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A Bilingual Approach to Pediatric Occupational Therapy: The Importance of Communication Between Providers & Spanish-speaking Families in Northwest Arkansas

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A Bilingual Approach to Pediatric Occupational Therapy: The Importance of
Communication Between Providers & Spanish-speaking Families in Northwest Arkansas

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Table of Contents

Introduction	4
Literature Review	4
Demographics	4
Health Care Disparities	7
The Impact & Relevance of Culture	9
Interpreter Use & Misuse.....	12
The Impact of Bilingualism	18
Occupational Therapy Standards	21
Study Aims	23
Methodology	24
Participants	24
Results	25
Implications	32
Limitations & Recommendations for Future Study	35
References	38
Appendix A	43
Appendix B	47

A Bilingual Approach to Pediatric Occupational Therapy: The Importance of Communication Between Providers & Spanish-speaking Families in Northwest Arkansas

Due to the demographic demands of Northwest Arkansas and the prevalence of disparities in health care, this study aims to assess the current practices, perceived need, and willingness to provide bilingual Spanish-English outpatient pediatric occupational therapy options in Northwest Arkansas. The hope of this study is to better inform pediatric occupational therapy providers of the growing need for bilingual services so that they may respond appropriately in order to better serve Latino and Spanish-speaking patients and their families or caregivers.

Literature Review

Demographics

The health care system is in a state of constant adaptation and improvement as it responds to the dynamic nature of the populations it serves. Within the United States, there are people of a variety of races, ethnicities, and backgrounds, each of which present new challenges and needs to the health care system. The demographic makeup of the field of occupational therapy differs greatly from the diversity of the United States population, with the profession consisting predominantly of white females – 89.3% female and 87.1% white to be exact, according to Data USA (2019). Due to the almost homogenous demographic makeup of the field of occupational therapy, providers will encounter much greater diversity in their patient population than is visible among the providers themselves. The Latino population in the United States is rapidly growing, with approximately 18% of the national population identifying as Hispanic or Latino according to the U.S. Census Bureau (2018). In the state of Arkansas, 7.6% of the

population identifies as Hispanic or Latino (United States Census Bureau [USCB], 2018). These numbers, however, are unevenly distributed across the state with much greater concentrations in Washington and Benton counties of Northwest Arkansas. According to the most recent population estimates, approximately 39,000 Latinos live in Washington county, making up 16.8% of the county population, and approximately 44,000 Latinos live in Benton county, making up 16.7% of the county population (USCB, 2018). 11% of the populations of both Washington and Benton counties consist of people born outside of the United States, meaning that they have immigrated to the U.S. (USCB, 2018).

According to a report from the Department of Epidemiology at the University of Arkansas for Medical Sciences, 33.4% of Latinos live in poverty which is more than double the 15% of whites living in poverty (UAMS, 2012). Additionally, some 13% of Benton county residents and 17.4% of Washington county residents speak a language other than English at home (USCB, 2018). More specifically, 78% of Latinos in Arkansas speak a language other than English at home, of which 41% speak English “less than very well” (UAMS, 2012). Of Latinos that speak a language other than English, the most common non-English language used is Spanish. Among Spanish-speaking Latinos, there is still quite a bit of diversity. Not all Spanish-speaking Latinos are recent immigrants, but some are instead part of generations of family members living in Spanish-speaking communities in the United States which have supported their Spanish language maintenance across generations. Additionally, not all Spanish-speaking Latinos have limited English proficiency. As a group, Spanish-speaking Latinos within the United States vary greatly in their English language skills, citizenship status, and the generation

in which their family immigrated to the United States, whether recent or further in the past.

Most of these numbers are gathered based upon the information regarding adults or school-age children. In a report focused more specifically upon children and child poverty in Northwest Arkansas, it was found that “about 82,000 children in Arkansas have at least one parent who is an immigrant” (Arkansas Advocates for Children and Families [AACF], 2018). However, most of these children with immigrant parents, in fact more than 90% of them, are United States citizens (AACF, 2018). Approximately 69% of these children with immigrant parents are growing up in low-income homes and this poverty puts them at a developmental and educational disadvantage (AACF, 2018).

Despite the informative nature of these statistics, they still fail to give an entirely accurate depiction of the Latino population as a whole and in Arkansas. Some populations are harder to count based on the methods used for U.S. Census Bureau data collection which are impacted by factors such as low mail return rates and inadequate or entirely lacking computer or Internet access (CUNY, 2017). Historically speaking, these hard to count populations typically include “young children, people of color, rural residents, and low-income households” as well as immigrants and “linguistically isolated households” (CUNY, 2017). As a result of these hard to count populations, numbers in these groups are very likely higher than the census data provided.

Based upon the available demographics of the region, there is a strong Spanish-speaking and Latino presence in Northwest Arkansas, with many Latinos living in poverty and with limited English proficiency. Because all people require health care services at some

point in their lifetime, it is important that health care providers in Northwest Arkansas take note of this population and equip themselves to serve them as fully as possible.

Health Care Disparities

Poverty levels combined with communication barriers continue to contribute to the widespread health care disparities visible among minority groups, especially those with lower levels of English proficiency. Patients with limited English proficiency are nine times less likely to understand their medical situations when talking to a provider that does not speak their primary language, impacting their ability to make informed medical decisions, ask questions, and follow prescribed regimens, compared to English-proficient patients (National Council of La Raza [NCLR], 2009). Additionally, 57.8% of all Latino children under age 18 with mental health or behavioral issues, most of which could be treated through occupational therapy services, do not receive the care that they need to address these issues and improve their mental and behavioral health (NCLR, 2009). Even after seeking out or beginning therapy services, Latinos are three times more likely to end those therapy services prematurely than non-Latinos (Bridges & Anastasia, 2016). A number of factors contribute to this low treatment engagement, including limited availability of providers that speak Spanish, limited availability of interpreters, concerns about the cultural competence and understanding of providers, difficulties obtaining regular transportation, fear of deportation, inability to take time away from work, barriers due to associated costs of treatment and lack of insurance, and attitudes or beliefs surrounding behavioral health services, seeking out help, recognizing or accepting the problem, and health literacy (Bridges & Anastasia, 2016). Health care disparities are largely impacted by what the World Health Organizations defines as social determinants

of health which include “the conditions in which people are born, grow, live, work and age that can contribute to or detract from the health of individuals and communities” (Department of Health & Human Services [HHS], 2011). These conditions often include poverty, lack of access to medical care, lack of insurance, and low socioeconomic status, all of which reduce the likelihood of positive medical outcomes (HHS, 2011). Without effective communication between the patient and health care providers, and without visiting a health care provider when needed, many Latinos continue to experience much poorer health than is acceptable when there are so many providers that could be of service.

Most people dismiss health care disparities as an unfortunate fact of life that results from a society with limited resources. However, according to a 2009 report from the Joint Center for Political and Economic Studies, eliminating or at the very least reducing health care disparities would significantly decrease society’s economic burden due to the direct and indirect costs of such health care disparities. Costs associated with health care disparities and inequalities can include “direct expenses associated with the provision of care to a sicker and more disadvantaged population as well as indirect costs such as lost productivity, lost wages, absenteeism, family leave to deal with avoidable illnesses, and lower quality of life” (LaVeist, Gaskin, & Richard, 2009). Based upon estimates between 2003 and 2006, the costs associated with health inequalities and premature deaths in the United States added up to a stunning \$1.24 trillion, which could be reduced by \$229.4 billion simply by eliminating only direct medical care costs due to health disparities for minorities (LaVeist et al., 2009). More specific to Latinos, the estimated excess direct medical costs due to disparities in health care for the Latino

population in the United States added up to \$82 billion between 2003 and 2006, constituting 35.7% of the total direct medical costs of health care inequalities, and representing a significant amount of money that could be saved by eliminating health care inequalities for Latinos (LaVeist et al., 2009). As these numbers show, the continued existence of health care disparities is much more costly and burdensome to society as a whole than most people realize, although the people that feel the negative effects most strongly and personally are those receiving inadequate medical care.

The Impact & Relevance of Culture

Culture undeniably shapes a person's attitudes, beliefs, and perceptions of the world, affecting each decision that a person makes. The impact of culture is regularly felt in the medical field, influencing how a patient responds to illness or health troubles, how they perceive their diagnosis, and who they turn to for help. The culture of a health care provider impacts their decisions as well, influencing their perception of patients and their diagnoses, the treatment recommendations they provide, and the goals that they encourage the patient to reach.

With Latino culture, three themes commonly emerge when discussing cultural values: machismo, marianismo, and familismo. Machismo refers to a male's role within a societal and familial context, indicating "a value of traditional masculinity" which "may translate into the belief that help-seeking is weak, supported by findings that machismo and help seeking attitudes are inversely correlated" (Bridges & Anastasia, 2016). For women, the idea of marianismo holds the value that women should be self-sacrificing and dedicated to the needs of others above their own, which may lead many Latino women to fail to leave time to care for themselves and their own health needs out of fear of being

perceived as selfish (Bridges & Anastasia, 2016). Affecting the family unit as a whole, the value of familismo “places the family at the center of the individual’s life and experience”, encouraging Latinos “to attempt to solve mental health problems within the family and not seek services from outsiders or share personal information about oneself or family members during therapy sessions” (Bridges & Anastasia, 2016). Collectively, each of these traditional Latino cultural values can lead parents to attempt to manage a child’s mental or behavioral issues on their own rather than seeking out occupational therapy services, may contribute to difficulty understanding the purpose of occupational therapy services which focus largely on the value of independence, and may influence male adolescents and even young boys to be resistant or reluctant to ask for help during a session out of fear of seeming weak.

Because of the prominent role of the family in Latino culture, it is critical that parents and children can effectively communicate with one another and feel a strong sense of family cohesion. Family cohesion is adversely impacted by differences in acculturation rates and speed of English language acquisition between parents and children, the frequent loss of extended family due to immigration to the United States, and the English dominated public education system with few Spanish speaking teachers and staff which creates barriers to parental involvement in their child’s education (Leidy, Guerra, & Toro, 2010). Children from Spanish-speaking homes learn the English language faster than their parents and all of the concepts they learn in school are taught in English (Leidy et al., 2010). As children from Spanish-speaking homes progress through school and continue the process of learning English, often their home language, Spanish, gradually deteriorates and they begin to lose the language as a large portion of their time

is spent in school where English is the dominant language (Guardado, 2006). This process continues with Latino children that regularly receive occupational therapy services in English, further emphasizing the English language and teaching them vocabulary, concepts, and skills in English that are then not reinforced in their home language of Spanish, especially if the parents have limited English proficiency and cannot adequately communicate with their child's provider. As Latino children from Spanish-speaking homes begin to lose their Spanish language skills and replace them with English, "many parents often feel that they are losing their children because they are no longer able to fully reach them in the language in which they are most competent" (Guardado, 2006). When parents and children can no longer communicate on a complex, personal, and emotional level, family cohesion decreases. For children of Spanish-speaking homes, Spanish language maintenance is critical for maintaining strong family relationships, especially in homes in which the parents have limited English proficiency (Guardado, 2006).

Family cohesion has a significant impact on a child's development, especially when growing up in poverty. As the previously cited demographic information illustrates, Latino families live in disproportionately high rates of poverty compared to non-Latinos. Children growing up in poverty face a number of negative influences on their growth and development, including financial instability, food insecurity, unsafe neighborhoods, limited community resources, parents with "overemployment" or multiple jobs, language barriers, and crowded living conditions (Leidy et al., 2010). Despite these challenges, families in which parents and children are able to openly and effectively communicate and maintain high levels of family cohesion are "associated with better physical,

emotional, and educational well-being among children and adolescents” and children show “improvements in social competence, particularly in the area of social problem-solving skills and social self-efficacy” (Leidy et al., 2010). The family environment plays a significant role in a child’s development of social and emotional skills. When communication barriers arise between parent and child, it becomes difficult for parents to model social and emotional skills and instill them in their children. For children to grow and develop with the support they need to learn life skills and lead a healthy life, it is critical that they can communicate with their parents, maintain strong family bonds, have access to health care services that they need, have access to health care providers that understand the culture and background from which they come, and have health care providers that can communicate with their parents.

Interpreter Use & Misuse

The demographic information previously discussed has already established the presence of a large limited English-proficient Spanish-speaking population of Latinos in the United States and in Northwest Arkansas. Even if children may speak English more proficiently than their parents due to differences in acculturation rates, providers cannot expect children to be held responsible for accurately and comprehensively sharing health care information with their parents. The situation is further complicated if children have verbal communication or processing difficulties due to diagnoses such as autism spectrum disorder, Down Syndrome, cerebral palsy, or developmental delay, as is common among children receiving regular outpatient pediatric occupational therapy services. Because of the age and nature of their patients, it is critical that pediatric health care providers can effectively communicate with the parents and caregivers of the children they treat. When a pediatric patient’s family members have limited English

proficiency and the health care provider does not speak the primary language of the family members, which in the case of many Latinos would be Spanish, an interpreter is necessary.

There are three main categories of interpreters: ad hoc interpreters, trained or professional interpreters, and bilingual health care providers (Hsieh, 2014; Nápoles, Santoyo-Olsson, Karliner, Gregorich, & Pérez-Stable, 2015). Ad hoc refers to interpreters that have not received proper training and they may be volunteers, family members or friends of the patient, or bilingual staff without training in interpretation services (Nápoles et al., 2015). In many health care settings, ad hoc interpretation is still the most common practice (Nápoles et al., 2015). Trained or professional interpreters have undergone official education and training in providing interpretation services within a medical context, meaning that they are aware of the best interpretation practices, errors to avoid, cultural brokering, laws, standards, and regulations in health care, and necessary medical terminology and health care routines in both languages (National Council on Interpreting in Health Care [NCIHC], 2011). Bilingual health care providers are classified as dual-role interpreters, if they have received proper training as an interpreter, since they fulfill both the role of an interpreter when needed and a healthcare provider providing medical attention and treatment (NCIHC, 2011). However, if bilingual providers have not received proper training in interpretation services, they fall under the category of ad hoc interpreters since bilingualism and knowledge of a language does not automatically equate to translation and interpretation skills (Grosjean, 2010; NCIHC, 2011). Additionally, bilingual providers with interpretation training also receive training in the critical cultural component that comes with a different language. Without proper

training, bilingual providers are not properly prepared for both the linguistic and cultural components of medical interpretation.

In addition to the various types of interpreters, there are also three main modes of interpretation: telephonic interpretation, videoconferencing medical interpretation or VMI, and in-person interpretation (Price, Pérez-Stable, Nickleach, López, & Karliner, 2012). With telephonic interpretation, the interpreter interacts with the patient and provider via either a dual-headset telephone or a single-headset telephone that must be passed back and forth (Price et al., 2012). VMI services involve “a mobile unit with a camera and a video monitor that can be moved from room to room for patient encounters” (Price et al., 2012). In-person interpretation is just as it sounds, involving an interpreter physically present in the medical encounter to talk face-to-face to both the patient and the health care provider (Price et al., 2012).

Each interpreter type carries its own advantages and disadvantages. While ad hoc interpretation may be the most convenient and have the lowest associated cost, it can have potentially harmful consequences due to errors and inaccuracies (Nápoles et al., 2015). When ad hoc interpreters are used in health care settings, the result is often “inferior translation, communication errors with potential clinical consequences, worse patient comprehension and clinical outcomes, less patient satisfaction, and reduced transmission of information and small talk” (Nápoles et al., 2015). Compared to professional interpreters, interpretation errors occur at twice the rate for ad hoc interpreters, with the most common types of interpretation errors being “omissions or providing preemptive answers for clinicians or patients”, and ad hoc interpreters average one to two “moderately or highly clinically significant errors per encounter” (Nápoles et

al., 2015). Clearly, using a form of interpretation with double the error rates for interactions with limited English-proficient patients is unacceptable and inadvisable (Nápoles et al., 2015). Ad hoc interpreters may not fully understand the medical scenario or know appropriate medical terminology in both languages in order to accurately and fully convey the provider's message. An additional problem with ad hoc interpretation is that "family interpreters do not always facilitate provider-patient communication or patient receptiveness to their treatment recommendations", especially in instances in which a male family member dominates the conversation and does not allow for the wishes or point of view of female family members (Hsieh, 2014). Thus, ad hoc interpretation frequently negatively affects both the patient and, in the instance of a pediatric patient, the patient's parents, and the health care providers ability to openly, effectively, and accurately communicate regarding the medical situation and available treatment options and approaches. Professional interpretation services, however, have significantly lower error rates and significantly fewer to no errors of clinical consequence (Flores, Abreu, Barone, Bachur, & Lin, 2012). Despite the fact that professional interpretation services are much safer and more accurate, ensuring effective communication between patient and provider, many health care organizations are reluctant to employ professional interpreters due to the additional cost. When possible, health care organizations employ bilingual health care providers to serve as dual-role interpreters, negating the need for extra staff and allowing patients to communicate directly with their provider. Although such language concordance between patient and provider is ideal, "if organizations recruit bilingual employees with the intention of having them serve as in-clinic interpreters, it is essential to develop organizational

policies to address the expectations of their workload” so that bilingual health care providers do not become overburdened or feel that the interpretation services they provide for the organization become “like a second job” (Hsieh, 2014).

Similarly, each mode of interpretation has its own pros and cons. Telephonic interpretation and VMI services are forms of remote interpretation and are “more cost-effective, accessible, and equally accurate” compared to in-person interpretation (Hsieh, 2014). However, telephonic interpretation struggles to establish interpersonal rapport due to the more awkward discursive style of talking through a device that must potentially be passed back and forth, sound quality concerns, and the inability to pick up on and provide nonverbal communication (Hsieh, 2014). Most interpreters do not find telephonic interpretation adequate for health care situations with substantial educational or psychosocial components or for family meetings (Price et al., 2012). VMI shows significant improvements over telephonic interpretation due to its ability to establish interpersonal rapport, allow patients and providers to use non-verbal communication, and allow for natural conversational methods since all parties can see and hear each other at the same time (Nápoles et al., 2015; Price et al., 2012). Additionally, VMI works adequately for physical therapy and occupational therapy services according to 73% of interpreters as opposed to the only 47% of interpreters that felt that telephonic interpretation was adequate for physical and occupational therapy services (Price et al., 2012). However, 27% of interpreters still felt that VMI was inadequate for physical and occupational therapy and recommend that in-person interpreters be present for these health care services whenever possible (Price et al., 2012). For family meetings, VMI is considered inadequate by 48% of interpreters due to high emotional or educational

content (Price et al., 2012). Within the context of outpatient pediatric occupational therapy services, family meetings are a common practice as therapists must communicate regularly with the patient's parents or caregivers regarding their child's diagnosis, provider assessment, and treatment approaches and outcomes. In these instances, in-person interpretation would be optimal, especially considering the "extremely large effects of in-person professional interpreters on patient and provider satisfaction" for limited English-proficient Spanish speaking patients (Bagchi et al., 2011).

Even among professional interpreters, not all interpreters are equally trained. Because there are currently no national requirements or certification standards for medical interpreters, professional interpreters differ in the amount of training they have received (Pope et al., 2016). In a study led by Flores et al. (2012), the overall number of errors and their level of clinical consequence committed by trained interpreters were significantly associated with the number of hours of previous training, with the cutoff point for number of hours of training at 100 hours for the largest difference, rather than years of interpreting experience. Interpreters with greater than or equal to 100 hours of training have the lowest proportion of errors and a median of zero errors of clinical consequence (Flores et al., 2012). This information provides a reference point for desired hours of interpreter training for health care organizations seeking to employ professional medical interpreters.

For the purposes of this study and outpatient pediatric occupational therapy services, in-person interpreters are the ideal since they allow occupational therapists and the children they work with to interact in a more personable way that allows for the frequent nonverbal communication and movement associated with pediatric therapy

services. Additionally, in-person interpreters are the most effective at moderating family discussions, which typically include highly emotional and educational topics regarding their child's diagnosis, expectations, and progress, between an English-speaking therapist and Spanish-speaking family members. Realistically speaking, there are currently not enough Spanish speaking, trained medical interpreters in the Northwest Arkansas region for every outpatient pediatric therapy clinic to employ an in-clinic interpreter, and not all clinics may be willing to pay the cost of hiring an in-clinic interpreter. Under these circumstances, when an in-person medical interpreter is not available, VMI services are the next best option to address the shortage and meet cost-effective needs.

The Impact of Bilingualism

In addition to using trained medical interpreters to help navigate interactions and ensure effective communication between health care providers, patients, and family members of patients, incorporating a child's home language, such as Spanish in the case of many Latino children, in the child's education and occupational therapy interventions has many important benefits as well. By incorporating Spanish into a pediatric patient's occupational therapy interventions, the occupational therapist encourages the child's bilingualism, or the use of two languages in their everyday life (Grosjean, 2010).

Bilingualism has many benefits, even for children with autism spectrum disorder, Down Syndrome, or other developmental disabilities. Research has shown that bilingualism has many positive cognitive effects for children, including gaining earlier control of executive control functions, significantly boosting executive control functions compared to monolinguals in areas such as attention control, planning and categorizing, and inhibition of inappropriate responses, increased flexibility in thinking, and improved

working memory even in spite of coming from low socioeconomic backgrounds (Bialystok, 2007; Blom, Küntay, Messer, Verhagen, & Leseman, 2014; Cummins, 2001). In addition to these cognitive effects, bilingualism also provides social advantages such as improved social communication skills, perspective-taking, and sensitivity to referential cues (Peña, 2016).

Despite many parents' and health care providers' concerns, there is no existing evidence of harmful effects of bilingualism, even for children with diagnoses such as autism spectrum disorder or language impairment (Hampton, Rabagliati, Sorace, & Fletcher-Watson, 2017; Peña, 2016). Additionally, incorporating the home language of Spanish in the educational or occupational therapy setting does not interfere with the acquisition of the English language (Peña, 2016). In fact, incorporation of Spanish into these interventions prevents home language loss and may help improve English language acquisition and building vocabulary, grammatical skills, and conceptual understanding (Peña, 2016).

Supporting the home language of Spanish and, by extension, bilingualism, even proves to be especially helpful in combating the problems that children with autism spectrum disorder and other developmental delays face. Autism spectrum disorder is often characterized by a strong need for routine, challenges with social communication and interactions, repetitive behaviors and interests, language difficulties, and emotion regulation difficulties (Hampton et al., 2017). With these difficulties and challenges specific to autism spectrum disorder in mind, bilingualism has been shown to improve communication and social skills, improve emotional well-being due to home language maintenance and subsequent family interactions, and increase communicative gestures

and imaginative play compared to monolingual children with ASD (Hampton et al., 2017). Parents of bilingual children with autism spectrum disorder also felt that the regular use of two languages helped teach their child flexibility and reduce dependency upon routine in the long run as well enhance communication skills due to the regular practice of switching between two languages (Hampton et al., 2017).

Bilingualism is particularly important for the family context, as well, in the case of children growing up in Latino, Spanish-speaking families in a society that predominantly speaks English. According to a study by Bedore and Peña (2008), in a category generation task “bilingual Spanish-English speaking children named similar numbers of words in each language...but tended to generate different specific items in each language, with only about a 30% overlap”. In this task, the items that the bilingual children generated were “strongly related to the specific activities occurring in the specific language context” (Bedore & Peña, 2008). These results support the idea that if children receiving occupational therapy services only learn and practice concepts and skills in therapy in English, they will have difficulty transferring and sharing these concepts and skills with their family in a Spanish-speaking home environment. Thus, the use of Spanish as well as English in occupational therapy interventions for bilingual children would be extremely beneficial in helping them put the concepts and skills from therapy into practice in their home environment in a way that their parents can encourage and reinforce. As has already been discussed, Spanish language maintenance and growth is also critical for family cohesion and the development and maintenance of strong parent-child bonds which provide the social and emotional support important to a child’s health development and optimal outcomes. For all of these reasons, bilingualism is a

valuable asset to both parents and occupational therapists in their common goal of promoting a child's maximum growth and development in cognitive, social, and emotional skills and increased competence and independence in activities of daily living.

True bilingualism requires more than simply linguistic knowledge. Languages are inextricably tied to the culture from which they come and, as a result, a critical component of providing bilingual Spanish-English services includes Latino cultural competency on the part of the interpreter as well as the provider in adjusting their treatment approach to properly account for cultural influences. Idiomatic expressions, cultural references, and word choice are all tied to a language's culture and are necessary to be truly bilingual. Thus, when discussing bilingual services, health care providers and health care organizations must remember the value of culturally competency in increasing the adequacy of communication between patient and provider.

Occupational Therapy Standards

The American Occupational Therapy Association (2015) has defined occupational therapy as "the therapeutic use of occupations (everyday life activities) with persons, groups, and populations for the purpose of participation in roles and situations in the home, school, workplace, community, or other settings". Occupational therapy services include "habilitation, rehabilitation, and the promotion of health and wellness to those who have or are at risk for developing an illness, injury, disease, disorder, condition, impairment, disability, activity limitation, or participation restriction" in order to address "the physical, cognitive, psychosocial, sensory-perceptual, and other aspects of performance in a variety of contexts and environments to support engagement in

occupations that affect physical and mental health, well-being, and quality of life” (American Occupational Therapy Association [AOTA], 2015).

As a health care service, occupational therapy has to be held to certain minimum standards and expectations of practice in order to meet the needs of all patients that it serves. These minimum standards set forth by the American Occupational Therapy Association (2015) include several expectations related to cultural advocacy and the cultural competency of occupational therapists. Occupational therapists are expected to maintain “current knowledge of legislative, political, social, cultural, and societal” issues that affect their patients and occupational therapy practices (AOTA, 2015). Providers of occupational therapy are also expected to be knowledgeable about evidence-based practices and apply those practices appropriately in order to ensure the best approach to occupational therapy services (AOTA, 2015). Occupational therapists must be “an effective advocate for the client’s intervention and/or accommodation needs”, as well as consult with family members to “ensure the client-centeredness of evaluation and intervention practices” (AOTA, 2015). Occupational therapists are to respect the patient’s sociocultural background and provide occupational therapy services that are both client-centered and family-centered (AOTA, 2015). When evaluating a patient’s ability to participate in daily life tasks, roles, and responsibilities, occupational therapists must also take into account “the environments and context in which these activities and occupations occur” (AOTA, 2015).

These standards emphasize a pediatric occupational therapist’s responsibility to take into account the patient’s home language and adjust their intervention plans appropriately in order to ensure the patient’s ability to be as active as possible in their

home environment as well as their school and society at large, and to employ appropriate interpretation services when necessary to effectively communicate with the patient and the patient's family. Because "effective communication is an essential component of patient-centered care", occupational therapy providers need to employ language access services in their interactions with limited English proficient patients and families in order to reap the positive impact of such services on "service utilization, quality and safety of health care, and patient satisfaction" to optimize occupational therapy outcomes (Martinez & Leland, 2015). As Dillard et al. (1992) has pointed out, a significant component of cultural competence is a therapist's attitude which complements their knowledge of a culture. With the appropriate attitude and willingness to be flexible in their treatment approach, a culturally competent occupational therapist "reinforces the beauty of culture, incorporates it in therapy, and is open to different ways of engaging the patient in treatment" in order to achieve the best outcome for their patient and the patient's family (Dillard et al., 1992).

Study Aims

Through an online survey of administrators, clinic managers, and providers of outpatient pediatric occupational therapy services, this study assessed the current practices of occupational therapists in Northwest Arkansas in regards to their linguistic abilities, history of working with patients and families that speak a non-English language, and interpreter use. The study also assessed the perceived need for interpreters and bilingual providers in Northwest Arkansas, as well as the willingness to provide services with greater language access to Spanish-speaking families and patients with limited English proficiency.

Methodology

In order to gain information regarding the current practices and perceptions of outpatient pediatric occupational therapy providers in Northwest Arkansas, two surveys were created. One survey was developed specifically for currently practicing occupational therapists working in an outpatient pediatric setting in Northwest Arkansas, which was defined as any clinic in the Fayetteville, Springdale, Johnson, Siloam Springs, Rogers, Lowell, and Bentonville areas. All of the questions asked in the survey for occupational therapists are listed in Table A1 of Appendix A. A second survey was developed specifically for administrators and clinic managers at outpatient pediatric clinics offering occupational therapy services in Northwest Arkansas. All of the questions asked in the survey for administrators and clinic managers are listed in Table A2 of Appendix A. Both surveys received approval from the Institutional Review Board at the University of Arkansas prior to being shared with participants. The surveys were created in an online format using a password protected SurveyHero account. After compiling a list of contact information for all outpatient pediatric therapy clinics in the Northwest Arkansas region which were publicly available online, participants were recruited via introductory emails and phone calls to fill out the online surveys. Responses were compiled for each survey by participant category to examine the results.

Participants

Participants fell into one of two categories: either currently practicing occupational therapists at an outpatient pediatric therapy clinic or administrators and clinic managers at an outpatient pediatric therapy clinic offering occupational therapy services. All participants were required to be employed at a clinic in Northwest Arkansas,

which was defined as within the areas of Fayetteville, Springdale, Johnson, Siloam Springs, Rogers, Lowell, and Bentonville. All participants were required to indicate their voluntary agreement and informed consent to participate in the study, with the knowledge that they could discontinue the study at any time, before beginning the survey. The study included 19 participants in total. 10 participants were currently practicing occupational therapists that completed the occupational therapist survey and 9 participants were administrators or clinic managers at a pediatric therapy clinic providing occupational therapy services and, thus, completed the administrator and clinic manager survey.

Results

The survey results provide insight into the current practices at outpatient pediatric therapy clinics providing occupational therapy services in Northwest Arkansas. The study found that 100% of occupational therapists that participated in the survey have worked with a patient that spoke a language other than English. Additionally, 100% of occupational therapists surveyed have had interactions with a patient's family members that spoke a language other than English. Of the administrators and clinic managers that responded to the survey, only 44.44% currently employ a bilingual occupational therapist at their clinic. For the clinics that do have bilingual occupational therapists, the average number was 1.5 per clinic, with the most being two and the least being one bilingual occupational therapist employed at the clinic. Figure 1 shows the non-English language fluency of pediatric occupational therapists included in the study. 70% only knew English, while 30% were bilingual according to self-report. Of those that were bilingual, the most common non-English language was Spanish and one occupational therapist knew Mandarin.

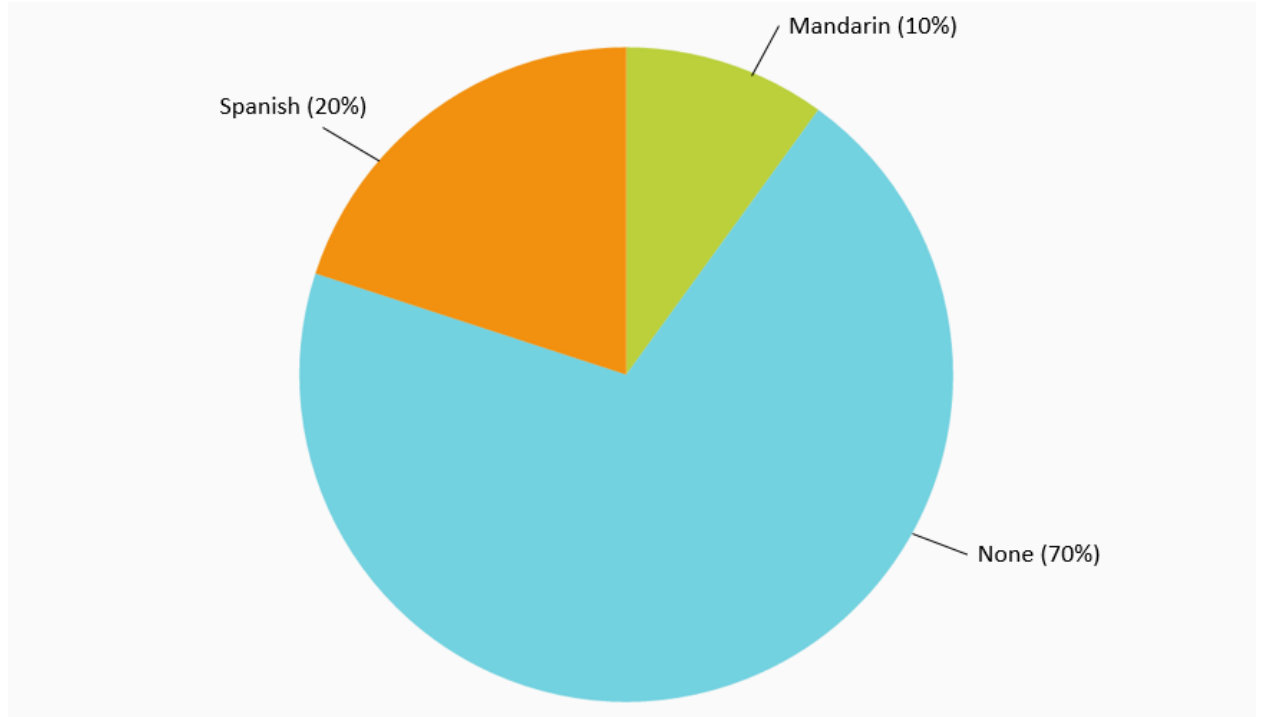


Figure 1. Non-English language fluency of pediatric occupational therapists in Northwest Arkansas. This figure shows what non-English languages are spoken by the occupational therapists surveyed, with the response “none” indicating that the provider only knew English.

The study found that 70% of occupational therapists surveyed have worked with untrained interpreters in a therapy session with a patient and 80% have worked with an untrained interpreter in interactions with a patient’s family or caregiver. Study results also indicated that 30% of occupational therapists did not have an interpreter employed at their clinic. Of the seven occupational therapists that indicated that their clinic employed an interpreter, four of them said the interpreter was untrained. Figure 2 shows the services provided by both the trained and untrained interpreters currently employed at the clinics.

The most common services provided by interpreters were facilitating communication in therapist-patient interactions and therapist-family/caregiver interactions, translating the clinic’s printed materials, and making phone calls, presumably to a patient’s family members with limited English proficiency.

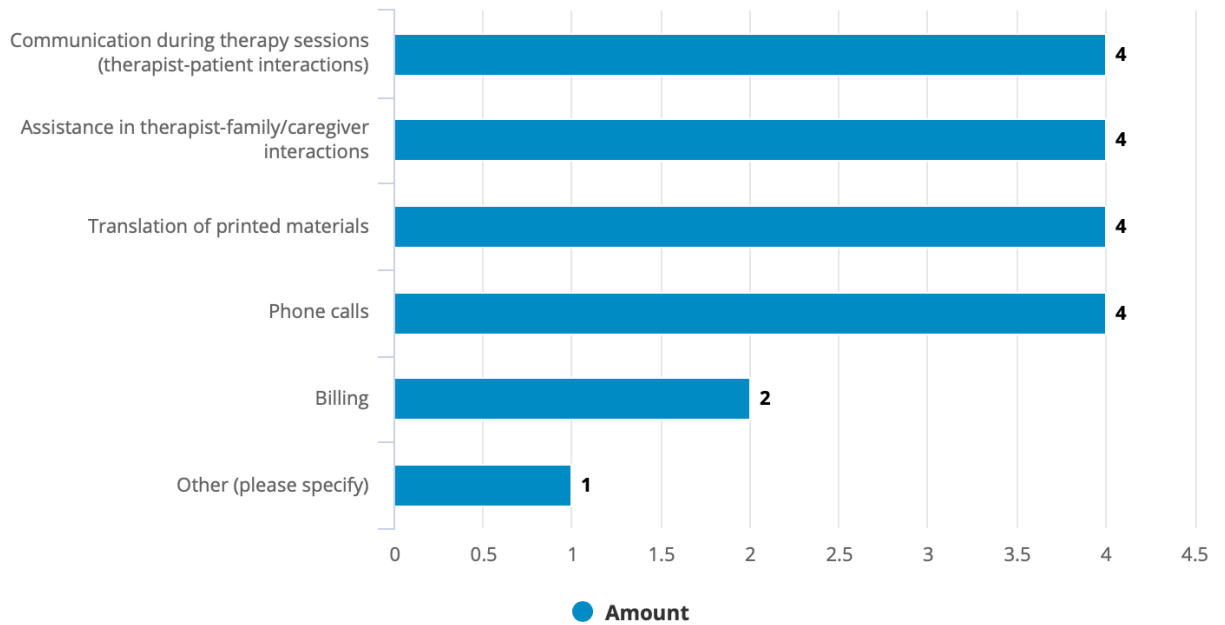


Figure 2. Services currently provided by employed interpreters at outpatient pediatric therapy clinics in Northwest Arkansas. The counts show the frequency with which an administrator or clinic manager indicated that the interpreter employed at their clinic provided that service. The participant that marked “other” did not specify a service.

The study results also give insight into the perceived need for bilingual services at outpatient pediatric therapy clinics in Northwest Arkansas. 70% of the occupational therapists surveyed have needed an interpreter in a therapy session with a patient. Figure 3 shows the languages of patients for which an occupational therapist needed an interpreter in the therapy session. The most common non-English language of patients for

which occupational therapists needed an interpreter was Spanish and the second most common language was Marshallese.

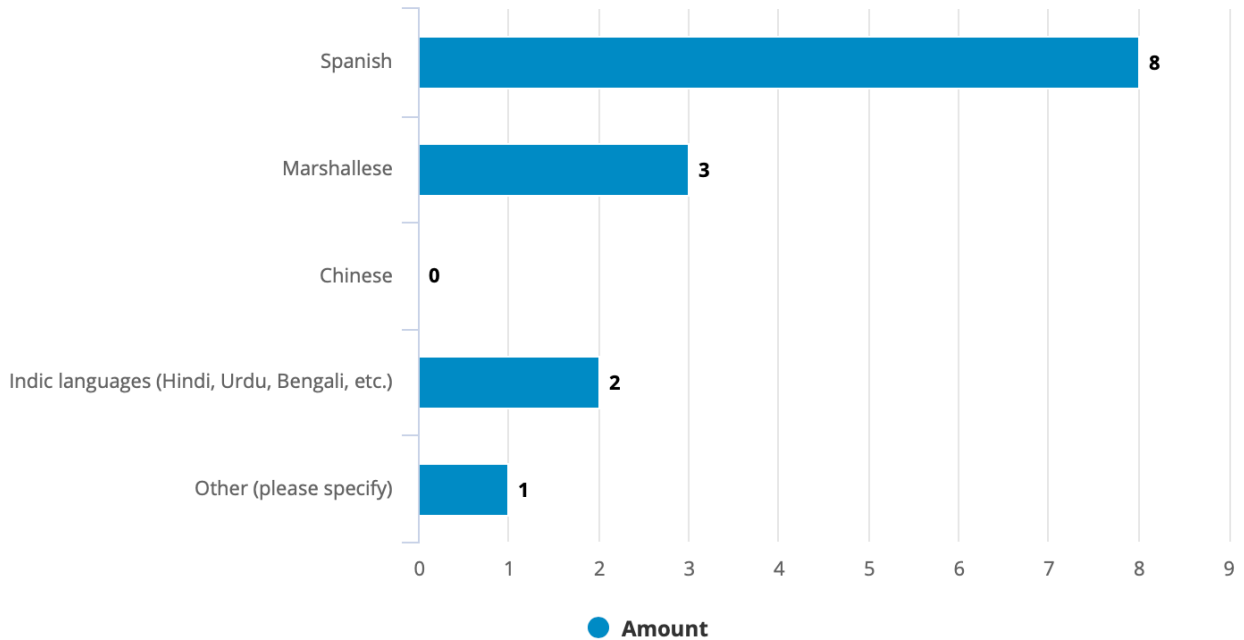


Figure 3. Non-English languages spoken by patients for which an interpreter was needed. The counts show the frequency with which an occupational therapist indicated that they had worked with a patient that spoke a non-English language and needed an interpreter for that therapy session. The participant that marked “other” did not specify a language.

100% of occupational therapists have needed an interpreter in interactions with a patient’s family members. Figure 4 shows the language of patients’ family members for which an occupational therapist needed an interpreter to communicate in their interactions. All occupational therapists indicated that they have needed a Spanish interpreter for interactions with a patient’s family members or caregiver. Two indicated that they have needed a Marshallese interpreter and one has needed an interpreter that spoke an Indic language.

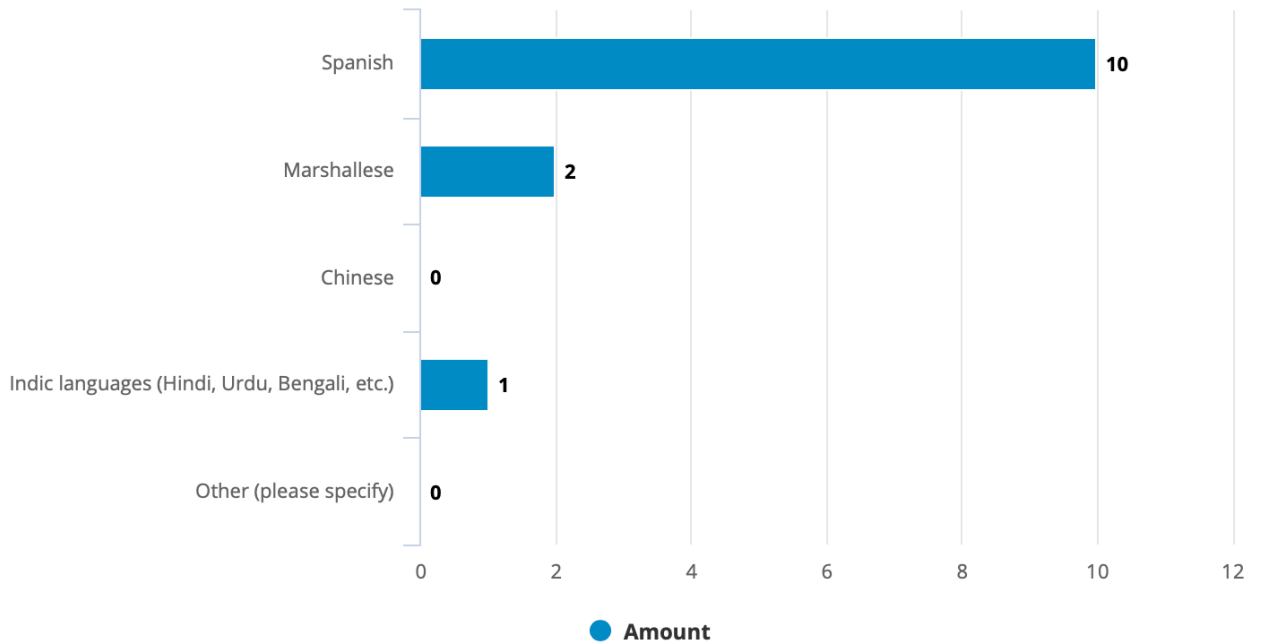


Figure 4. Non-English languages spoken by patients' family members or caregivers for which an interpreter was needed. The counts show the frequency with which an occupational therapist indicated that they had interacted with a patient's family member or caregiver that spoke a non-English language and needed an interpreter for that interaction.

Administrators and clinic managers also indicated the services for which they would like to employ interpreters. These services are shown in Figure 5. The top three services administrators and clinic managers would like interpreters to provide were assistance in therapist-family/caregiver interactions, translation of the clinic's printed materials, and making phone calls. Administrators and clinic managers also indicated a need for interpreter assistance in therapist-patient interactions and assistance with billing for patients with limited English proficiency.

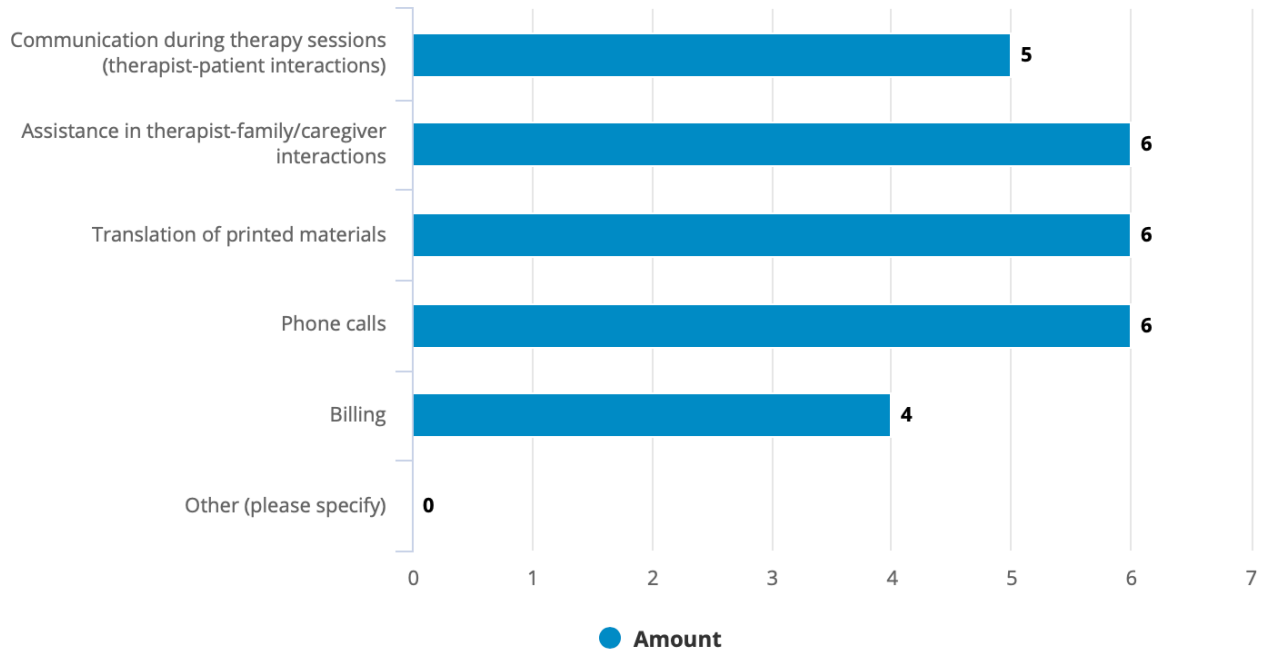


Figure 5. Services that administrators and clinic managers would like interpreters to perform at outpatient pediatric therapy clinics in Northwest Arkansas. The counts show the frequency with which an administrator or clinic manager indicated that they would like to employ an interpreter to provide that respective service.

77.78% of administrators and clinic managers said that they actively recruit bilingual occupational therapists for their clinic. There were only two languages for which the clinics needed bilingual occupational therapists: Spanish and Marshallese. Seven respondents indicated that they actively recruit Spanish-speaking occupational therapists and three respondents indicated that they actively recruit Marshallese-speaking occupational therapists. At the end of the survey, occupational therapists were asked to indicate their level of agreement or disagreement with two statements. The averages of their responses are shown in Figure 6. The mean level of agreement was 4.1 for the

statement that having a trained interpreter regularly available at their clinic would help them better fulfill their goals as an occupational therapist when working with bilingual patients and families. The mean level of agreement was 4.2 for the statement that employing bilingual Spanish-English occupational therapists would significantly improve their clinic’s ability to serve the Spanish speaking and Latino patients and families in the Northwest Arkansas area. Appendix B provides a table of the summary statistics for the responses to the two statements in Figure 6.

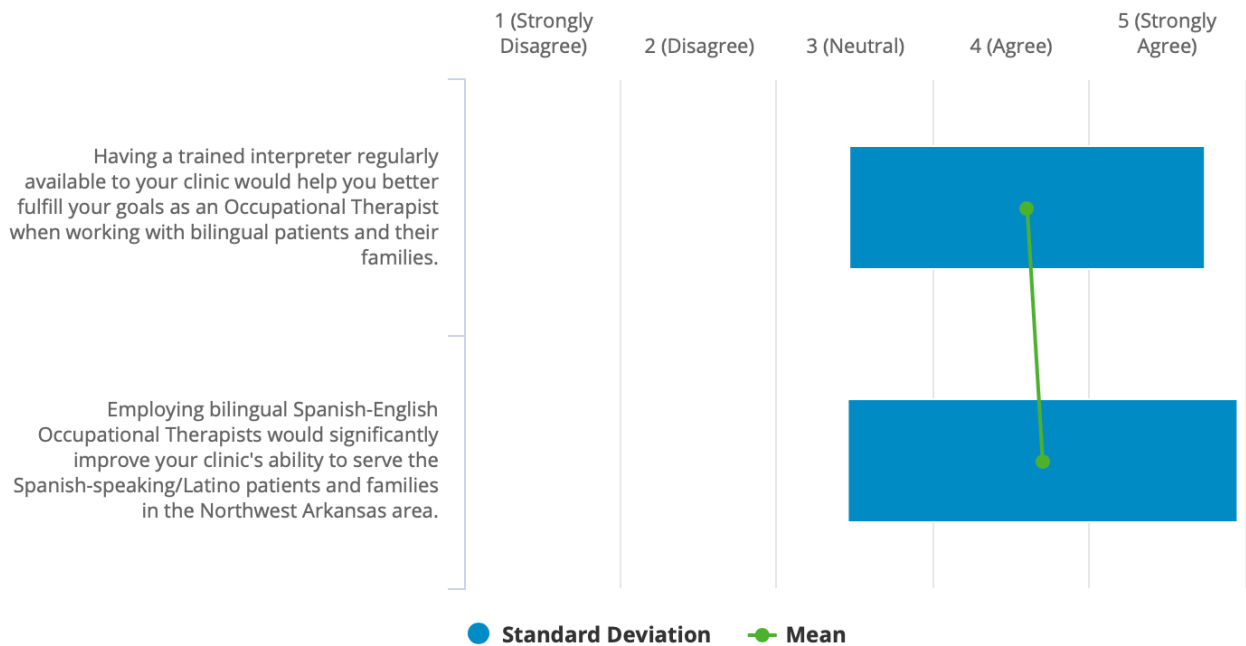


Figure 6. Occupational therapists’ level of agreement with statements regarding the impact of providing bilingual services at their clinic.

Additionally, the results of the study provide insight into administrators’ and clinic managers’ willingness to provide bilingual services at their outpatient pediatric therapy clinics. The overwhelming majority of administrators and clinic managers, 88.89% to be exact, were willing to employ trained Spanish-English interpreters. 75% of

administrators and clinic managers agreed that bilingual occupational therapists that practiced or interacted with patients or patients' family members or caregivers in their non-English language were providing an additional service, as shown in Figure 7.

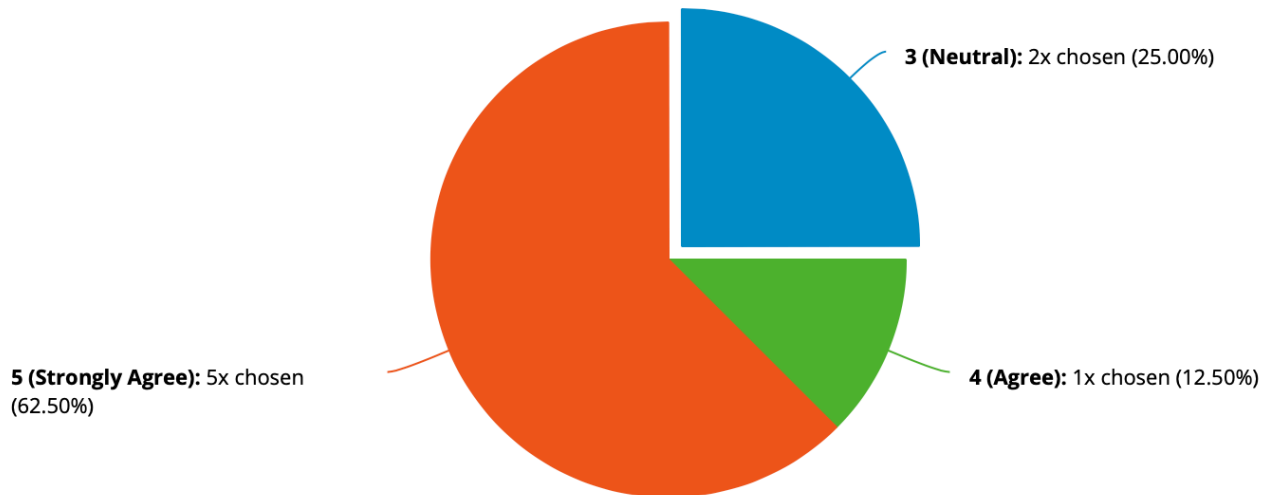


Figure 7. Administrators' and clinic managers' level of agreement with the statement that bilingual occupational therapists interacting with patients or family members in their non-English language were providing an additional service. Responses were given on a scale from 1 to 5, with 1 being strongly disagree and 5 being strongly agree.

Only 37.5% of administrators and clinic managers said that they currently pay a bilingual occupational therapist a higher salary. However, 75% of administrators and clinic managers indicated that they would be willing to pay a bilingual occupational therapist a higher salary.

Implications

The results of the study reveal a shortage of Spanish-speaking occupational therapists and interpreters for outpatient pediatric therapy clinics in Northwest Arkansas. There is also a need for occupational therapists and interpreters that speak Marshallese.

Due to the demographic demand of the large Latino and Spanish-speaking population in Northwest Arkansas, many of which have limited English proficiency, outpatient pediatric therapy clinics in the region need services to increase language access for Spanish-speaking patients and families. Current practices indicate widespread communication barriers between occupational therapy providers and Spanish-speaking patients and families. As a pediatric health care service, it is absolutely essential that the occupational therapist can communicate with the patient's parents to discuss their child's diagnosis, behavioral difficulties, treatment plans and goals, and implementation of practices and skills at home to encourage behavioral continuity. One monolingual English-speaking occupational therapist that participated in the study commented that having an interpreter or bilingual services "would be especially helpful in regards to explaining home programs and promoting follow through within the home environment".

An important component of occupational therapy is helping the patient to take the concepts and skills they have learned in therapy sessions and use them at home, school, and other every day environments. Only then have the patient and provider truly met their goal of obtaining independence in daily-life situations and occupations. A clinic manager that participated in the study commented that they employ bilingual therapists and bilingual support staff in the front office and these employees "are an integral part of our team, and they make our day to day operations much easier all while providing a much needed service to our Spanish speaking families". Without open and effective communication between the patient's parents and their occupational therapist, in which parents can voice their questions and concerns and the occupational therapist can ensure the parents' understanding, it is extremely difficult for a child to fully carryover what

they learned in therapy to the home and school environment. It is also important that the parents and their child can discuss concepts and skills from therapy in their home language. This allows parents to reinforce positive behaviors, learned skills, and appropriate attitudes in a language in which they are comfortable and which the child understands. These open interactions and teaching moments from the parents allow the child and their parents to develop and maintain strong familial bonds, promoting the child's growth and development in a supportive and interactive home environment.

The results of the study also revealed a common practice of working with untrained interpreters in interactions with both patients and patients' family members. As other studies have demonstrated, working with untrained interpreters greatly increases the instances of communication errors and misunderstanding between the patient or the patient's family and their health care provider. Untrained interpreters are much more likely to omit information in their interpretation, resulting in a loss of information in the exchanges between patient or family side and the provider side. Loss of information can significantly impact a parent's ability and effectiveness of implementing their child's home therapy practices. Loss of information can also impact an occupational therapist's ability to understand and answer a parent's questions or concerns regarding their child. An occupational therapist that participated in the study commented that they appreciated "having an 'official' interpreter versus informal, because they are truly interpreting for each person and not summarizing".

In working with Spanish-speaking patient and family populations with limited English proficiency, bilingual, culturally competent providers are ideal. When a Spanish-speaking occupational therapist is available, the patient and the therapist are able to

communicate and interact more directly, increasing their interpersonal rapport and therapeutic alliance. When a child's occupational therapist speaks Spanish, this also allows the parents to speak directly to the provider of their child's treatment services. However, not all occupational therapists are bilingual and, even when occupational therapists are bilingual, they may speak a non-English language that is different than the non-English language of the patient or the patient's family. Because of this, interpreters are necessary when a bilingual provider is not available. As other research has shown, in-person interpreters are preferable for health care settings with highly educational or psychosocial components, such as occupational therapy. Outpatient pediatric therapy clinics with significant Spanish-speaking patient and family populations should strongly consider the employment of a culturally competent, trained Spanish-English interpreter to ensure the highest quality and most effective therapy services for all of their patients. Some clinics, however, may only have one or two patients of Spanish-speaking background or may have difficulty with maintaining adequate resources to take on the employment of additional personnel in order to have an in-clinic interpreter. In these instances, VMI services have been identified as the next best option and a more cost-effective method of ensuring quality care for patients and families of all linguistic and cultural backgrounds.

Limitations & Recommendations for Future Study

This study had several limitations. As an undergraduate honors thesis, research was conducted within a limited time-frame. The limited time-frame resulted in a small sample size for the study, although the sample was still likely a fair representation of the population of occupational therapy providers confined to the Northwest Arkansas region.

Of the 20 clinics contacted to request their participation in the study, only 6 clinics participated. As a result of the low participation rate from the clinics in the Northwest Arkansas area, there is a problem of double counting of clinics in the results since some occupational therapists and administrators or clinic managers are employed by the same clinic. Due to the anonymity of the responses, this problem of double counting cannot be corrected for in the results. Additionally, the study was not able to research the views of Spanish-speaking families with children receiving occupational therapy services to gain insight into their views of bilingual Spanish-English therapy services.

Future research should look into the perceptions of Spanish-speaking families on the need for and value of bilingual Spanish-English occupational therapy options for their children. This would provide a more balanced view of bilingual practice, including both the patient and provider side, and allow clinics to more completely assess the needs for their area. Additionally, future research should examine the need for bilingual therapy services for the Marshallese population in Northwest Arkansas. As the second most common language for which interpreters were needed in this study and due to the large Marshallese population in Northwest Arkansas, there is clearly a need in the region for Marshallese language services. A study involving the implementation of in-person interpretation or VMI services into an outpatient pediatric therapy setting would allow for an assessment of the effects of culturally competent and linguistically accessible therapy services for patients and families of various language backgrounds. Finally, further research could examine the effects of bilingual occupational therapy services on home language maintenance for children receiving bilingual services.

The abundance of areas for future research reinforces the current value of this study and the impact of bilingual Spanish-English language services for patients, families, and providers in outpatient pediatric occupational therapy in Northwest Arkansas. The issue of culturally and linguistically competent health care and pediatric occupational therapy is inextricably linked to the public education system, governmental policies regarding language access and services, professional interpretation practices, and the population dynamics of the United States. As such, the implications of this study lend themselves to future study in multiple disciplines and encourage a broad impact on health care, education, policy, and professional interpretation to foster the sustainability of the cultural and linguistic diversity in Arkansas and the United States as a whole.

References

- American Occupational Therapy Association (2015). Standards of practice for occupational therapy. *American Journal of Occupational Therapy*, *69*, 1-6. doi: 10.5014/ajot.2015.696S06
- Arkansas Advocates for Children and Families (2018). Child Poverty in Northwest Arkansas [PDF file]. Retrieved from <http://www.aradvocates.org/wp-content/uploads/AACF-NWA-pov.webfinal.9.7.18.pdf>
- Bagchi, A. D., Dale, S., Verbitsky-Savitz, N., Andrecheck, S., Zavotsky, K., & Eisenstein, R. (2011). Examining effectiveness of medical interpreters in emergency departments for Spanish-speaking patients with limited English proficiency: Results of a randomized controlled trial. *Annals of Emergency Medicine*, *57*, 248-256. doi:<https://doi-org.library.uark.edu/10.1016/j.annemergmed.2010.05.032>
- Bedore, L. M., & Peña, E. D. (2008). Assessment of bilingual children for identification of language impairment: Current findings and implications for practice. *International Journal of Bilingual Education and Bilingualism*, *11*, 1-29. doi:10.2167/beb392.0
- Bialystok, E. (2007). Cognitive effects of bilingualism: How linguistic experience leads to cognitive change. *International Journal of Bilingual Education and Bilingualism*, *10*, 210-223. doi:10.2167/beb441.0
- Blom, E., Küntay, A. C., Messer, M., Verhagen, J., & Leseman, P. (2014). The benefits

of being bilingual: Working memory in bilingual Turkish-Dutch children. *Journal of Experimental Child Psychology*, 128, 105-119. doi:

10.1016/j.jecp.2014.06.007.

Bridges, A. J. & Anastasia, E. A. (2016). Enhancing and improving treatment engagement with Hispanic patients. In W. O'Donohue & L. Benuto (Eds.), *Enhancing Behavioral Health in Hispanic Populations: Eliminating Disparities Through Integrated Behavioral and Primary Care* (125-143). Cham, Switzerland: Springer International Publishing.

Cummins, J. (2001). Bilingual children's mother tongue: Why is it important for education?. *Sprogforum*, 7(19), 15-20.

CUNY Mapping Service at the Center for Urban Research – CUNY Graduate Center (2017). Census 2020 Hard to Count Map. Retrieved April 1, 2019, from <https://www.censushardtocountmaps2020.us>

Data USA (2019). Occupational Therapists. Retrieved April, 9, 2019 from <https://datausa.io/profile/soc/291122/>

Department of Health & Human Services (2011). HHS Action Plan to Reduce Racial and Ethnic Health Disparities [PDF file]. Retrieved from

https://minorityhealth.hhs.gov/npa/files/plans/hhs/hhs_plan_complete.pdf

Dillard, M., Andonian, L., Flores, O., Lai, L., MacRae, A., & Shakir, M. (1992).

Culturally competent occupational therapy in a diversely populated mental health setting. *The American Journal of Occupational Therapy*, 46, 721-726. doi:

10.5014/ajot.46.8.721

Flores, G., Abreu, M., Barone, C. P., Bachur, R., & Lin, H. (2012). Errors of medical

interpretation and their potential clinical consequences: A comparison of professional versus ad hoc versus no interpreters. *Annals of Emergency Medicine*, 60, 545-553. doi: <https://doi-org.library.uark.edu/10.1016/j.annemergmed.2012.01.025>

Grosjean, F. (2010). *Bilingual*. Cambridge, Massachusetts: Harvard University Press.

Guardado, M. (2006). Engaging language and cultural spaces: Latin American parents' reflections on language loss and maintenance in Vancouver. *Canadian Journal of Applied Linguistics*, 9(1), 51-72.

Hampton, S., Rabagliati, H., Sorace, A., & Fletcher-Watson, S. (2017). Autism and bilingualism: A qualitative interview study of parents' perspectives and experiences. *Journal of Speech, Language, and Hearing Research*, 60, 435-446. doi: 10.1044/2016_JSLHR-L-15-0348.

Hsieh E. (2014). Not just "getting by": factors influencing providers' choice of interpreters. *Journal of general internal medicine*, 30(1), 75-82.

LaVeist, T. A., Gaskin, D. J., & Richard, P. (2009). *The economic burden of health inequalities in the United States*. Washington, D.C.: Joint Center for Political and Economic Studies.

Leidy, M. S., Guerra, N. G., & Toro, R. I. (2010). Positive parenting, family cohesion, and child social competence among immigrant Latino families. *Journal of Family Psychology*, 24, 252-260. doi: 10.1037/a0019407

Martinez, J. & Leland, N. (2015). Language discordance and patient-centered care in occupational therapy: A case study. *The Occupational Therapy Journal of Research*, 35, 120-128. doi: 10.1177/1539449215575265

Nápoles, A. M., Santoyo-Olsson, J., Karliner, L. S., Gregorich, S. E., & Pérez-Stable, E. J. (2015). Inaccurate Language Interpretation and Its Clinical Significance in the

Medical Encounters of Spanish-speaking Latinos. *Medical care*, 53(11), 940-7.

National Council of La Raza (2009). Profiles of Latino Health: The top twelve questions about Latinos and health care [PDF file]. Retrieved from

<http://publications.unidosus.org/handle/123456789/1403>

National Council on Interpreting in Health Care (2011). National Standards for

Healthcare Interpreter Training Programs [PDF file]. Retrieved from

https://www.ncihc.org/assets/documents/publications/National_Standards_5-09-11.pdf

Peña, E. D. (2016). Supporting the home language of bilingual children with

developmental disabilities: From knowing to doing. *Journal of Communication Disorders*, 63, 85-92. doi: 10.1016/j.jcomdis.2016.08.001.

Pope, C. A., Escobar-Gomez, M., Davis, B. H., Roberts, J. R., O'Brien, E. S., Hinton, E.,

& Darden, P. M. (2016). The challenge of tetradic relationships in medically interpreted pediatric primary care visits: A descriptive study of communication

practices. *Patient Education and Counseling*, 99, 542-548. doi: <https://doi-org.library.uark.edu/10.1016/j.pec.2015.10.032>

Price, E. L., Pérez-Stable, E. J., Nickleach, D., López, M., & Karliner, L. S.

(2012). Interpreter perspectives of in-person, telephonic, and videoconferencing medical interpretation in clinical encounters. *Patient Education and Counseling*,

87, 226-232. doi: <https://doi-org.library.uark.edu/10.1016/j.pec.2011.08.006>

UAMS Fay W. Boozman College of Public Health – Department of Epidemiology

(2012). Health Status of Latinos in Arkansas [PDF file]. Retrieved from <http://publichealth.uams.edu/wp-content/uploads/sites/3/2012/06/2012-Latino-report-Feb-2013.pdf>

United States Census Bureau (2018). U.S. Census Bureau QuickFacts: Benton County, Arkansas; Washington County, Arkansas; Arkansas; UNITED STATES. Retrieved April 1, 2019, from <https://www.census.gov/quickfacts/fact/table/bentoncountyarkansas,washingtoncountyarkansas,ar,US/RHI725217>

Appendix A

Survey Questions

The following tables provide a list of the questions included in the study. Table A1 provides the list of questions included in the survey of occupational therapists working in an outpatient pediatric setting in Northwest Arkansas. Table A2 provides the list of questions included in the survey of administrators and clinic managers at outpatient pediatric therapy clinics offering occupational therapy services in Northwest Arkansas.

Table A1

Occupational Therapist Survey Questions

Survey Question	Possible Responses
Are you bilingual or multilingual?	Yes/No
If so, in what languages are you fluent?	
Have you ever worked with a patient that speaks a language other than English?	Yes/No
If so, what language(s)?	Spanish, Marshallese, Chinese, Indic Languages (Hindi, Urdu, Bengali, etc.), Other (please specify)
Have you ever worked with a patient that has family members that speak a language other than English?	Yes/No
If so, for what language(s)?	Spanish, Marshallese, Chinese, Indic Languages (Hindi, Urdu, Bengali, etc.), Other (please specify)
Have you ever needed an interpreter in a therapy session?	Yes/No
If so, for what languages?	Spanish, Marshallese, Chinese, Indic Languages (Hindi, Urdu, Bengali, etc.), Other (please specify)
Have you ever needed an interpreter in interactions with a patient's family members?	Yes/No

If so, for what language(s)?	Spanish, Marshallese, Chinese, Indic Languages (Hindi, Urdu, Bengali, etc.), Other (please specify)
Does your clinic currently employ an interpreter?	Yes/No
If so, for what language(s)?	Spanish, Marshallese, Chinese, Indic Languages (Hindi, Urdu, Bengali, etc.), Other (please specify)
If so, have the interpreter(s) received proper training and/or certification?	Yes/No
Have you ever worked with a trained interpreter in a therapy session?	Yes/No
Have you ever worked with a trained interpreter in interactions with a patient's family members?	Yes/No
Have you ever worked with an untrained interpreter in a therapy session?	Yes/No
Have you ever worked with an untrained interpreter in interactions with a patient's family members?	Yes/No
On a scale of 1 to 5, with 1 being strongly disagree, 3 being neutral, and 5 being strongly agree, indicate your level of agreement with the following statements: <i>1) Having a trained interpreter regularly available to your clinic would help you better fulfill your goals as an occupational therapist when working with bilingual patients and their families.</i> <i>2) Employing bilingual Spanish-English occupational therapists would significantly improve your clinic's ability to serve the Spanish-speaking/Latino patients and families in the Northwest Arkansas area.</i>	1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), 5 (Strongly Agree)

Table A2

Administrator & Clinic Manager Survey Questions

Survey Question	Possible Responses
Have you ever needed a bilingual occupational therapist for interactions with a patient?	Yes/No
If so, approximately what percentage of those interactions have needed to be in Spanish?	0-25%, 26-50%, 51-75%, 76-100%
Have you ever needed a bilingual occupational therapist for interactions with a patient's family members?	Yes/No
If so, approximately what percentage of those interactions have needed to be in Spanish?	0-25%, 26-50%, 51-75%, 76-100%
Have you ever needed a trained interpreter for interactions with a patient?	Yes/No
If so, approximately what percentage of those interactions have needed to be in Spanish?	0-25%, 26-50%, 51-75%, 76-100%
Have you ever needed a trained interpreter for interactions with a patient's family members?	Yes/No
If so, approximately what percentage of those interactions have needed to be in Spanish?	0-25%, 26-50%, 51-75%, 76-100%
Do you currently employ bilingual occupational therapists?	Yes/No
If so, how many do you employ?	
If so, how many of those bilingual occupational therapists are fluent in Spanish?	
Do you actively recruit trained Spanish-English interpreters?	Yes/No
Do you currently employ trained interpreters?	Yes/No
If so, check all services below that trained interpreters currently perform	Communication during therapy sessions (therapist-patient interactions), assistance

	in therapist-family/caregiver interactions, translation of printed materials, phone calls, billing, other (please specify)
If so, how many do you employ?	
If so, how many of those interpreters are fluent in Spanish?	
Would you be willing to employ trained Spanish-English interpreters?	Yes/No
If so, what services would you like them to provide? Check all that apply.	Communication during therapy sessions (therapist-patient interactions), assistance in therapist-family/caregiver interactions, translation of printed materials, phone calls, billing, other (please specify)
Do you actively recruit bilingual occupational therapists?	Yes/No
If so, for what languages do you recruit?	Spanish, Marshallese, Chinese, Indic Languages (Hindi, Urdu, Bengali, etc.), Other (please specify)
On a scale of 1 to 5, with 1 being strongly disagree, 3 being neutral, and 5 being strongly agree, indicate your level of agreement with the following statement: <i>Bilingual occupational therapists that practice or interact in their non-English language with patients or patients' family members, caregivers, etc. are providing an additional service.</i>	1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), 5 (Strongly Agree)
Do you pay bilingual occupational therapists a higher salary?	Yes/No
Would you be willing to pay a bilingual occupational therapist a higher salary?	Yes/No

Appendix B

Summary Statistics for Responses to the Statements Provided in Figure 6

	Statement 1	Statement 2
Mean	4.1	4.2
Standard Error	0.3786	0.4163
Median	4	5
Mode	4	5
Standard Deviation	1.1972	1.3166
Range	4	4
Minimum	1	1
Maximum	5	5