapist Attitudes

Cultural competence is a process that develops over an extended period of time (Goode, 2004). Although there is no one definition of cultural competence, the Substance Abuse and Mental Health Services Administration (2004) describes cultural competence as attaining the knowledge, skills and attitudes to enable practitioners to provide effective care for diverse populations. According to a model by Turner, Wilson, and Shirah (2006), this is typically a dual process of personal and professional growth involving four stages: 1) awareness (knowledge), 2) sensitivity (attitudes), 3) competency (skills), and 4) mastery (training others).

Obtaining knowledge is the first crucial step in working toward cultural competence with all cultures, including LGBTQ populations. Knowledge can be gained by learning about the unique health challenges of members of the LGBTQ community. Some of the most significant health issues reported in a national survey of people who are transgender included refusal of care, harassment and violence in medical settings, and lack of provider knowledge (Grant et al, 2010). Other pertinent issues pertain to a lack of financial resources and access to health care, an insufficient number of providers who are competent in dealing with LGBTQ issues as a part of the provision of medical care, and a lack of culturally appropriate or even culturally friendly services (Mayer et.

al, 2008). As clinicians grow more knowledgeable about these issues, it is necessary to engage in self-assessment and reflection as a part of cultural competence.

Taking inventory of one's own beliefs, attitudes, biases, and perceptions is a healthy part of the process. Recognizing the influence of one's own beliefs and biases is a crucial aspect of the knowledge and skills needed to provide culturally and linguistically appropriate services (ASHA, 2004). These beliefs come from one's unique upbringing, background, experiences, and other cultural influences such as spirituality and religion. The next phase of self-assessment is to evaluate how beliefs could influence one's own behaviors and actions, particularly clinical service delivery. A continuation and very important step of this process is working toward improving sensitivity and attitudes necessary to serve specific populations appropriately (Hancock, 2015).

There are very few studies of clinicians' attitudes toward LGBTQ populations. Hancock and Haskin (2015) investigated the knowledge and attitudes of speech-language pathologists in this area. An online survey completed by 279 SLPs in four countries revealed that SLPs expressed generally positive feelings toward LGBTQ groups with higher comfort than knowledge. Only 4% expressed moral issues in working with LGBTQ people. In terms of knowledge, there was a significant amount of variance from respondents with the majority being more accurate on health related questions than both stereotype adherence questions and LGBTQ terminology. In addition, 51% of the respondents did not know how to describe transgender communication therapy, and 47% indicated that these services were not addressed in their master's curriculum. Hancock and Haskin discussed the need for SLPs and those who train SLPs to improve in LGBTQ cultural competence.

An important variable in developing intercultural awareness and sensitivity is exposure and interaction. Exposure to individuals from culturally and linguistically diverse backgrounds leads to higher levels of cultural competence (Franca & Simpson, 2011). In a study of SLP students' attitudes and beliefs regarding language diversity, it was found that a lack of previous exposure to nonnative English speakers and cultural biases negatively affected how nonnative English speakers might be perceived (Franca et al., 2016). In addition to exposure, clinicians should assess their own beliefs about culturally diverse clients, including the LGBTQ community, as well as their ethical responsibilities as it pertains to the provision of communication services to these individuals.

SLP Roles and Responsibilities

There is some debate about the ethical mandates for practitioners in speech-language pathology. However, ethical responsibilities in terms of provision of quality services and avoiding discrimination are very clear. Rule C of the ASHA Code of Ethics specifies that communication professionals should not discriminate in the delivery of services based on a host of factors including gender identity (ASHA Code of Ethics, 2010). The Code of Ethics also specifies that professionals should provide all services competently, should use every resource to ensure high-quality service, and engage in lifelong learning in order to maintain and enhance professional competence and performance. However, many ASHA professionals may have moral or religious beliefs against changing one's gender identity. Moreover, transgender clients may not present with a communication disorder in the traditional sense if there is no vocal pathology or abnormality. Therefore, the issue of delivery of services to transgender clients could constitute a conflict of interest in which it could be difficult to maintain the separation of personal interests from professional services. Conflict of interest is also addressed in the ASHA Code of Ethics (2010) (Ethics III, Rule of Ethics B) in that it specifies that "individuals shall not participate in professional activities that constitute a conflict of interest." Many clinicians may have to weigh their own personal beliefs against what their professional association says is appropriate.

The purpose of the present study was to gain an understanding of how SLPs and students of speech-language pathology perceive the roles and responsibilities of SLPS in the treatment of transgender clients for communication, including voice, therapy. Clearly, understanding and clarifying levels of sensitivity, attitudes, and perceptions as it pertains to transgender clients are essential to the continued development of one's cultural competence.

Method

A thirteen-item survey (see Appendix A) was created that inquired about the following from the respondents: a)

level of experience with transgender communication therapy; b) level of training in this area and future plans for training; c) comfortability with providing services; and d) beliefs about ethical responsibility, scope of practice, and medical and educational necessity in this area. The responses to beliefs about ethical responsibilities were correlated with demographic data from the participants to determine if there is a relationship between their beliefs and the variables of age and years of experience.

Participants and Setting

The authors conducted a convenience survey sampling at the 2017 annual meeting of the National Black Association for Speech-Language and Hearing (NBASLH). Although many of the goals of the organization involve the promotion of the professions to Black professionals and clients, membership is not exclusive to Black individuals. The requirement for participation in the survey was being a student or professional in speech-language pathology. One-hundred twenty-seven electronic surveys were completed. Participants were approached by students or the corresponding author to complete the survey on an electronic tablet.

Data Analysis

Means, percentages, and standard deviations were computed for responses to each of the 13 Likert-scale questions used for analysis. Quantitative correlation analyses were used to assess how respondents' beliefs about ethical responsibilities, scope of practice, medical and educational necessity, and comfortability in treating transgender clients were related to age and number of years of experience.

Results

Background Information

The sample of participants was 93% female, 6% male, and 1% transgender, transsexual, or non-conforming. The majority of the respondents came from southern states: Georgia (19.5%), North Carolina (10.9%), Florida (7.8%), Louisiana (7.8%), South Carolina (5.4%), Texas (5.4%), Virginia (4.6%), Alabama (3.1%), Tennessee (1.5%), and the District of Columbia (0.7%). States represented from the northeast included New York (8.5%), Connecticut (5.4%), Maryland (5.4%). States represented from the midwest included Ohio (5.4%), Michigan (3.1%), Illinois (0.7%), and Wisconsin (0.7%). The only western state represented was California (3.1%).

As shown in Figure 1, the majority of the respondents were licensed or certified SLPs (54.7%), followed by graduate students (27.3%), undergraduate students (13.3%), and clinical fellows (4.7%)

Age and Experience

Most respondents ranged in age from 18-29 years old (48.4%), followed by 30-49 years old (39.8%), 50-54 years old (9.4%), and 65 years and older (2.3%) (see Figure 2). As depicted in Figure 3, over one-third were pre-professionals (34.4%), followed by professional ranging in experience from 0-5 years (21.1%), 6-10 years (15.6%), and 11-15 years (9.4%), and more than 15 years (19.5%).

Figure 1. Survey Question #4: *"What is your professional level?"*
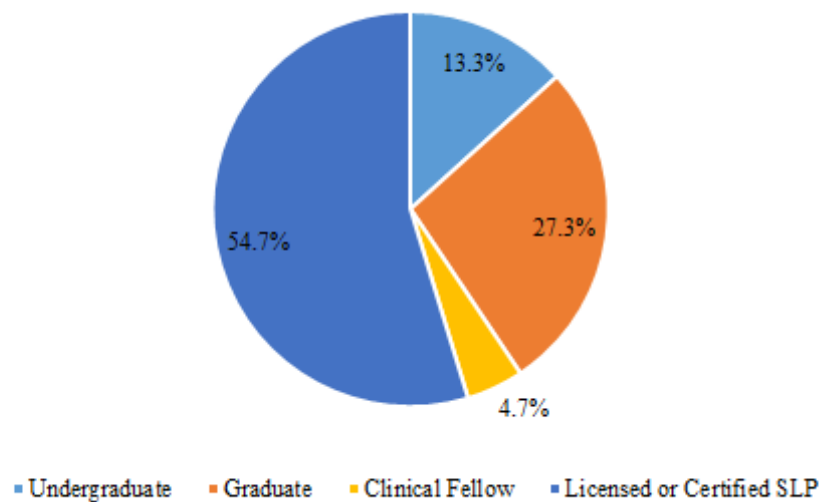
Figure 2. Survey Question #2: *"What is your age range?"* (N=127)
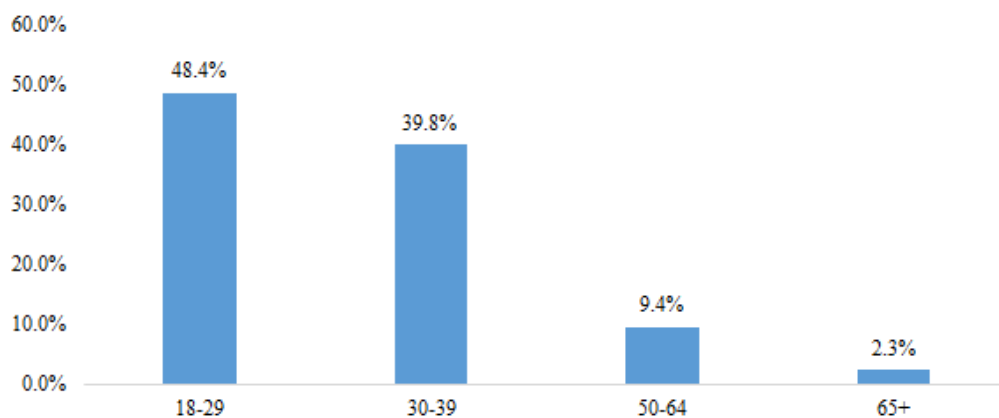
Figure 3. Survey Question #4: *"How many years of experience do you have as a speech-language pathologist?"* **(N=127)**
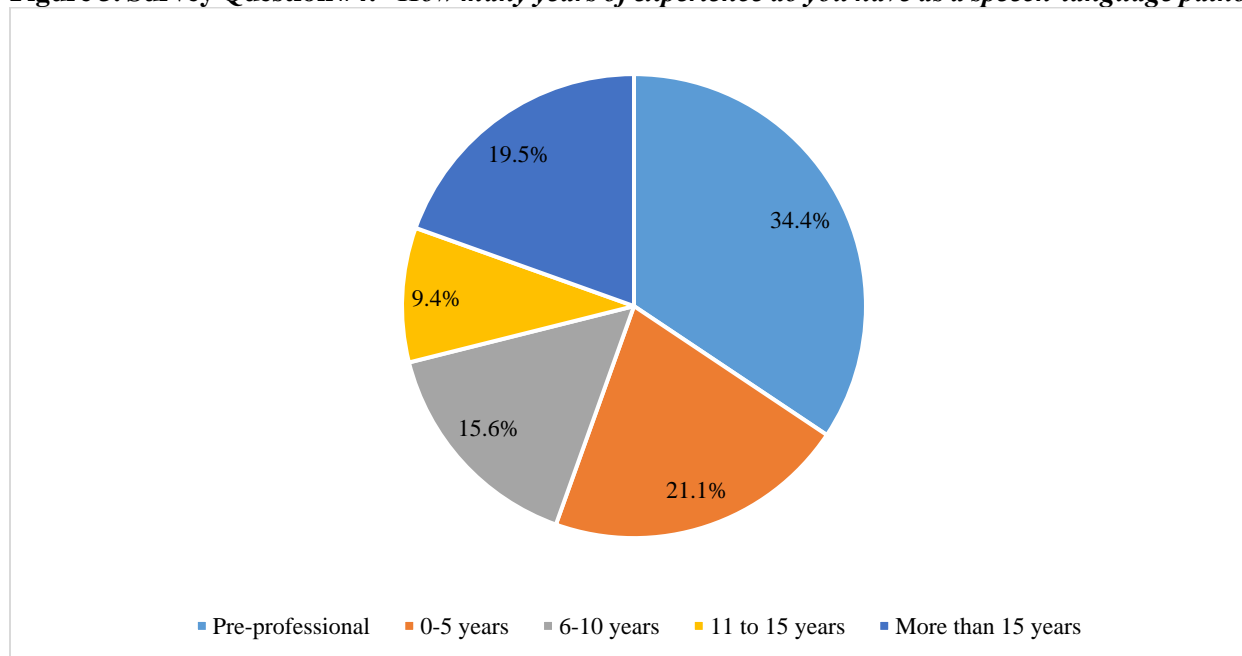

Level of Experience, Training, and Comfortability

Only 5.5% of the respondents indicated that they had experience treating transgender patients for communication and voice, whereas 94.5% indicated that they had not. Only 10.9% reported that they had received training for working with the transgender population (see Figure 4). Although education on voice treatment is an essential piece of training to be a SLP, most respondents indicated that they did not feel like they were adequately trained to treat such a specialized population.

Figure 4. Survey Question #10: *"I have received training for working with the transgender population."* **(N=127)**
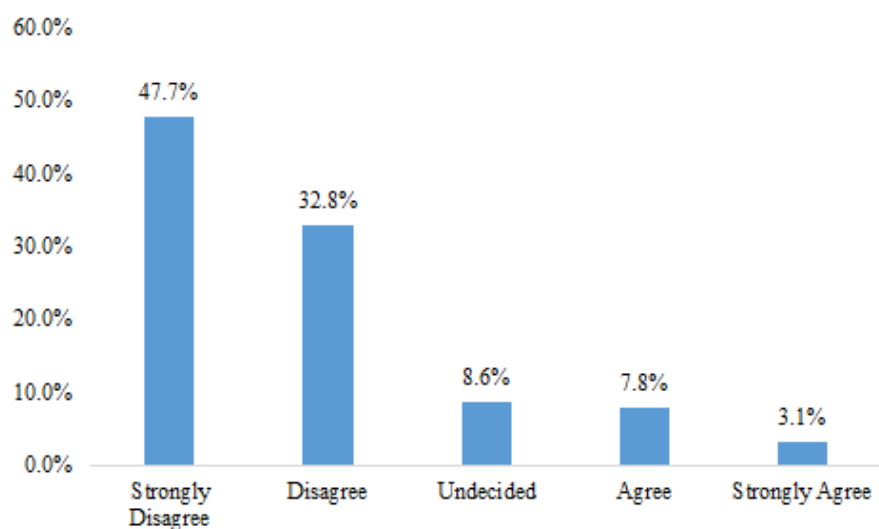
Despite this lack of training, many of the respondents were ambivalent about whether they would pursue training in the future (see Figure 5). The majority of the respondents were undecided (34.4%) if they would pursue training for treating transgender clients followed by those who agreed (25%), disagreed (14.8%), strongly agreed (14.1%), and strongly disagreed (11.7%). Some respondents verbally indicated that they did not specialize in voice treatment; therefore, they would not seek further education on treating the transgender population.

As shown in Figure 6, 55.4% of the respondents agreed or strongly agreed that they were comfortable with treating transgender voice patients, whereas 44.6% indicated that they were not comfortable or were undecided. This question was included to differentiate between being ethically obligated and comfortable in providing treatment of the transgender population for a variety of reasons. However, a limitation of this question is that it doesn't differentiate why someone might be uncomfortable. Comfortability could be limited because of ethical and moral dissonance, a lack of clinical preparation, or a multitude of other reasons.

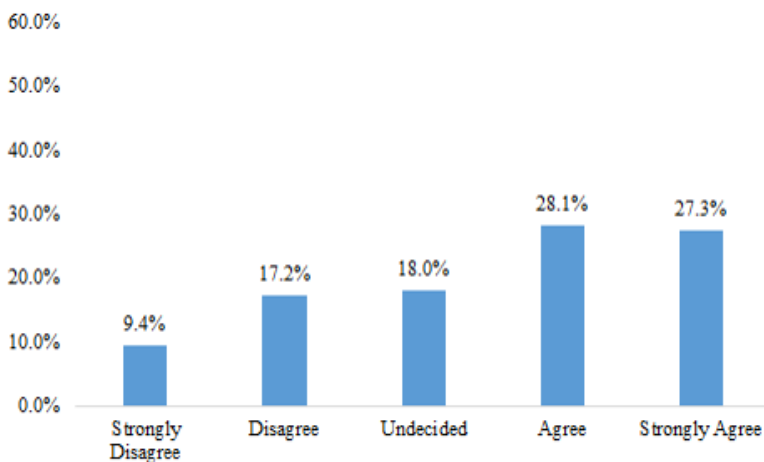**Figure 5. Survey Question #11:** *"I am likely to pursue training for treating transgender voice patients."* **(N=127)**
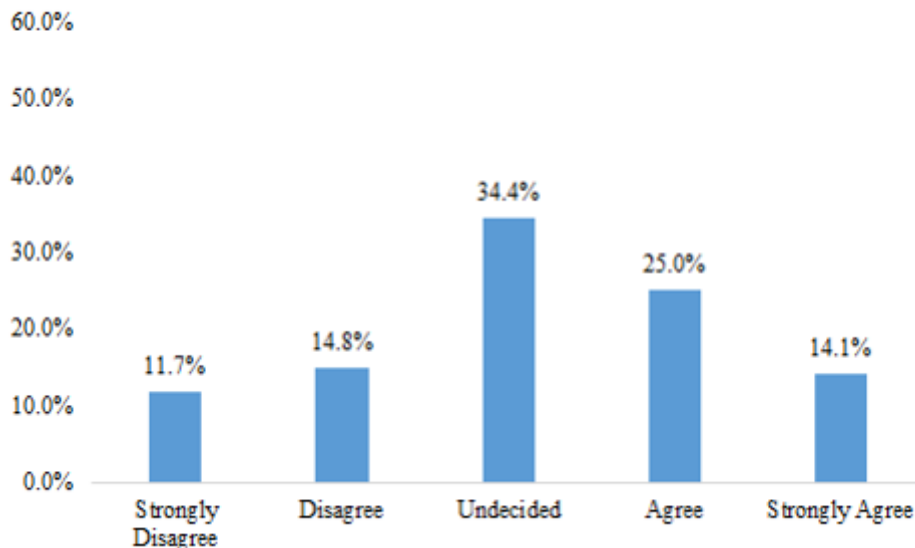
Figure 6. Survey Question #9: *"I am comfortable with treating transgender voice patients."* **(N=127)**

Clinician's Ethical Views in Providing Services to Transgender Clients

The survey was designed to determine SLPs perceptions in regards to communication and voice treatment of transgender clients. The data indicated that the majority of respondents strongly agreed (38.3%) or agreed (39.1%) that treating transgender voice clients is within the SLP scope of practice (see Figure 7). The results indicate the respondents' interpretation of ASHA's Scope of Practice as including transgender communication and voice services.

Similarly, as shown in Figure 8, most respondents strongly agreed (45.3%) or agreed (35.9%) that as SLPs or aspiring SLPs they were obligated to treat transgender clients who were referred to them.

Figure 7. Survey Question # 8: *"Treating transgender voice clients is within my scope of practice as an SLP or will be within my scope of practice when I am an SLP."* **(N=127)**
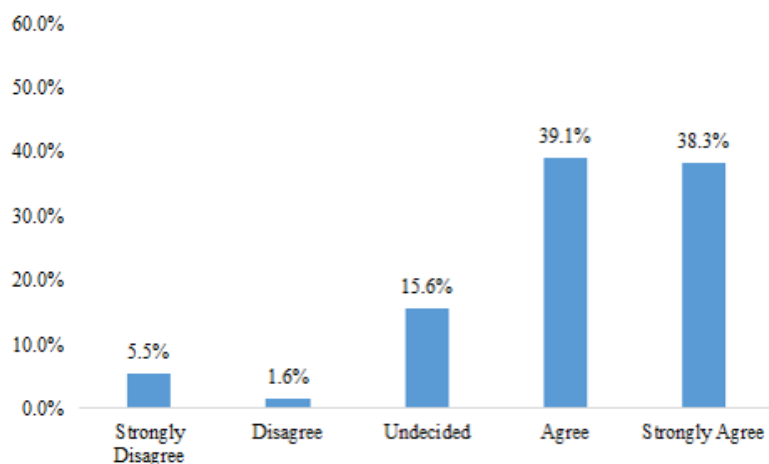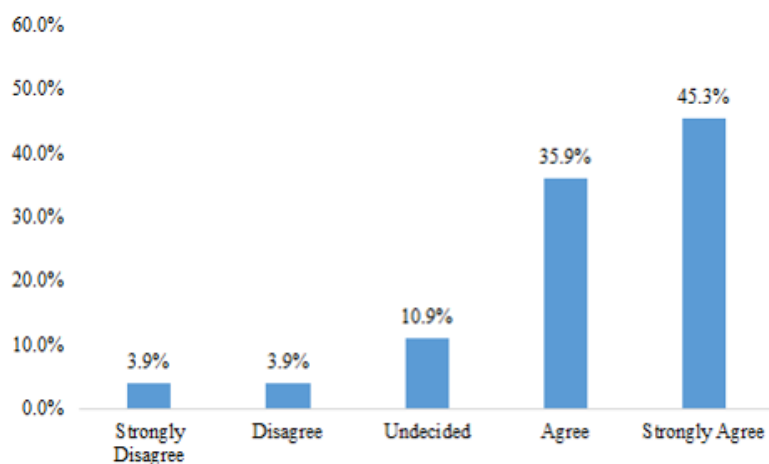

Figure 8. Survey Question # 12: *"Treating transgender clients who are referred to me is my ethical responsibility."* **(N=127)**

Despite these strong professional and ethical convictions, there was significant ambivalence on the topic of medical and educational necessity of transgender communication services. A combined 66.5% of respondents agreed or strongly agreed with medical and educational necessity, 22.7% were undecided, and 10.9% disagreed (see Figure 9). Many SLPs who work in education facilities, medical facilities, or who receive third party compensation through medical insurance are often required to address the need for their services to be medically or educationally necessary. The responses to this question indicate that many of the respondents were conflicted as to whether transgender communication services are truly necessary or elective services.

Correlations were used to determine if there was a significant relationship between the variables of a) age range and b) number of years of experience, in connection to survey questions related to perceptions of scope of practice, ethical responsibilities, medical and educational necessity, and comfortability treating transgender clients (See Appendix A for questions 8, 9, 12, and 13). No significant correlations were found. All correlations between age and Question 8 (-.19), Question 9 (-.14), Question 12 (-.13), and Question 13 (-0.07) were negative and weak. In addition, correlations between years of experience in the profession were also tested. Correlations between years of experience in the field and Question 8 (-.21), Question 9 (-.25), Question 12 (-.23), and Question 13 (-0.08) were negative and weak. This finding indicates that there was no relationship between items responses and the age and years of experience of participants in this study.

Discussion

Quantitative analyses of SLPs and aspiring SLPs reveal that most of the participants in this study believe that transgender communication and voice therapy is within their scope of practice (77.4%), and is their ethical responsibility (81.2%). About two-thirds (66.4%) of respondents also believe that the provision of these services is a medical or educational necessity. The indication is that the majority of those who were surveyed perceive transgender communication services to be an elective service that is within the SLP scope of practice.

The survey provides some insight into how SLPs might perceive potential transgender clients. Hancock and Haskin's (2015) reported that respondents in their study had slightly more negative feelings towards transgender individuals compared to gay, lesbian, or bisexual individuals, yet issues of morality did not present a significant barrier towards how SLPs feel about LGBTQ communities. However, an important distinction between Hancock and Haskin's study and the present study is the measurement of *professional* perceptions versus *personal* perceptions. It is unknown how the participants in this study felt about the LGBTQ community personally.

Figure 9. Survey Question #13: *"Transgender voice therapy is a medical and/or educational necessity for LGBTQ individuals."* **(N=127)**
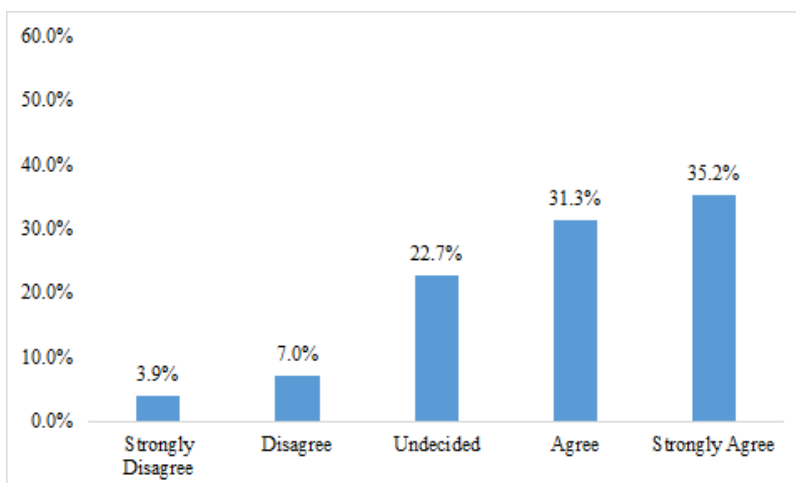
Their perceptions of their professional and ethical obligations toward LGBTQ individuals are more apparent.

Despite these perceptions, the respondents' experience, training, and comfortability present a different picture of SLPs' roles in transgender communication therapy. Few reported receiving training in this area (10.9%), and even less (5.5%) had experience with the population. In addition, 39% indicated that they would pursue training in the future compared to 34.4% who were undecided and 26.5% who indicated that they would not pursue training. This is likely related to transgender communication therapy being considered a niche specialty in speech-language pathology. The question of comfortability in providing services is complicated by a variety of factors not indicated in the question. Nearly 45% indicated that they were either undecided or not comfortable providing services. However, several respondents indicated to our research team that they weren't comfortable because they had not received training or because they were not very comfortable with providing voice therapy in general. Because of the limitation of this question, it is not known how many if any respondents were uncomfortable or undecided because of the population itself.

Limitations

The participants in this study were limited to attendants at the 2017 NBASLH convention. The membership of NBASLH does not resemble the demographics of the SLP field, which is overwhelmingly White and female. It is entirely possible that aspiring and practicing SLPs across the United States could have different levels of experience, training, and comfortability, and could feel differently about their professional perceptions and responsibilities. Therefore, the results of this survey by itself cannot be generalized.

Self-reported data on professional and ethical issues also have limitations. Many respondents may provide responses that they perceive to be professionally or politically correct even if they believe otherwise. This is particularly true in a professional setting such as a conference. The data gathering method of "cold calling" via physically approaching them in the midst of a professional meeting is effective in many ways but also has its limitations. It does not allow time for depth of thought on these potentially complicated professional and ethical issues.

Finally, there are limitations on the survey and the data itself. The sample size may have affected the correlation data that could be gathered. The survey was a researcher-constructed instrument used to gather data on the perceptions of SLPs relative to transgender communication therapy. The number of questions was limited intentionally in order to increase participation at a professional meeting. There are limitations to its validity as an instrument to determine ethical beliefs and the explanation of those beliefs.

Clinical Implications

The ethical and professional guidelines of speech-language pathologists in the delivery of transgender communication services is somewhat convoluted. There lies a potential conflict of interest because of a clinician's moral or religious beliefs about transgender people. This could pose as a barrier in the clinician providing quality services. The purpose of this study was to understand how SLPs and aspiring SLPs perceive the responsibilities of SLPs in the treatment of transgender clients. Based on the results of this study, it is apparent that the majority of the participants do not perceive a debate about their ethical responsibilities, at least in a theoretical sense. The majority believe that providing services to transgender clients is within the SLP scope of practice and that it is the SLPs ethical duty to serve those clients if she or he is referred one. It is fortunate that this group of SLPs do not implicate professional conflict in their responsibilities within their scope of practice. This indicates that they are demonstrating high levels of sensitivity, a crucial aspect of cultural competence (Turner et al, 2006). However, when it comes to the next phase of cultural competence, *competency and skills* with transgender individuals in the delivery communication and voice therapy, very few participants acknowledged having that level of cultural responsiveness. The majority of the participants had no experience in working with transgender individuals, and had been trained to do so. Further, many did not plan on seeking this type of training in the future. This is not to suggest that every SLP should be trained and prepared in this area. However, it is problematic when there are few SLPs to serve the needs of the transgender community

(Bradford, Makadon, Stall, Goldhammer, & Landers, 2008; Davis & Goldberg, 2006).

As the initial educational preparer of speech-language pathologists, graduate programs should consider ways to integrate teaching transgender clinical skills into the curriculum and clinical education. Case studies could be presented and assessed in academic courses such as voice disorders and diversity and multicultural courses. Several universities have on-campus clinics that specialize in transgender communication and voice therapy. Other universities could follow this model or simply offer transgender communication services to members of the community. Adding new client streams is particularly prudent when many programs are challenged with finding more clinical placement opportunities for student clinicians (Polovoy, 2015).

Another way to increase the amount of clinicians who work in this area is if more practicing clinicians decide that this is a viable revenue stream for them. Private practitioners are prime targets for adding transgender clinical skills to their repertoire. Building and maintaining a consistent client base is a tremendous challenge in private practice, and diversification of one's referral sources is a key method for success (Dougherty, 2012).

As professional providers of communication services, speech-language pathologists should be central in helping transgender individuals successfully transition to their preferred gender identity. Communication is such an important aspect of identity expression. Therefore, SLPs must prepare to help those who require these services. This will require a collective effort to continue to develop clinical and cultural competence.

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Appendix A

NBASLH Sample Perceptions of SLPs and Students in Responsibilities of Treating Transgender Voice Clients
Demographics

Q1 I identify as

○ Male (1)

○ Female (2)

○ Transgender, Transexual, or Gender Non-Conforming (3)

○ Other (4)

Q2 What is your age Range?

○ 18-29 years old (1)

○ 30-49 years old (2)

○ 50-64 years old (3)

○ 65 years and older (4)

Q3 What is your professional level?

○ Undergraduate Student (1)

○ Graduate Student (2)

○ Clinical Fellow (3)

○ Licensed or Certified Speech-Language Pathologist (4)

Q4 How many years of experience do you have as a speech-language pathologist?

○ Pre-professional (student) (1)

○ 0-5 years (2)

○ 6-10 years (3)

○ 11 to 15 years (4)

○ More than 15 years (5)

Q5 In which state do you currently reside?

○ Alabama (1)

○ Alaska (2)

○ Arizona (3)

○ Arkansas (4)

○ California (5)

○ Colorado (6)

○ Connecticut (7)

○ Delaware (8)

○ District of Columbia (9)

○ Florida (10)

○ Georgia (11)

○ Hawaii (12)

○ Idaho (13)

○ Illinois (14)

○ Indiana (15)

○ Iowa (16)

○ Kansas (17)

○ Kentucky (18)

○ Louisiana (19)

○ Maine (20)

○ Maryland (21)

○ Massachusetts (22)

○ Michigan (23)

○ Minnesota (24)

○ Mississippi (25)

○ Missouri (26)

○ Montana (27)

○ Nebraska (28)

○ Nevada (29)

○ New Hampshire (30)

○ New Jersey (31)

○ New Mexico (32)

○ New York (33)

○ North Carolina (34)

○ North Dakota (35)

○ Ohio (36)

○ Oklahoma (37)

○ Oregon (38)

○ Pennsylvania (39)

○ Puerto Rico (40)

○ Rhode Island (41)

○ South Carolina (42)

○ South Dakota (43)

○ Tennessee (44)

○ Texas (45)

○ Utah (46)

○ Vermont (47)

○ Virginia (48)

○ Washington (49)

○ West Virginia (50)

○ Wisconsin (51)

○ Wyoming (52)

○ I do not reside in the United States (53)

Experience

Q6 Have you had experience treating transgendered patients for voice and communication?

○ Yes (1)

○ No (2)

Perceptions

Q8 Treating transgender voice clients is within my scope of practice as an SLP or will be within my scope of practice when I am an SLP.

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
	○	○	○	○	○

Q9 I am comfortable with treating transgender voice patients.

	Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
	○	○	○	○	○

Q10 I have received training for working with the transgender population.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
○	○	○	○	○

Q11 I am likely to pursue training for treating transgender voice patients.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
○	○	○	○	○

Q12 Treating transgender clients who are referred to me is my ethical responsibility.

Strongly Disagree (1)	Disagree (2)	Undecided (3)	Agree (4)	Strongly Agree (5)
○	○	○	○	○

Q13 Transgender voice therapy is a medical and/or educational necessity for LGBTQ individuals.

Strongly Disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (4)	Somewhat agree (5)	Strongly agree (6)
○	○	○	○	○