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Rosemary J. Gallegos

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**Rosemary J. Gallegos**

*Candidate*

**Teacher Education, Educational Leadership and Policy**

*Department*

This dissertation is approved, and it is acceptable in quality and form for publication:

*Approved by the Dissertation Committee:*

Allison M. Borden, Ed.D., Chairperson

Sheri Williams, Ed.D.

Viola Florez, Ed.D.

Ronald Stern, Ed.D.

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**INTERACTION WITH DEAF OR HARD OF HEARING INDIVIDUALS AND  
DECISIONS MADE BY IEP TEAM MEMBERS**

By

**Rosemary J. Gallegos**

B. S., Education, New Mexico State University, 1981  
M. Ed., Special Education, University of Arizona, 1984

DISSERTATION

Submitted in Partial Fulfillment of the  
Requirements for the Degree of

**Doctor of Education  
Educational Leadership**

The University of New Mexico  
Albuquerque, New Mexico

**May, 2016**

## **Dedication**

This dissertation is dedicated to New Mexico's deaf and hard of hearing children and their families who I have had the privilege of knowing over the past 30 years. You have inspired me with your spirit and determination and have given me the motivation to work harder to learn how to serve you better.

## Acknowledgements

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I am most grateful for the help of the Superintendents and staff at the state schools for the deaf in California, Florida, New Mexico, Texas, and Washington and my colleague at the California Department of Education for helping me get the survey out to potential respondents. This research could not have been done without you.

Thank you most deeply to my husband, Robert, and children Rebekah and Stephen for your encouragement and belief that I should actually go back to school and pursue my Ed.D. and for always challenging me to think bigger about diversity, love, and acceptance.

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I would like to acknowledge all the New Mexico School for the Deaf teachers, early interventionists, leadership teams, support staff, and alumni. Your commitment to and enthusiasm for NMSD and its mission and vision has given me reason to persevere during this four-year commitment.

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Finally, thank you to my deaf friends and colleagues who have trusted and accepted me throughout the years and allowed me to work with you to better the education of our deaf and hard of hearing students in New Mexico. You were the inspiration for exploring how deaf and hearing educators forge relationships that result in positive outcomes for children and students.

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Ed. D., Educational Leadership, The University of New Mexico, 2016

**ABSTRACT**

The purpose of this study was to explore the relationships between the characteristics of IEP (Individual Education Program) team members and the decisions they make for deaf and hard of hearing students under the constraints of the Individuals with Disabilities Education Act (IDEA). I used a sociocultural framework and Intergroup Contact Theory (ICG) (Rodenburg & Boisen, 2013) to posit the importance of the amount and type of interactions between deaf and hearing individuals in reducing prejudice by the majority group (not deaf or hard of hearing) and developing the empathy needed by decision makers who are often hearing in promoting equitable learning environments for deaf and hard of hearing students.

I developed and piloted a questionnaire titled "Education for Deaf and Hard of Hearing Students" (EDHH). The EDHH was self-administered and asked IEP team members about the kind of specialized or informal training they have received, the frequency, type, and quality of interaction they have had with individuals who are deaf or hard of hearing, their attitude about deafness, their beliefs about communication and

language accessibility issues, and their beliefs about educational placements for students. I sampled 269 IEP team members in residential special schools for the deaf and in regular schools or regional programs from the following states, New Mexico, California, Texas, Washington, and Florida.

I tested bivariate relationships and based on this study, I found an association exists between the characteristics of IEP team members in terms of their knowledge of deaf education, their interaction with deaf and hard of hearing individuals, their beliefs about placement, and their beliefs about access. Additionally, descriptive analyses of the responses from and across each state suggest trends for further exploration and policy discussions.

Given the results of this study, policy action plans at the local, state, and federal level should require implementers of IDEA such as principals and teachers to have specialized training in the education of deaf and hard of hearing students and greater contact with deaf and hard of hearing individuals.



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## Chapter I: Introduction

The broad notion of the *Individuals with Disabilities Education Act (IDEA, 2004)* reflects the ideals of the decision in *Brown v. Board of Education (Brown v. Board of Education of Topeka, 347 U.S. 483, 1954)* in promoting civil rights and education equality. Through a main tenet of the law, least restrictive environment (LRE), the preference is that children with disabilities are educated with children who are nondisabled (CFR 300.114 ((a)(2)(i)(ii)) establishing the concept of inclusion versus segregation. Theoretically, inclusion promotes the breaking down of distinctions between regular and special education and reduces the perception that children with special needs do not fit and should be educated somewhere else (Connor, 2013; Osgood, 2002).

While the construct of inclusion appears to be necessary to a socially and educationally just system for students with disabilities, the *IDEA* and LRE have resulted in negative unintended consequences for deaf and hard of hearing children. The problem with inclusion is not the ideal to which the concept aspires. Who does not want to be included? The problem lies with assuming that placing children together for equal access to the regular education environment actually transpires into equal access and inclusion. Consider deaf and hard of hearing children who experience language and communication segregation in their neighborhood school. They are separated from their educational surroundings because they do not hear instructional or social conversations in the classroom, in the hallways, in the cafeteria, or at recess. They do not have the same access as hearing students. They are denied the opportunity for learning through the natural flow of the exchange of ideas with any peer or adult at any



time of their choosing because no one except maybe their interpreter knows their language. Public schools are designed for children who hear not for children who use their eyes to obtain language. Language and communication exclusion precludes the deaf or hard of hearing child from participating in complex human interactions necessary for forming a relationship with teachers, making friends, and accessing a standard of educational quality (COED Report, 1988; Ramsey, 1997; Siegel, 2008).

Implementation of the 2004 *Individuals with Disabilities Education Act (IDEA)* and the tenet of Least Restrictive Environment (LRE) is the responsibility of a prescribed team that creates an Individual Educational Program (IEP) for students who are determined eligible for special education (20 U.S.C. 1414 (d)(1)(A); (d)(6)). This team is composed of individuals at the school level who make decisions about educational services and placements for students. The composition of IEP team member roles is prescribed by *IDEA*. These are a regular education teacher, a special education teacher, a representative of the public agency who is knowledgeable about and can commit services, an individual who can interpret evaluation results, and any other person with knowledge or expertise of the child (CFR 300.321).

Most of the educators and administrators on IEP teams making decisions for deaf and hard of hearing students are not deaf or hard of hearing themselves (Simms, Rusher, Andrews, & Coryell, 2008). Through the requirements of *IDEA*, we know the required composition of IEP team members and as Simms, Rusher, Andrew, and Coryell (2008) reported, we know that they are mostly individuals that are not deaf or hard of hearing. We do not know the motivators for their decisions as they apply the tenet of LRE for individual students. Even though there is a strong preference for inclusion in

the law and a persistence by the courts of applying a lower educational standard (Jackson, 2010; MacFarlane, 2012; Zirkel, 2008), IEP teams still have, under various clauses of *IDEA*, discretion to make individual decisions for students that will place them in environments that are more individually calculated to give them equitable access to the curriculum. In fact, *IDEA* mandates that a student's unique needs must be considered through an "individualized education program" (IEP) (20 U.S.C. 1414 (d)(1)(A) and (d)(6)) and "must ensure a continuum of placement options" (CFR 300.115 (a)).

Despite the flexibility in *IDEA* to make individual decisions regarding the least restrictive environment and robust reform efforts followed by advocacy by deaf leaders, resultant laws, regulations, and guidance statements have not changed the prevailing application of LRE; implementation of *IDEA* for students who are deaf or hard of hearing continues to be confounded by the overarching interpretation of LRE that inclusion with non-disabled peers is the cornerstone of the law for all children (Cerney, 2002).

Policy makers interested in changing the implementation of LRE for students who are deaf and hard of hearing may need to focus reform efforts on policy implementers, such as teachers and administrators, most of who are not deaf or hard of hearing. These individuals have compelling discretion through the IEP process to make educational decisions for students and thus influence their life trajectories, yet may be making decisions absent sufficient information or resources (Lipsky, 2010). This research explored characteristics of IEP team members that are needed to implement

the intended outcomes of educational policy reform enacted on behalf of students who are deaf and hard of hearing.

### **Autobiographical Narrative**

At the time of this study, I was serving as the Superintendent of the New Mexico School for the Deaf. I come to this topic with 33 years of experience as a teacher and educational leader in the field of deaf education buoyed by compelling interactions with deaf and hard of hearing students, their parents, and deaf colleagues. My journey started in 1981. As a first year teacher with a bachelor's degree in elementary education, certification in special education, and no pedagogical course work in teaching deaf children, I was quickly offered a job in a rural community teaching a class of deaf students ages 7 through 14. I immediately realized I did not have the necessary skills to teach these students effectively or advocate for their educational needs and after a year left to pursue a Master's degree in deaf education. On graduation, I began working at the New Mexico School for the Deaf (NMSD) and in this setting have witnessed and been a part of the historical evolution of deaf education.

The series of events that have shaped deaf education has also paralleled my own transformation and self-realization. As a policy creator and implementer at the school level, I have come to acknowledge the positive influence I have had on the field as well where I may be a part of the problem of failing to create an environment for equity. This proposition does not devalue my own or the contribution of non-deaf experts in the field of deaf education. I have had the incredible honor of working in dynamic teams, composed of hearing and deaf educators that have created positive change for children in our state. However, as I have come to realize that racism is perpetuated by a

denial that racism exists, it has also grown clear to me that failing to analyze my motives for pushing and creating educational protocol and policy can manifest in processes that lead to low standards of educational quality for deaf children. At worst, lack of self-awareness may allow me to participate in perpetuating a system that allows for isolation and language segregation of deaf children.

Not being deaf, I continue to evolve as an insider and outsider in gaining a deep understanding of the educational needs of children who are deaf or hard of hearing. As an insider, I have multiple persistent collegial relationships with deaf professionals and have provided direct services as a teacher and early interventionist to many deaf students and their families. I am a native New Mexican and have a deep affinity for maintaining NMSD as an invaluable educational resource for our state. As a hearing person and an outsider, I am limited in fully understanding the needs of a deaf or hard of hearing child and must constantly check in to balance my perspectives and initiatives with the feedback and reflection of deaf colleagues, students, and their parents. I have come to understand how my status as a non-deaf person in a power position may have unintentionally led to decisions that may not have always been the most optimal for students who are deaf.

As the Assistant Superintendent at the New Mexico School for the Deaf I was responsible for those programs that reach out to all corners of the state. NMSD provides expertise and resources in the homes and communities for families with infants and toddlers and educational consultation in schools for students who do not attend the main school campus. I was also responsible for the execution of IDEA for on and off campus programs and for helping the state and NMSD frame itself within

broader educational policy and mandates. In this role, I set forth guidance for our internal protocols on the IEP process for NMSD students and its interaction with school districts in the state. I have participated in and facilitated numerous IEPs for students of all ages for decades. I have full understanding of the possibilities inherent in these meetings as a dynamic process in creating educational plans for students that meet their individual needs and prioritize true access to and development of language and communication as key factors in educational success.

While conducting this study, I was appointed Superintendent of New Mexico School for the Deaf and have an added responsibility to children in New Mexico to see that they and their families have adequate information to determine what constitutes a language and communication accessible environment and that the academic programs offered by NMSD are thoroughly explored as an instructional option.

In many ways, this research brings me full circle to my first professional experience as a new teacher 33 years ago who met all state requirements to teach but was severely underprepared to teach deaf children. After many years of civil rights movements by the deaf, the advancement of deaf individuals in positions of power in education, the acknowledgement of ASL as a language and deaf as a culture, direct reforms to IDEA, and national accountability standards that were meant to leave no child behind, I continue to witness children receiving educational services from passionate and well meaning, but unqualified staff, in educational environments where deaf children are alone, with no one with whom to communicate. As a result, children are not able to access what any other child takes for granted, the on-going flow of human interaction, true relationships, learning that is dependent on common use of a

language, and the resources necessary to develop increasingly sophisticated communication, language, and thinking skills.

In many years of experience watching the robust reform instituted in IDEA by deaf and hearing advocates and attempting to help the general practitioner and state and local policy enforcers understand the significance of the reforms, I can say that my efforts have created awareness but not the deep understanding necessary for change. This research helped me explore how we change minds and frames of reference. How do we help educators who are making educational and life-altering decisions for deaf children at the IEP table come to a greater understanding of the reasons behind the reforms in IDEA so that children who are deaf or hard of hearing have an equitable opportunity to education?

### **Theoretical Framework**

The theoretical framework for this study is a sociocultural perspective of disability that ascertains that to be “able” or “disabled” is relative to the environment in which people interact and to the constructs imposed by history (Connor, 2013; Danforth, 2008; Hehir, 2010). Deaf and hard of hearing individuals are constrained only when others in their significant and incidental milieu have low expectations, do not use American Sign Language (ASL), and make inaccessible or devalue visual approaches to retrieving information such as reading, captions, and adequate lighting. Individuals who are deaf or hard of hearing become disabled because of the limitation of their social, developmental, and educational settings in promoting engagement and interaction (Lederberg, Schick, & Spencer, 2012). To place this in context, consider a hearing person who does not use sign language experiencing oppression,

marginalization, or a sense of being disabled on the campus of Gallaudet University, a liberal arts college for the deaf, when faced with a community of signers where only sign language (with no voice) is being used. Though this is a weak comparison, as a hearing person can walk off campus into a world that uses their language and they can still visually access the unfamiliar language, a hearing person experiences a unique sense of isolation and not belonging in this situation.

The deaf have experienced a history of overt oppression beginning in the 1890's with Dr. Alexander Bell who criticized schools for the deaf for promoting intermarriage among deaf persons and thus causing an increase in number of deaf children (Gannon, 1981). They are also constrained by a subtle but no less harmful form of prejudice that parallels aversive racism (Gaertner & Dovidio, 2005). This occurs when others have low expectations of deaf individuals' potential, who purposefully or unwittingly oppress their personhood due to attitudes that embrace the notion that a deaf person is disabled and needs to be taken care of or needs to be fixed in order to conform with an arbitrary standard of the construct of "normal" (Connor, 2013). The unintended consequences of LRE of placing deaf and hard of hearing children amid an overwhelming majority of other children and adults who cannot interact with them directly and fluidly (a smooth exchange of language and ideas) continues to exacerbate the attempted normalization of deaf people and ignore the imperative of on-going communication interactions between humans (Bronfenbrenner & Ceci, 1994). The precepts of equality heralded by *Brown* and promoted by *IDEA* essentially impede the constitutional right to freedom of speech when deaf and hard of hearing children are not allowed the opportunity to

access and develop language and communication (Humphries, Kushalnagar, Mathur, Napoli, Padden, Rathmann, & Smith, 2013; Siegel, 2008).

With the education of deaf children, we have an unavoidable contradiction. Segregation from hearing students by placement in schools for the deaf is many times the most appropriate educational setting to ensure true integration or inclusion in the learning and social environment. The individuals who can help a hearing educator understand this contradiction are deaf educators. When educational services are centralized at schools for the deaf, there is a purposeful formation of leaders, teachers, and support staff that are deaf and native signers. These deaf professionals often do not have regular or even periodic interaction with hearing educators working in public schools. This distance of deaf professionals and leaders at schools for the deaf from educators who are primarily hearing in public schools results in less contact and can lead to greater misunderstanding between a minority (deaf) and majority (hearing) group.

In order to explore how prejudice may be reduced and attitudes can be influenced toward a sociocultural perspective by persons on IEP teams who are primarily hearing (not deaf), it is important to understand what constructs are used when making educational and placement decisions for a student who is deaf or hard of hearing. IEP team members come to the task of creating an educational plan for a child who is deaf or hard of hearing with a set of knowledge, attitudes, and beliefs that are likely influenced by the social context in which they live and work (Rodenborg & Boisen, 2013). If IEP team members do not have contact or interaction with deaf individuals, their decisions about appropriate educational environments for deaf



children are made from suppositions that may not be accurate. Intergroup contact theory (IGC) has been suggested as a framework to increase cultural competence and decrease prejudice of social workers interacting with diverse populations (Rodenborg & Boisen, 2013). The premise of ICG is that increased interaction decreases prejudice not only for racial and ethnic groups but also for other marginalized groups (Pettigrew, Tropp, Wagner, & Christ, 2011). In accord with my predictions, it is expected that hearing (not deaf) IEP team members approach educational decisions for deaf or hard of hearing children based on their contact and interaction with deaf individuals.

### **Research Question**

At the implementation level, when members of an IEP team form to make educational and placement decisions, it is important to understand how different constructs impact educational and placement decisions for a student who is deaf or hard of hearing. I hypothesized that IEP team members use the constructs of knowledge about education of the deaf and hard of hearing, attitudes that reflect a sociocultural, medical or deficit lens, and beliefs about access as they develop educational plans for a student. These constructs are influenced by the consistency (how often, quality, and type) of interaction IEP team members have with deaf individuals. The interplay of these constructs impacts beliefs about appropriate educational placements for students who are deaf or hard of hearing. One research question served as the guide for this investigation: How are interactions with individuals who are deaf and/or hard of hearing related to attitudes and the decisions IEP team members make on educational placement and more equitable learning environments for deaf and hard of hearing children?

## **Significance and Purpose of the Study**

The principle of Least Restrictive Environment, that “to the maximum extent appropriate, children with disabilities...are educated with children who are nondisabled” (CFR Sec 300.114 (a)(2)(i)), has held constant since 1975. When *IDEA* was reauthorized in 1997, language was added requiring consideration of the unique learning needs of deaf and hard of hearing children. However, these reforms did not make a difference in how IEP teams interpreted appropriate placement for deaf and hard of hearing children (Jackson, 2010). Additionally, enforcement of LRE became more onerous when the reauthorization of *IDEA* in 2004 mandated states to develop targeted goals for student placement in the LRE.

The preference in the law and of educational teams to consider the regular neighborhood school as the least restrictive environment for a deaf or hard of hearing student is problematic for children who do not access their educational milieu through their sense of hearing. Students who are deaf or hard of hearing, even if utilizing cochlear implants or spoken language, are cut off from a sound-based educational environment, and from others who share their experiences and view of the world, and are therefore relegated to the periphery of their school community (Hopper, 2011). Policy reforms intended to assure that students who are deaf or hard of hearing have appropriate language and communication access in their educational settings have not been successful (National Agenda, 2005). As a result, students continue to be placed in schools where they experience isolation (Mitchell & Karchmer, 2006) or are treated as visitors rather than members (Antia, Stinson, & Gaustad, 2002). When students who are deaf or hard of hearing lack a social network, they develop a sense of loneliness that

impacts development of social competence (Most, Ingber, & Heled-Ariam, 2011), which is necessary for school success (Konold, Jamison, Stanton-Chapman, & Rimm-Kaufman, 2010).

After clear revisions to *IDEA* in support of special considerations for students who are deaf or hard of hearing and continued advocacy by the deaf community, the question remains why these children are still overwhelmingly receiving education in environments where they are in the extreme minority with “at least 80% of (neighborhood) schools serving deaf and hard of hearing students hav(ing) three or fewer students with hearing loss or deafness” (Mitchell & Karchmer, 2006, p. 99). Of great concern is that 53% of schools are serving only one deaf and hard hearing student (Mitchell & Karchmer, 2006). This placement of students in highly language-segregated settings demonstrates the lack of attention required by *IDEA* to the need for peers and adults who can provide direct (not through an interpreter) communication (CFR 300.324 (a)(iv)). The purpose of this research was to explore the relationship between interaction of IEP team members with deaf and hard of hearing individuals and IEP team member attitudes, knowledge, beliefs about access, and beliefs about placement that are needed to promote the intended outcomes of educational policy reform enacted on behalf of students who are deaf and hard of hearing.

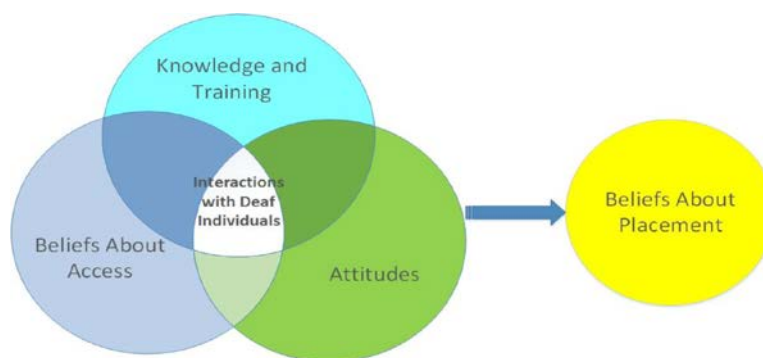
### **Conceptual Design**

The cause of barriers to implementation of reform efforts and use of maneuverability in the law to make individually sound educational decisions for students who are deaf or hard of hearing has not been studied. I posited the following contextual level influences on non-implementation:

- Lack of contact between decision makers and the disability group and the construct of positions of power over the disability group results in poor empathic concern and the inability to appropriately apply or understand intended reforms (Chambers & Davis, 2012; Pettigrew et al., 2011; Woltin, Corneille, Yzerbyt, & Forster, 2010).
- Perceptual conflict between policy makers and implementers (McLaughlin, 2006).
- Divergent frameworks in deaf education manifested in medical-pathological, disability, or sociocultural approaches (Connor, 2013; Hauser, O'Hearn, McKee, Steider, & Thew, 2010).
- The expression of racism with a majority (hearing) group oppressing a minority (deaf) group (Bauman, 2004; Dumas & Anyon, 2006).
- The premise of "inclusion" as a highly value-laden social policy (Zirkel, 2005).

**Conceptual Model.** The model I developed and tested is presented in Figure 1.

The model hypothesizes a relationship between IEP member interactions with deaf individuals, their knowledge and training, their attitude, and beliefs about access. These factors then influence the educational placement decisions for students made by IEP team members.



*Figure 1.* Hypothesized relationships among antecedent constructs and IEP member beliefs about student placement.

### **Definition of Terms**

**Access.** The 1992 U.S. Department of Education, “Deaf Students Education Services Policy Guidance”, explains that access to a free and appropriate education is achieved only when students who are deaf or hard of hearing overcome significant obstacles (Federal Register, 1992). The term “access” is used in reports and recommendations (California Deaf and Hard-of-Hearing Education Advisory Task Force 1999; Clerc Center, 2013; COED, 1988; Federal Register, 1992; Johnson & DesGeorges, 2014; National Association for the Deaf (NAD), 2014; National Agenda, 2005; Siegel, 2000) for students who are deaf or hard of hearing when considering communication and language, the general curriculum, extra curricular and non-classroom activities, language development, educational opportunities, critical mass of language peers, language proficient adults, deaf and hard of hearing role models, technology and direct (not through an interpreter) communication. Additionally, these reports and recommendations refer to access to all educational placement options.

**Attitude.** For the purposes of this paper, the various frameworks that I have observed used by those involved in the education of students who are deaf and hard of hearing will be described as their “attitude.” Three attitudes are apparent in deaf education: medical-pathological, disability, and sociocultural.

Attitude is also characterized by a hearing individual’s willingness to self analyze for audist behaviors and to monitor their perceptions of priorities for education of deaf students through their interactions with the deaf community and deaf educational professionals.

**Audism.** The term audism was first coined in 1975 by a deaf scholar, Tom Humphries, in an unpublished essay, and is the “notion that one is superior based on one’s ability to hear or behave in the manner of one who hears” (Bauman, 2004, p. 240).

**Communication.** Communication is the meaningful use of language in a social context. Communication is necessary to engage and connect with others and to the development of complex language acquisition, cognitive growth, and knowledge of the world (Dixon-Krauss, 1996; Ramsey, 1977; Vygotsky, 1986).

**Communication Considerations.** The 2006 IDEA regulations state that “the IEP team must consider the communication needs of the child, and in the case of a child who is deaf or hard of hearing, consider the child’s language and communication needs, opportunities for direct communication with peers and professional personnel in the child’s language and communication mode, academic level, and full range of needs, including opportunities for direct instruction in the child’s language and communication mode” (CFR 300.324 (a)(iv)).

**Critical Mass.** The term “critical mass” is used often in reports and recommendations for the appropriate education of deaf and hard of hearing children (California Deaf and Hard-of-Hearing Education Advisory Task Force, 1999; Clerc Center, 2013; COED, 1988; Johnson & DesGeorges, 2014; NAD, 2014; National Agenda, 2005; Siegel, 2000). A specific ratio of adults to student or student to student is not prescribed in these types of documents; it is generally agreed that a sufficient number of language proficient adults who share the same language and communication mode in the deaf or hard of hearing child’s educational environment is necessary to social, emotional, and academic achievement. Also essential are a sufficient number of age and cognitive peers who can communicate directly (not through an interpreter) and fluidly (with language facility) with the child.

**Deaf Culture.** Deaf Culture refers to the common way that the deaf experience the world through a visual modality. The Deaf share signed languages, in the United States American Sign Language, history related to the “schools they attended, the communities they joined after leaving school, the jobs they had, and the poetry and theater they created and finally the vocabulary they gave themselves for describing what they know” (Padden & Humphries, 2006, p. 45).

**Deaf and Hard of Hearing.** The descriptions deaf and hard of hearing are used together through out this paper to refer to all students and adults who were born deaf or hard of hearing or who lost their hearing later in life. The term “hearing impaired” is not used except to refer to statutory language in order to diminish the discourse of medicalization of individuals.

**Hearing.** The term “hearing” distinguishes individuals who are not deaf or hard of hearing and therefore cannot share the experience and challenges of navigating environments that use sound for information or fully appreciate the language and culture of the deaf.

**Individuals with Disabilities Education Act (IDEA).** *The Individuals with Disabilities Education Act (IDEA)*, a funding statute, was codified by Congress in 1975 as the *Education for all Handicapped Children Act*. IDEA was reauthorized in 1997 and again in 2004. The principal commitments of IDEA are a Free Appropriate Education (FAPE) through an Individualized Education Plan (IEP) to a student with a disability in the Least Restrictive Environment (LRE) (Zirkel, 2008).

**Individualized Educational Plan (IEP).** IDEA describes an IEP as a written statement for each child deemed eligible for special education that includes present levels of achievement and functional performance, measurable annual goals and if appropriate benchmarks, statement of special education and related services that will be provided, explanation of the extent to which a child will not participate in the regular classroom, and a description of needed accommodations (20 U.S.C. 1414 (d)(1)(A) and (d)(6)).

**Least Restrictive Environment (LRE).** The LRE is defined in the 2006 IDEA regulations as “to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are nondisabled; and special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only if the nature or severity of the disability is such that education in regular classes with the use



of supplementary aids and services cannot be achieved satisfactorily” (CFR 300.114 ((a)(2)(i)(ii)). Guidance from the U.S. Department of Education, Office of Civil Rights (2014) clarifies that the provision of LRE of IDEA may be interpreted incorrectly to require placement in the regular classroom, that “meeting the unique communication and related needs of a student who is deaf is fundamental part of providing a free appropriate public education”, and that the LRE for a child is where “appropriate services can be provided.”

## Chapter II: Literature Review

*The Individuals with Disabilities Education Act (IDEA)* codified by Congress in 1975, opened the doors of public education to millions of children who, because of their disabilities, would have otherwise been excluded. Congress found that of eight million children in the United States with disabilities, more than half were not receiving appropriate educational services, which would enable them to have full equality of opportunity, one million were excluded entirely from the public school system, many children were participating in regular education who had a disability that was undetected, and that families were forced to find services outside the public school system at great distance and at their own expense (Education for all Handicapped Children Education Act, Public Law 94-142, Sec. 3). In 1977, about 3.5 million children were served under IDEA. That number increased to 6.5 million in 2011 (U.S. Department of Education, 2013).

When considering the number of children with disabilities now receiving public education services under IDEA, it appears that the fundamental intent of the law has been realized. However, the tension between the two major premises of IDEA, Least Restrictive Environment (LRE) and Free Appropriate Education (FAPE) (Siegel, 2000), leads us to question whether IDEA has met its goal of equalizing education for students with disabilities. This literature review will also interrogate the goal of IDEA. Is it for equalizing education by opening the schoolhouse doors to children with disabilities as is often postulated in its relation to civil rights legislation? Or is it designed to provide equity through its many procedural requirements such as constructing an individualized educational plan (IEP) and consideration of placement in a continuum of

placement options such as a neighborhood school or a special separate school? A third question emerges when considering the actual implementation of IDEA and its evolution into a “one size fits all” mentality (Connor, 2013). Is IDEA actually a law that is constructed to place parameters on the concept of normality rather than to provide either equality or equity?

To explore the ramifications and unintended consequences of the law, this literature review will use principles of a critical discourse analysis by “focusing on the role of discourse in the reproduction and challenge of dominance” (VanDijk, 1993, p. 249) as it relates to children who are deaf or hard of hearing served under IDEA. It will examine the historical impetus for IDEA’s inception, and how the fundamental principles of the law, funding, and case law have impacted its effectiveness in achieving educational access and equal opportunity for children. It will highlight various sections and premises of the IDEA and the on going documented significant concerns of deaf advocates and deaf individuals. The notion of equality, equity, and normalcy as IDEA is constructed, has been litigated, and is implemented will be discussed. It will incorporate how the deaf community has challenged the premise that they need to be fixed and have instead established themselves as a cultural community, rich in tradition with a unique visual perception of the world. Included will be a timeline of reform efforts by members and advocates of the deaf community to rectify the negative effects of LRE on students who are deaf and hard of hearing. I postulate barriers to implementation of reform initiatives using the framework of interracial dynamics and contact theory (Kraus & Keltner, 2013; Pettigrew et al., 2011) as rationale for the research question that guided this project.

## History and Intent of IDEA

In 2014, we marked the 60<sup>th</sup> anniversary of *Brown v. Board of Education* (*Brown v. Board of Education of Topeka*, 347 U.S. 483, 1954). Lauded by many as a landmark decision in promoting civil rights and education equality (Bell, 2004), *Brown* also receives scholarly status as the precursor to special education law and the fundamental principle in *The Individuals with Disabilities Education Act (IDEA)* of least restrictive environment (LRE) (Zirkel, 2005). Prior to 1975 and the passage of the *The Education for all Handicapped Children Act (EAHCA)*, children with disabilities were barred from public schools. Reported judicial cases regularly held that children with disabilities were considered outside of state mandates to provide a “common” education (Monserud, 2004). Not even twenty years after *Brown*, parents of children with disabilities invoked the Constitutional tenet of equal protection to prevail in two cases, *Pennsylvania Association for Retarded Children (PARC) vs. Commonwealth of Pennsylvania* (1971) and *Mills vs. Board of Education* (1972). Holdings by the Federal Courts in these cases “made it clear that schools owed students the equal protection of the law without discrimination on the basis of disability” (Martin, Martin, & Terman, 1996, p. 28). In the case of *PARC*, it was agreed that all children with mental retardation between the ages of 6 and 21 must be provided a free public education, and that it was most desirable to educate children with mental retardation in a program most like those provided for their peers without disabilities (Monserud, 2004). This consent agreement gave origin to the premises of free appropriate public education (FAPE) and least restrictive environment (LRE). Congress codified these rulings into special education law that was signed by President Gerald Ford. By 1977, about 3.5 million

children were served under IDEA. That number increased to 6.5 million in 2011 (U.S. Department of Education, 2013).

Even though *Brown* was referenced only marginally in these cases, it served an important symbolic moral imperative for addressing the exclusion of children with disabilities; the subsequent IDEA legislation and *Brown* have mutual propositions of access and equal opportunity (Zirkel, 2005). An important distinction between the intent of *Brown* and the promulgation of IDEA is worthy of consideration. *Brown* was a Constitutional decision based on the premise of equality with the notion that separate is not equal. This is different from equity, which is the originating concept behind IDEA where “FAPE means more than equal whether separate or not” (Zirkel, 2005). In addition, IDEA contains procedural safeguards for parents that include a system for due process. The Supreme Court in considering redress in *Brown II* espoused a group solution by mandating desegregation (Bell, 2004). IDEA in contrast contains principles, which outline an individual notion of equity through an Individualized Education Plan (IEP). The Act allows for equal opportunity that may not always be in proximity to other students by allowing for a continuum of placement options most appropriate for a student (Zirkel, 2005) with the implication that separate programs, if appropriate, are equitable. These options can range from the classroom in a neighborhood school, a special school, or homebound services.

The founding notion of *IDEA*, that equity is the most appropriate environment determined on an individual basis is impressive but it has been circumvented by the overriding principle of least restrictive environment. The tenet of LRE has been a source of contention in special education litigation. Sixty-three percent (63%) of

special education cases that went to court were related to the LRE clause of *IDEA* (Newcomer & Zirkel, 1999). The reason for this tension may stem from the ideology of *Brown* that separate is not equal and, like *Brown II*, that placing children together is enough to ensure equal access. Disputing the preference toward LRE as defined by placement in the regular classroom may also be confounded by political levers attempting to reduce the reality of overwhelming costs to states and local schools in providing specialized instruction apart from the regular classroom.

Whatever the motivations, the regulatory constraints and financial consequences enforced by federal mandates for not meeting quotas for the number of students in the regular classroom has imposed a burden of isolation within the mainstream for some groups of students with disabilities. Such students are those who are not automatically included just because they are placed in proximity to students not receiving special education services. For example, if you are deaf, membership in the group is predicated by the ability of teachers and students to use sign language fluently and share the common experiences of being deaf or hard of hearing. When deaf and hard of hearing students are the only ones like themselves, they often suffer social as well as academic segregation while sitting in a regular education classroom.

### **The Discourse of Least Restrictive Environment: Equality, Equity, or Normalcy**

**Equality.** The broad notion of IDEA reflects the decision in *Brown v. Board of Education* to promote civil rights and education equality through one of two main tenets of the law, least restrictive environment LRE (Zirkel, 2005). Least restrictive environment is defined in the law as the place where children who are “nondisabled” are educated (CFR 300.114 ((a)(2)(i)(ii)). Inclusion as an ideal promotes the breaking

down of distinctions between regular and special education and reduces the perception that children with special needs should be somewhere else (Osgood, 2002). The constructs of integration, inclusion, and mainstreaming as the operationalization of LRE are often used interchangeably to describe students with disabilities educated in the regular classroom in their neighborhood schools. This is the language in IDEA regulation (Federal Register, 2006) that describes LRE:

To the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are nondisabled; and special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only if the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily. (CFR 300.114 ((a)(2)(i)(ii))

By examining additional language of IDEA federal regulations as follows (Bolded in the original by Wright & Wright, 2012), we see a strong preference for inclusion, which is also played out in court decisions, and case law (Jackson, 2010; MacFarlane, 2012; Zirkel, 2008):

- Each public agency **must ensure that** to the maximum extent appropriate, **children with disabilities**, including children in public or private institutions or other care facilities, **are educated with children who are nondisabled** (CFR 300.114 ((a)(2)(i)).

- **Special classes, separate schooling, or other removal** of children with disabilities from the regular educational environment **occurs only** if the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (CFR 300.114 ((a)(2)(ii)).
- The child's placement **is as close as possible to the child's home** (CFR 300.116 (b)(3)).
- **Unless** the IEP of a child with a disability requires some other arrangement, the child is educated in the school that he or she would attend if nondisabled (CFR 300.116 (c)).
- In selecting the LRE, consideration is given to **any potential harmful effect on the child or on the quality of services** that he or she needs (CFR 300.116 (d)).
- A child with a disability **is not removed from education in age-appropriate regular classrooms solely because of needed modifications in the general education curriculum** (CFR 300.116 (e)).

Given the preference for inclusion in the law and in the courts, the consequences for power players such as principals and special education directors of not complying with the IDEA mandate of LRE are costly litigation and withdrawal of state and federal funding. In addition, there may be perceptual ramifications in that leaders would rather be perceived as integrationists rather than segregationists.

The concept of inclusion and integration is a noble aspiration. Everyone wants to feel and be included. However, placing deaf and hard of hearing students with



students who are hearing does not result in inclusion. The deaf or hard of hearing student is actually segregated by the fact that he is in an educational environment that is designed for auditory access to information. So even though the deaf or hard of hearing child may have equal access to the school building, he does not have equitable access to curricular content and incidental learning in and outside the classroom. He is essentially left out and is alone, unable to fully participate in the educational experience or develop social competence (Most et al., 2011).

The law retains power as a result of the fiscal and perceptual consequences of noncompliance. Educational administrators, who wield services, further exacerbate the law's power structure by allocating only one remedy for desegregation by placing a diverse minority with a majority. The minority – majority issue of oppression is of concern but the greater ramification for children who are deaf or hard of hearing is the illusion of integration. In these pseudo integrated settings, deaf children experience isolation (Mitchell & Karchmer, 2006) or are treated as visitors rather than members (Antia et al., 2002).

**Equity.** Equity for the purposes of this paper means that to be included deaf students must have equal language and communication access to their hearing peers; only then can they have equitable learning opportunities. Assurance that students with special needs had a right to a public education was established by IDEA, but the level of equity is still being tested.

The sign in American Sign Language (ASL) for “mainstream” depicts the deaf student separate and underneath the majority, reflecting the sentiment by the deaf that placement in the public school setting is not equitable or inclusive and is in fact

oppressive. Siegel (2008) proposed that the rights of deaf children under the First and Fourteenth Amendments are curtailed when they are educated and placed in environments that do not allow them freedom to associate and express information or ensure a standard of educational quality. In particular, the First Amendment guarantees freedom of speech, the free flow of information, the right to receive information and ideas, and the right to associate with others. How can this be possible when a child may be the only one that is deaf in a class or school and there are no or few peers who can communicate smoothly and spontaneously at the same age and academic level? Chances are there are few to no adults in the school who can sign with facility or have a mutual understanding of the child's need as a visual learner. A sign language interpreter may be assigned but receiving information through an interpreter is not direct communication, does not assure a free flow of information, and does not allow for effortless socialization with peers. James Tucker (2014, p. 3), superintendent of the Maryland School for the Deaf, describes the effects of depending on an interpreter as creating a "velcro syndrome...as the child follows the interpreter around in the classroom, hallways, cafeteria, and playground."

On further examination of the Federal regulations for IDEA (2006) we see how IDEA can be construed as a law of equity, not only of equality. The influence of LRE is prevailing, but it is untenable. At the implementation level, IEP teams still have, under various clauses of the law, discretion to make individual decisions for students that will place them in environments that can provide equity. Many of these changes to IDEA have been a result of the reform efforts by the deaf community and deaf educators. Below is a list of some of those regulations with bolding of phrases that I added to

illustrate how IEP teams have the maneuverability to make individual educational decisions for students.

- Consider the communication needs of the child, and **in the case of a child who is deaf or hard of hearing, consider the child's language and communication needs, opportunities for direct communication with peers and professional personnel in the child's language and communication mode, academic level, and full range of needs, including opportunities for direct instruction in the child's language and communication mode** (CFR 300.324 (a)(iv)).
- Special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only **if the nature or severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily** (CFR 300.114 ((a)(2)(i)(ii)).
- Unless **the IEP of a child with a disability requires some other arrangement**, the child is educated in the school that he or she would attend if nondisabled (CFR 300.116 (c)).
- Each public agency **must ensure** that **a continuum** of alternative placements is available to meet the needs of children with disabilities for special education and related services (CFR 300.115 (a)).

- The continuum...**must include** the alternative placements listed... **(instruction in regular classes, special classes, special schools, home instruction, and instruction in hospitals and institutions)** (CFR 300.115 (b)(1)).

Unfortunately, the opportunity provided in the law to make individual decisions for students has not made a difference in decreasing numbers of deaf or hard of hearing students who are placed in educational settings such as their neighborhood schools that do not provide equity of education (Jackson, 2010). These inappropriate settings lack the critical mass of like-peers and adults who can communicate and connect with the student and staff that has the expertise to create an inclusive environment with a free flow of language, communication, and ideas through a visual and signed modality.

**Normalcy.** The paradox of equity and equality in IDEA and the preference for LRE may be explained by the influence of a medical pathological framework imbedded in the procedures mandated throughout IDEA. Some critical disability scholars posit that the special education system is imbued with a medical-pathological agenda in its prescribed procedures for assessment, eligibility, and placement (Connor, 2013). These procedures perpetuate the notion that a disability is a disorder needing to be fixed and made normal rather than a difference to be embraced. An example of the discourse in IDEA that promotes an attitude of needing to fix a child is the 13 eligibility and diagnostic labels. The vernacular used for the eligibility categories, which describe children who are deaf or hard of hearing, give the impression that they are damaged: “*Deafness* means a hearing impairment...” and “*Hearing Impairment* means an impairment in hearing...” ((CFR 300.8 (c)(3)(5)).

In contrast, Connor (2013, p. 499) proposes that a “sociocultural model interrogates normalcy rather than creating it (as special education does).” Deaf individuals call for an approach that is in line with a sociocultural attitude that capitalizes on students’ linguistic and cultural knowledge, and that does not impose on them a disabled persona (Hauser et al., 2010; Simms & Thumann, 2007).

### **The Normalization of Deaf People**

**Historical trends.** From the birth of our nation to our modern era, education has been described and hailed as the key factor in providing equal opportunity to its citizens. Horace Mann, the first state secretary of education was eloquent on the topic, “Education, then, beyond all other devices of human origin, is the great equalizer of the conditions of men - the balance-wheel of the social machinery” (Milson, Bohan, Glanzer, & Null, 2010, p. 168). As United States citizens, we often refer back to the goals of the Declaration of Independence, that all men are created equal and the rights of life, liberty and the pursuit of happiness (McCullough, 2001).

Ostensibly, our public education system is accessible to all, provides equal opportunity and produces the outcomes needed for individuals to pursue these unassailable rights. Through this system we expect to produce citizens who are primed to contribute to humanity with skills as problem solvers, innovators, leaders, inventors, peace makers, builders, and artists - a rich variety of abilities, talents and purposes that reflect the diversity of America, which has built our great country. Lauded with as much sentiment as equality is the notion that the survival of democracy depends on an educated society. Thomas Jefferson rallied for public education. He admonished, “If

you expect a nation to be ignorant and free and in a state of civilization, you expect what never was and never will be” (Graham, 2005, p. 3).

While founders of our nation’s educational system did not consider the needs of students with special needs, schooling for deaf children was as progressive in the early years. During the time period that taxpayers were hesitant to begin public schools under Thomas Jefferson’s efforts, and Horace Mann was establishing the common schools in Massachusetts in 1837, the first public school for deaf children in Hartford, Connecticut was established in 1817 (Gannon, 1981). The first state supported school opened in Kentucky in 1823 (Gannon, 1981). In 1864, Abraham Lincoln signed a bill authorizing Gallaudet University, the only liberal arts college for the deaf in the world, to confer degrees (“History of Gallaudet” n. d.) (Gallaudet Website). In New Mexico, the first publicly owned educational institution in the Territory was the New Mexico School for the Deaf created when the Territorial Legislature passed an Act creating a *Territorial Asylum for the Deaf and Dumb in 1887* (Gannon, 1981). Lars Larson, a deaf graduate of Gallaudet University, came to Santa Fe to establish a school for the deaf. Experiencing isolation as a child and understanding the gift of education, he had a desire to find deaf children who were being ignored and educate them (Meyer, 1989).

Schools for the deaf became not only the academic center for student growth but also the heart of Deaf culture, community and language. It was at these schools where deaf students developed a positive self-concept, viewing their deafness as their culture, not as a disability, and where they were included because they had unfettered access to language and communication. Everyone in their learning and social environment used sign language so they were able to directly communicate with both their peers and their

teachers. (Gannon, 1981). By 1953, there were 60 public and private schools for the deaf in the country, 24 of which were founded by deaf persons (Gannon, 1981).

By the 1890's, critics of schools for the deaf arose, the most prominent being Dr. Alexander Bell who criticized schools for the deaf for promoting intermarriage among deaf persons and thus causing an increase in number of deaf children. He advocated for small schools where a deaf child is placed with hearing children. He reasoned that this type of setting would expose the deaf child to "the normal conditions of life" and have a better chance of "cultivation of articulation and speech-reading" (Gannon, 1981, p. 76). The Alexander Graham Bell Association today is a strong and powerful advocate of oral instruction in special schools and transition to attendance in regular schools by upper elementary. There are approximately 27 private oral schools in the country. Oral education has been a significant force throughout history in promoting a particular and influential slant on the attitude of inclusion and normalcy.

Subsequent to 1975 when IDEA was first enacted, deaf students who were better served with their language peers in schools for the deaf were removed and placed in regular public schools where they had teachers with little or no specialized training. They were also isolated from adult or peer language models or partners who were able to directly and fluently communicate with them. Siegel (2008, p. 28) explains the ramifications for deaf children: "Emotional, intellectual, and educational growth is unthinkable without the ability to communicate, to exchange ideas and information." Equality of outcomes for Deaf and hard of hearing children was actually reduced by the supposed tenet of equal opportunity in a least restrictive environment. The National Association for the Deaf (NAD) (2011) expressed alarm at the trend of states closing

their state schools for the deaf. The enforcement of LRE has become more onerous with pressure on states to meet quotas on placements in the LRE with “nondisabled” children. For example, the 2004 Reauthorization of IDEA requires submission of state improvement plans, with targeted goals in three areas, one being least restrictive environment (20 U.S.C. 1416(a)(3)(A)).

Reform efforts led to language in the 1997 IDEA statute in favor of the unique learning characteristics of deaf students. This was followed by state initiatives to support the consideration of language and communication and individualize decisions surrounding least restrictive environment for deaf children. However, national data reported by Gallaudet Research Institute and interpreted for trends by Jackson (2010), indicate that the amendments had little impact on reversing the inclusion mindset with only a slight increase in students attending special programs. With an apt metaphor, Jackson (2010, p. 2) describes the consequences of LRE on deaf children: “Over the protests of the Deaf community, the IDEA led increasing numbers of deaf students to relinquish the opportunity for linguistic and cultural immersion (provided by schools for the Deaf) in exchange for a place as the only deaf child in a sea of hearing and non-signing peers.”

**Cochlear implants and hearing aids.** Often, one of the first responses to the discovery that a child is born deaf is the referral for an evaluation for a cochlear implant or hearing aid. While deaf adults often celebrate the birth of a deaf child, parents who are not deaf or hard of hearing are naturally fearful of the unknown and look to technology and medical intervention to heal their child. Many times ignorant of the cultural heritage of the deaf, the understanding that American Sign Language (ASL) is a



complete language, and the limitations of the technology such as hearing aids and cochlear implants, the medical community is quick to encourage a “solution” to a child’s identified hearing loss. As the number of cochlear implantations has increased, members of the deaf community have become concerned and question the impact of cochlear implants on the deaf identity. Is a person with an implant or hearing aids “hearing” and will technology serve to eliminate deaf people? Children who are implanted are many times discouraged from using sign language, and thus become a present and historical symbol of oppression to the deaf (Humphries & Humphries, 2011).

**Perpetuation of a low standard.** Several precedent setting court cases have established the sub-par quality of education expected by public schools through IDEA. The most widely known case and one used by schools to defend the educational benefit of programs they provide is the *Board of Education of the Hendrick Hudson Central School District v. Rowley* (Mead & Paige, 2008). This case was about a 10-year-old deaf child, Amy Rowley, whose parents petitioned the school district for a sign language interpreter. The school declined the request, reasoning that services Amy was receiving in the form of speech and language therapy from a teacher of the Deaf and a first grade classroom were sufficient. The Supreme Court found that the provided services were appropriate. Justice Rehnquist held: “the intent of the Act was more to open the door of public education to handicapped children on appropriate terms than to guarantee any particular level of education once inside” (Mead & Paige, 2008, p. 331). In the case of *Springdale School District v. Grace* (1981), the parents of a deaf child fought for placement in their local public school over the objections of the school

district who contended the Arkansas School for the Deaf would be a better placement. The Court itself concluded that the child's educational needs would be better served at the school for the deaf, however, both the District Court and the Eight Circuit Court of appeals interpreted the IDEA as having a preference for integration over education quality (Aldersley, 2002; Jackson, 2010).

### **Reform Efforts**

Low expectations set by courts, confusion on the definition of LRE and FAPE, lack of understanding by professionals and parents of the essential learning characteristics of a deaf child, a resurgence of self-empowerment by the deaf, and keen concerns by the deaf community that the needs of deaf children were not being met, influenced important breakthroughs in policy reform for deaf children. There have also been continued efforts to raise the awareness of the unique learning characteristics of deaf children and the presence of deaf culture. Educational reform efforts and events leading up to these special considerations and subsequent reform initiatives are explained and summarized in Table 1.

Table 1

*Description of Reform Efforts by Year*

<b>Year</b>	<b>Reform Effort/Event</b>	<b>Description</b>
1988	Deaf President Now (DPN) movement at Gallaudet University	A student led protest fighting for the appointment of a Deaf President of Gallaudet University gave global awareness to the deaf as a cultural minority. "It was a victory for all people who ever felt the pain of being stereotyped, devalued, and unrepresented" (Rev. Jesse Jackson, Gallaudet Website).
1988	COED Report	Commission on the Education of the Deaf (COED) report includes the recommendation for "refocus of the least restrictive environment concept by emphasizing appropriateness over least restrictive environment" (COED Report, 1988).
1989	Dr. Davila appointed as Assistant Secretary of Special Education and Rehabilitation Services	Dr. Davila, a deaf man, drafts policy guidance based on the COED report (Lang, Cohen, & Fischgrund, 2007).
1992	Policy guidance written by Dr. Davila published	Policy guidance by the Office of Special Education reflects the recommendations of the COED report to take into consideration unique learning and communication needs of a student who is deaf (57 Fed. Reg. 49274) (Lang, Cohen, & Fischgrund, 2007).
1997	Special Factors for deaf and hard of hearing students included in IDEA	IDEA reauthorization includes special factors for deaf and hard of hearing students requiring education programs for deaf and hard of hearing children to consider their language and communication needs (CFR Sec. 300.346[a][2][iv]).
2005	National Agenda: Moving Forward on Achieving Educational Equality for Deaf and Hard of Hearing Students	A roadmap for education reform, the National Agenda, prompted states to develop "communication plans" for IEP teams to use in guiding their discussions about student needs. Some states have passed into their state law "Deaf Children's Bill of Rights" (NAD Website).
2015	Introduction of the Alice Cogswell Act of 2015	The Alice Cogswell Act is introduced in the U. S. House of Representatives. The Act amends the IDEA to "promote and better ensure delivery of high quality special education and related services to students who are deaf or hard of hearing" (Conference of Educational Administrators for Schools and Programs for the Deaf (CEASD) Website).

**National reform efforts.** A milestone in deaf education was a 1992 education policy guidance statement issued by the U.S. Department of Education, clarifying that “meeting the unique communication and related needs of a student who is Deaf is a fundamental part of providing a free appropriate public education (FAPE) to the child” (Lang et al., 2007, p. 141). Key events within deaf education were evolving within a similar time frame. These were: 1) The Deaf President Now movement; 2) The Commission on Education of the Deaf report; and, 3) The appointment of Robert Davila as Assistant Secretary of Special Education and Rehabilitation Services.

Deaf President Now (DPN) was a student lead protest in 1988 fighting for the appointment of a Deaf President of Gallaudet University and asserting the rights and abilities of deaf and hard of hearing people (Gallaudet University). The same year, the Commission on Education of the Deaf petitioned the Department of Education to emphasize appropriateness of education over the tenet of LRE (COED Report, 1988). Dr. Robert Davila, Assistant Secretary of Special Education and Rehabilitation Services, and a deaf man, understood the seriousness of the report and drafted a Policy Guidance statement to encapsulate its recommendations. He was successful in sending the policy through the general counsel of the Education Department and harnessing the support of Secretary Lamar Alexander. The policy was published in October of 1992 (Lang et al., 2007). This interpretation of least restrictive environment was included in the 1997 reauthorization of IDEA and is now statutory and regulatory language (Aldersley, 2002).

**State level reforms.** In an effort to raise the awareness of the special language and communication considerations for students who are deaf or hard of hearing, state

initiatives followed the 1997 amendments. In 2001, The New Mexico Deaf Education Task Force, a collaborative committee of stakeholders, was formed by the New Mexico School for the Deaf (NMSD) and the Public Education Department (PED). A result of its work was the passage of the 2004 Deaf and Hard of Hearing Children's Educational Bill of Rights into New Mexico law (NMSA 28-11C-3). At least 11 states have also enacted such a law ("NAD Action Alert", 2011). In New Mexico, the law (NMSA 28-11C-3) directs the public education department to address recommendations related to language and communication accessibility including "quality ongoing and fluid communication" and "develop a model of *communication considerations* for students who are deaf or hard-of-hearing, to become part of the individual education plan process." In addition, the law states, "the model shall be disseminated to all local school districts, with training to be provided as determined by the department." A communications considerations guidance document was created by the New Mexico School for the Deaf and adopted by the New Mexico Public Education Department (NMPED) to fulfill this requirement. Currently, the NMPED includes guidance in their IEP technical assistance manual on how to facilitate a dialogue about the language and communication needs of a student who is deaf or hard of hearing and provides training in collaboration with the New Mexico School for the Deaf (NM PED, 2011).

Another initiative pursued by advocates at the state level specific to maintaining a state special school as a placement option has been the passage of legislation requiring IEP teams to inform parents of the availability and services offered by the state school for the deaf. To help me consider the efficacy of such a mandate, I asked superintendents of schools for the deaf in the United States through the national

organization for schools and programs for the deaf (Conference of Educational Administrators for Schools and Programs for the Deaf) about the laws in their states. Specifically, the question was, “Is there a rule, regulation, law, state code requirement (etc.) in your state requiring that parents be told about the special school for the deaf being an educational option for their child? If so, do most follow it and has it made a difference?” Nineteen superintendents responded to the question. Some states, such as Oklahoma, Maryland, and Illinois, have passed a statute. Other states, such as Utah, Texas, and West Virginia, have language in their administrative codes that clarifies how IEP teams are to share information about the special school for the deaf. One state, California, has guidelines as part of the parent procedural safeguards document required by *IDEA*. In general, superintendents of schools for the deaf shared that to some extent the law or policy has helped or made a difference, though the tone of responses vary from: “It is most helpful” to “Tough call on has it made a difference. I would say, yes, not a resounding yes,” and “From our experience, (the school) is sometimes not mentioned at all, or it is mentioned but in a negative light.” The sentiments about the effectiveness of this type of state level legislation illustrate the problem of intent of laws and their actual application.

**Language as a right.** Deaf scholars such as Humphries et al. (2013, p. 876) argue that language is a human right and “taken together, Section 504, the ADA, and IDEA...establish a robust foundation for a right to language.” They advocate for the establishment of state constitutional legal rights to language through a signed language to protect the civil rights of the deaf child.

Title II of the ADA (American Disabilities Act) is a nondiscrimination statute requiring schools to provide individuals with disabilities public services that are equal to those services provided individuals without disabilities (42 U.S.C. 12131-12132) and is another means of addressing inconsistencies in the education of deaf children when compared to their hearing peers. Specifically, under ADA, individuals with a hearing disability must be provided communications that are as effective as those provided individuals without a disability. The IDEA does not require a comparison of services whereas ADA does. A case was recently tested in the 9<sup>th</sup> Circuit Court of Appeals (Walsh, 2014) regarding the differences in these laws and whether a student can grieve rights under the ADA even though her IEP under IDEA was in compliance. The case involved a deaf student who requested the use of CART (Communication Access Real – time Translation) and whose school district maintained that other related services are providing her adequate support services to meet the goals in her Individual Education Plan. The 9<sup>th</sup> Circuit determined that Title II of the ADA requires public agencies to provide auxiliary aids and services, including CART (Walsh, 2014). The Justice Department provides guidance as to the interplay between ADA’s requirement for effective communication and IDEA’s requirements for a Free Appropriate Education (U.S. Department of Justice Civil Rights Division, 2014). This recent ruling is highly supportive of the notion of the right to effective communication that is also central to the many reform efforts discussed in this paper.

### **Barriers to Reforms**

After such a robust effort by advocates within the deaf community and clear revisions to the Federal Legislation of IDEA, the question remains why children who are

deaf are still receiving inadequate education in environments that isolate them socially and prevent their academic development (Mitchell & Karchmer, 2006). The following constructs may explain the persistence of barriers to implementation of reform at the school level and use of maneuverability in the law to make individually sound educational decisions for students.

**Perceptual conflicts.** One possible explanation of the barrier to implementation is the perceptual conflict between policy makers and implementers. Whereas the policy makers in this case were the deaf community who understood the significant impact of isolation and lack of language and communication access, the majority of implementers of the policy are hearing (as opposed to deaf or hard of hearing). Local school district special education directors, state department special education directors, principals and teachers and parents, who are most likely not deaf or hard of hearing, do not understand the problem in the same way that the deaf advocates understood the problem that led to the policy reform. Writers of deaf culture describe a deaf perspective where the deaf understand how each other perceives the world (Ladd, 1994; Padden & Humphries, 2006) and the challenges of inclusion. As policy is developed, defining the problem is the most important aspect in developing the policy statement (McLaughlin, 2006). Once the policy statement is written, it is still left to the interpretation of implementers who often fail to understand the problem which prompted the policy, and the policy maker's intent and projected actions (McLaughlin, 2006).

**Racism.** A second premise to blocked reform is the expression of racism, which in this case is manifested as audism. Racism is a reality of the social and cultural life of



the United States (Dumas & Anyon, 2006) and holds implications for education of students who are deaf or hard of the hearing. The deaf can be categorized as an oppressed group because their culture and language is not that of the majority. Decisions for their lives in the medical and educational arenas have been dominated by hearing people. The hearing also share privilege or benefits described in the literature that are allotted to the majority group (Bauman, 2004). For example, hearing students in a classroom have the advantage of hearing all communication that is occurring between students and between the student and the teacher. They also have the advantage of following and identifying by sound the speaker during group discussions that may move quickly from speaker to speaker. These are nuances that an interpreter is likely to miss; also, the interpreter in a fast paced dialogue must make decisions as to which information is most important to convey. With the interpreted message, deaf students experience a loss of autonomy and equal participation when they are not able to choose which conversation to overhear or engage in. The interpreted message also impedes the ability to interject questions or ideas because of the time lag between source language and interpretation and the tendency of the hearing teacher to relegate connection with the deaf student to the interpreter (Ramsey, 1997; Singleton & Morgan, 2006).

Administrators and IEP team members who are not deaf or hard of hearing exhibit audist attitudes when they assume that sign language is inferior to spoken language or that in order for a student to succeed they must be educated with students who are hearing because they represent normality.

**Social policy.** The premise of inclusion is highly value-laden and can be politically charged. As “education policy cannot be understood fully if considered distinct from broader social policy and ideological discourses within specific communities” (Dumas & Anyon 2006, p. 149), we should consider the *IDEA* within the context of civil rights legislation.

The decision in *Brown vs. the Board of Education* (1954) ruled that separate educational facilities for African-American and white students violated the equal protection clause of the Fourteenth Amendment (Zirkel, 2005). *Brown* also receives scholarly status as the precursor to special education law and the fundamental principle in *The Individuals with Disabilities Education Act (IDEA)* of least restrictive environment (LRE) (Zirkel, 2005). The subsequent historical and current struggle to realize desegregation creates a social climate for the implementation of IDEA and the assurances of inclusion. Acceptance that the broad positive assumption of desegregation (in terms of disabled and non-disabled children) may not be appropriate for one disability group may be counterintuitive to the educator and the public who view themselves as integrationists and have had no contact with deaf individuals.

**Empathy gap.** Reform efforts regarding inclusion have largely been curtailed by competing regulations that encourage a “one size fits all” mentality and by the general hesitancy to step back and consider what inclusion really means for the individual child. The “some educational benefit” standard of Rowley and the assumed benefit of inclusion are perpetuated because educational decision makers such as principals, teachers, and parents, lack contact and empathy with the populations of the students

they serve. Empathy can be expressed as perspective taking (Chambers & Davis, 2012) or as emotional concern expressed by compassion for others (Woltin et al., 2010).

The conviction of inclusion as a social policy is commendable, but without sufficient familiarity with deaf culture or the realities of how a child who is deaf or hard of hearing accesses information, an administrator who is not deaf or hard of hearing and has not had on-going quality interaction with a variety of deaf individuals will not have the necessary information or empathy to appropriately implement the concept of inclusion for an individual child. Teachers and administrators for students who are deaf or hard of hearing are overwhelming hearing. Simms et al. (2008) showed that of 2,766 teachers working in programs for students who are deaf or hard of hearing, 78% were hearing. Eighty-five percent (85.5%) of administrators in these programs were hearing. It is likely that hearing teachers and administrators will not have cognitive resources to place themselves in a deaf or hard of hearing child's shoes as they consider placement and educational services decisions.

**Insufficient contact.** Contact also plays a role in the ability to be empathic; greater contact between groups is consistently associated with less prejudice and enhanced empathy (Pettigrew et al., 2011). Rank in social class has been linked to class-based beliefs that can be a barrier to social opportunity for individuals with lower class rank (Kraus & Keltner, 2013). Teachers, principals, and parents who take on high power roles when they make educational placement and instructional decisions for children may also precipitate an empathy gap. They may view themselves as better able than a disability group and in a more privileged social standing to draw conclusions about the appropriateness of an educational setting.

**Divergent operational frameworks.** For the purposes of this paper, the various frameworks used by those involved in the education of students who are deaf and hard of hearing will be described as their “attitude.” Three attitudes are apparent in deaf education: medical-pathological, disability, and sociocultural.

Some critical disability scholars posit that the special education system is imbued with a medical-pathological framework in its prescribed procedures for assessment, eligibility, and placement (Connor, 2013). In contrast to a medical lens, deaf individuals call for an approach that is in line with a sociocultural attitude that probes the creation of the standard of normalcy (Connor, 2013), that capitalizes on students’ linguistic and cultural knowledge, and that does not impose on them a disabled persona (Hauser et al., 2010; Simms & Thumann, 2007).

### **Contributions to Existing Research and Literature**

Research and theory directly related to the topic of placement decisions in the least restrictive environment for students who are deaf or hard of hearing is evident in four categories, disability theory, special education reform, legal reviews, and student demographics. However, there is a paucity of information regarding the decision-making processes used by the individuals, primarily hearing, who at the implementation level determine the educational services students will receive. The generalization of the constructs of empathy and contact between majority and minority groups as related to decisions made by educators for students who are deaf or hard of hearing has also not been explored.

Literature that uses a lens of a critical discourse analysis by “focusing on the role of discourse in the reproduction and challenge of dominance” (VanDijk, 1993, p. 249)

checks the premise of *IDEA* as a vehicle for equality, equity, and normalcy for all children with disabilities (Connor, 2013) and specifically children who are deaf or hard of hearing (Hauser et al., 2010; Mitchell & Karchmer, 2006; Padden & Humphries, 2006; Siegel, 2008; Simms & Thumann, 2007). Legal scholars have layered the inappropriate and oppressive application of LRE with the significant tension and uncertainty between the tenets of least restrictive environment and free appropriate public education (Siegel, 2000). Though a student's unique needs must be considered through an "individualized education program" (IEP) (20 U.S.C. 1414 (d)(1)(A) and (d)(6)), it must be provided in a setting "with children who are nondisabled" (CFR 300.114 ((a)(2)(i)(ii))), yet each public agency "must ensure a continuum of placement options" (CFR 300.115 (a)) (Federal Register, 2006). A high percentage of special education cases that go to court are related to the LRE clause of *IDEA* (Newcomer & Zirkel, 1999). Also, the many policy reforms advocated by deaf reformers are reflective of these paradoxical rules in *IDEA* and the subsequent low standards of educational quality set by the courts.

In this study, I examined policy implementation as impacted by issues of contact and dominance. When an IEP team forms to make educational and placement decisions, it is important to understand what constructs they use to resolve the ambiguity in the law in making educational and placement decisions for a student who is deaf or hard of hearing. I studied relationships among IEP team member characteristics, their knowledge, attitudes, beliefs about access and educational placement, and interaction with deaf individuals. One research question was the guide for this investigation: How are interactions with individuals who are deaf and/or hard

of hearing related to attitudes and the decisions IEP team members make on educational placement and more equitable learning environments for deaf and hard of hearing children?

### Chapter III: Research Methods

#### Purpose and Research Question

Numerous court opinions reflect the significant tension and uncertainty between the tenets of least restrictive environment and free appropriate public education (Siegel, 2000). Though a student's unique needs must be considered through an "individualized education program" (IEP) (20 U.S.C. 1414 (d)(1)(A) and (d)(6)) it must be provided in a least restrictive environment (LRE) "with children who are nondisabled" (CFR 300.114 ((a)(2)(i)(ii)), each public agency "must ensure a continuum of placement options" (CFR 300.115 (a)) (Federal Register, 2006). Newcomer and Zirkel (1999) reported that 63% of special education cases that went to court were related to the LRE clause of IDEA. The rules in IDEA are contradictory. Whereas IEP teams are required to provide education for deaf and hard of hearing children with non-disabled children, they must also ensure a range of placement options where non-disabled children may not be present, all through a plan that is unique and individual to the student. These paradoxical policies and the preference in the law for integrated placement with non-disabled children (Jackson, 2010; MacFarlane, 2012; Zirkel, 2008) have led to significant policy reforms by deaf education and community leaders to clarify special needs for students who are deaf or hard of hearing (CFR. Sec. 300.346[a][2][iv]).

A student who is deaf or hard of hearing faces unique challenges with educational placement in what is considered an inclusive or least restrictive environment due to lack of equal access to language and communication in the regular school setting. Policy reforms intended to assure that students who are deaf or hard of

hearing have appropriate communication access in their educational settings have not been successful (National Agenda, 2005). As a result, students continue to be placed in schools where they experience isolation (Mitchell & Karchmer, 2006) or are treated as visitors rather than members (Antia et al., 2002). Language and communication exclusion preclude the deaf or hard of hearing child from forming a relationship with teachers and making friends. When students who are deaf or hard of hearing lack a social network, they develop a sense of loneliness that impacts development of social competence (Most et al., 2011), which is necessary for school success (Konold et al., 2010).

After clear revisions to *IDEA* in support of special considerations for students who are deaf or hard of hearing and continued advocacy by the deaf community, the question remains why these children are still overwhelmingly receiving education in environments where they are in the extreme minority with “at least 80% of (neighborhood) schools serving deaf and hard of hearing students hav(ing) three or fewer students with hearing loss or deafness” (Mitchell & Karchmer, 2006, p. 99). Of great concern, is that 53% of schools are serving only one deaf and hard hearing student (Mitchell & Karchmer, 2006). This placement of students in highly language and communication-segregated settings demonstrates the lack of attention to the requirements of *IDEA* specifying the need for peers and adults who can provide direct (not through an interpreter) communication (CFR 300.324 (a)(iv)). The purpose of this research was to explore characteristics of IEP team members that are needed to implement the intended outcomes of educational policy reform enacted on behalf of students who are deaf and hard of hearing.



At the implementation level, when members of an IEP team form to make educational and placement decisions, it is important to understand what constructs they use to resolve the ambiguity in the law in making educational and placement decisions for a student who is deaf or hard of hearing. I hypothesized a model (Figure 1) that I believe captures important relationships among IEP team member characteristics. Reading the model from left to right, we see that IEP team member characteristics: knowledge about education of the deaf and hard of hearing; attitudes that reflect a sociocultural, medical or deficit lens; and beliefs about access, interact and likely result in shifts in thinking in each of the constructs. At the same time that a change in perspective occurs with one construct, another construct is influenced. For example, if educators take a course in audiology (knowledge and training) and learn the limitations of hearing aids in making spoken language accessible, they may have a greater understanding of the need for deaf children to have access to sign language and have signing adult role models (beliefs in access). These shifts in thinking are further and importantly predicated by consistency, variety, quality, and type of interaction IEP team members have with deaf individuals. The interplay of these constructs impacts beliefs about appropriate educational placements for students who are deaf or hard of hearing. I anticipate that the findings will help educational leaders understand how they may increase IEP team members' ability to interpret IDEA, the concept of least restrictive environment, and IDEA amendments advocated by deaf individuals as they apply to students who are deaf or hard of hearing.

One research question served as the guide for this investigation: How are interactions with individuals who are deaf and/or hard of hearing related to attitudes

and the decisions IEP team members make on educational placement and more equitable learning environments for deaf and hard of hearing children?

### **Research Paradigm and Mode of Inquiry**

Although the purpose of the study was to draw meaning from the decisions made by individuals at the policy implementation level and would in that perspective have been conducive to a qualitative research approach (Creswell, 2007), I used quantitative methods in order to ascertain trends across a larger number of decision makers. This mode of inquiry allowed for an applied research focus to study the processes for implementation of policy (Vogt, 2009). Because *IDEA* as special education policy has been established, reformed, and tested in the courts, I used quantitative research methods to evaluate how to accomplish the goals intended by the 1997 reforms enacted on behalf of students who are deaf or hard of hearing.

### **Conceptual Model**

The model I developed and tested is presented in Figure 1. The model hypothesizes a relationship between IEP member interactions with deaf individuals, their knowledge and training, their attitude, and beliefs about access. These factors then influence the educational placement decisions for students made by IEP team members. The measurements for the abstract concepts presented in Figure 1 are further defined in a conceptual and measurement model in Appendix A.

## Sample

The population for this study included members of IEP teams for students who are determined eligible for special education services under the disability category of *Deafness* (34 CFR 300.8 (c)(3)) or *Hearing Impairment* (34 CFR 300.8 (c)(5)). The sampling frame (De Vaus, 2014) consisted of public schools, public charter schools, regional public schools, and public state schools for the deaf that have a population of students who are deaf or hard of hearing. I included IEP team members for students in grades preschool through 12 with any level of IDEA B level services, from minimum to maximum. Individualized Education Program (IEP) team members required or listed by IDEA (34 CFR 300.321), except for parents and students, comprised the sampling frame. These are: a regular education teacher, a special education teacher, a representative of the public agency who is knowledgeable about and can commit services, an individual who can interpret evaluation results, and any other person with expertise and knowledge of the child.

Using purposive sampling, I sampled residential special schools for the deaf from the following states, New Mexico, California, Texas, Washington, and Florida. I also sampled public regular schools or regional programs that have students who are deaf or hard of hearing in these states. I chose these states and state schools for the deaf based on school for the deaf characteristics important to this study, which are their enrollment of at least 100 students, deaf and hard of hearing professional staff, and their interaction with public regular schools and/or formal state policies or protocols available requiring IEP members to inform parents of the state school for the deaf as an educational option.

There are special schools for the deaf in 45 states, the District of Columbia, and one territory (American Annals for the Deaf, 2014). Special schools for the deaf boast an educational environment designed to meet deaf or hard of hearing students' strengths as visual learners, where students have direct and continuous access to language and communication with peers and adults who are fluent in their language, where they can participate fully as members of clubs and extracurricular activities, and where they can develop a proud identity as a deaf person. Special schools for the deaf also serve as a valuable resource center for other programs in a state working with students who are deaf or hard of hearing. Since the 1975 passage of *IDEA* and the preference in the law for placement in regular schools in a child's community and neighborhood, state special schools for the deaf have experienced a steady decline in enrollment (Mitchell & Karchmer, 2006; Schildroth, 1988; Shaver, Marschark, Newman, & Marder, 2014). Several states, such as Wyoming and Nebraska, have closed their state residential schools for the deaf because of small enrollment and high per-student costs. The viability of state schools for the deaf varies from state to state due to falling enrollments. I chose the five state schools for the deaf in New Mexico, California, Texas, Washington, and Florida because of my professional network with and knowledge of these schools and states. I consider them as representative of special schools for the deaf where there is a strategic effort to increase their visibility and ensure their role as a vital instructional and information resource in their state. I am aware of systems within their states toward on-going efforts to advocate for a continuum of placement options that include the special state school setting and the consistent, if not increasing, number of students they enroll.

Because I wanted to test the tendency for IEP team members to value educational placements where there are deaf adults and peers, the criteria presupposed some knowledge by public regular school IEP team members of a range of possible educational settings in that state for deaf or hard of hearing students. It also ensured that IEP team members have an educational option to consider where students have the opportunity for direct peer interaction with other students who are deaf or hard of hearing, and direct communication from deaf teachers and deaf educational leaders. Table 2 presents a description of the representative characteristics of the schools for the deaf in each state that are important to this study.

Table 2

*State School for the Deaf Characteristics*

School	Student population	Resources that encourage or require interaction between state school and school districts	Deaf or hard of hearing educational administrators and teachers
California School for the Deaf Fremont	442 <sup>1</sup>	Department of Education position statement on language access (California Department of Education 2014a). CSDF is listed in the “Notice of Procedural Safeguards” (California Department of Education, 2014a).	6 deaf educational administrators 68 deaf teachers <sup>2</sup>
Florida School for the Deaf and Blind	370 <sup>3</sup>	Florida Department of Education list of educational opportunities for children with sensory impairments (Florida Department of Education, 2014).	4 deaf educational administrators 22 deaf teachers <sup>3</sup>
New Mexico School for the Deaf	135 <sup>4</sup>	Statewide direct early intervention services and educational consultation to public schools by NMSD (2014)	4 deaf educational administrators 28 deaf teachers <sup>5</sup>
Texas School for the Deaf	581 <sup>6</sup>	Texas education code requires school districts to inform parents of TSD before considering a student’s educational placement (Texas Education Code, 30.004(a)(1)-(3)).	6 deaf educational administrators 128 deaf teachers <sup>6</sup>
Washington School for the Deaf	115 <sup>7</sup>	A state system for coordination and delivery of educational services including the state school for the deaf (RCW 72.40.015).	2 deaf educational administrators 10 deaf teachers <sup>7</sup>

**Notes:**

1. Personal communication with resource center supervisor, Clark Brooke, October 2, 2014
2. Personal communication with student outcomes specialist, Michelle Berke, October 2, 2014

3. Personal communication with superintendent, Jeanne Prickett, September 25, 2014
4. Personal communication with superintendent, Ronald Stern, August 28, 2014
5. Personal communication with personnel director, Ron Dinkel, September 15, 2014
6. Personal communication with superintendent, Claire Bugen, September 20, 2014
7. Personal communication with superintendent, Jane Mulholland, September 15, 2014

There were two waves of data collection. For the first wave, I sent a link to the questionnaire to a contact at each of the schools for the deaf in the five states. I asked the contact to send the link to IEP team members in their schools who are teachers, administrators, and support services personnel. I estimated that the number of possible respondents that met the requirements for this study at the state schools in the five states was 250.

For the second wave of data collection, I identified public regular schools or regional programs where there is a deaf and/or hard of hearing student population. I asked for assistance from my contacts at the schools for the deaf and other state level administrators to provide a list of schools, local education agencies (LEAs) or regions they have interaction with and an estimate of the eligible respondents involved for this wave of sampling. The estimated number of possible respondents for this wave of sampling was 42,626 IEP team members as shown in Table 3. When the survey was ready for dissemination, I asked each state contact to send the survey link to these schools, districts, or regions with a request to forward it to IEP team members for students who are deaf or hard of hearing.

Table 3

*Estimated Number of Eligible Respondents in Public Regular or Regional Programs by State*

	Number of Eligible IEP Team Members	Number of Schools, LEAs, or Regions
California <sup>1</sup>	17,079	65 LEAs in Northern CA; Los Angeles Unified School District
Florida <sup>2</sup>	7,000	14 LEAs
New Mexico <sup>3</sup>	1,000	153 schools in 53 LEAs; 1 urban school district
Texas <sup>4</sup>	11,547	62 regional programs, districts, and/or schools
Washington <sup>5</sup>	6,000	27 school districts
Total	42,626	

**Notes:**

1. Personal communication with California Department of Education deaf and hard of hearing consultant, Nancy Sager, November 24, 2014
2. Personal communication with FSD superintendent, Jeanne Prickett, November 21, 2014
3. Personal communication with NMSD lead educational consultant, Priscilla Gutierrez, November 21, 2014
4. Personal communication with TSD outreach director, Diana Poeppelmeyer, November 20, 2014
5. Personal communication with WSD superintendent, Jane Mulholland, November 24, 2014

Each of the five states has a unique system of centralizing services and providing consultation to students who are deaf or hard of hearing. Table 4 depicts how each state addresses the provision of a continuum of placement options for students who are deaf or hard of hearing and the types of programs in which IEP team members may work. In order to be able to replicate the findings and develop a profile of school



settings, I included questions on the survey instrument that identified the type of school setting in which they work.

Table 4

*State System of Services for Students who are Deaf or Hard of Hearing*

State Resources	State School for the Deaf Academic Campus(es)	Outreach Consultation (From State School for the Deaf or Itinerant)	LEA (Local Education Agency)	Regional Programs
California	✓	✓	✓	✓
Florida	✓	✓	✓	
New Mexico	✓	✓	✓	
Texas	✓	✓	✓	✓
Washington	✓	✓	✓	

### **Instrumentation and Data Collection**

I developed a questionnaire titled “Education for Deaf and Hard of Hearing Students” (EDHH), as I was unable to find an instrument that surveyed IEP team members about their decision-making processes for students who are deaf or hard of hearing (see Appendix B for a copy of the questionnaire). I aligned the questionnaire with this study’s conceptual map and I tested it for reliability and validity. The EDHH was self-administered with 14 questions containing a total of 51 items asking IEP team members about the kind of specialized or informal training they have received, the frequency, type, and quality of interaction they have had with individuals who are deaf

or hard of hearing, their attitude about deafness, their beliefs about language accessibility issues, and their beliefs about educational placements for students. The IEP team members responded to items created to tap into the five concepts of the hypothesized model displayed in Figure 1.

Additional questions provided a profile of the respondents. These were: their role during IEP meetings; the type of school settings in which they work; the level of influence they have during an IEP meeting; and whether they are deaf/hard of hearing or hearing. Table 5 shows the alignment between each conceptual construct in the model, the measurement topic and the items from the questionnaire.

Table 5

*Alignment of Conceptual Constructs, Measurement Topics, and Survey Questions*

Knowledge and training	Interaction with deaf individuals	Attitudes toward deaf individuals	Beliefs about access	Beliefs about placement
Postsecondary programs and informal training Question #13 a, b, c, d, e, f, g, h, i	Type of relationship Question #9 a, b, c, d	Deficit lens Question #8	To peers Question #7 a, b, c, g	Regular schools Question #5 a, b, c, d, e, f, g
Knowledge: *IDEA compliance Question #12 a, i, j	Frequency of relationship Question #9 a, b, c, d	Sociocultural lens Question #8	To adults Question #7 c, d, e, f, h	Specialized schools Question #5 a, b, c, d, e, f, g
*Deaf education Question #12 b, c, d, e, f, g, h, k	Quality of interaction Question #11	Medical lens Question #8	Instructional Question #7 b, e	Incidental Question #7 a, c, d, f, g, h

I postulated the question topics to measure each concept (see Appendix A Conceptual and Measurement Model). To measure “knowledge and training,” the instrument included questions about levels and types of postsecondary training, types of informal training and specific topics commonly associated with education of students who are deaf or hard of hearing. Related to “interaction with deaf individuals,” I asked respondents to describe the frequency and type of interaction they have had with deaf or hard of hearing individuals at informal (friends, family) and formal (colleagues, students) levels. I also asked them to describe the quality of their communication interactions with a deaf or hard of hearing person. Items to determine the construct of “attitude” probed a deficit, cultural, or medical approach by asking the respondents to choose a statement about their work that best explains their frame of reference. I measured the construct of “beliefs about access” by asking respondents about their responsibility as IEP team members to ensure communication access to peers and adults for both incidental and structured educational learning opportunities. I structured this question in this way based on the premise that “beliefs” drive maneuverability within the law and are actualized by an IEP team member’s perceived responsibility. For example, if an individual believes that it is not important for a deaf child to have deaf peers (and therefore no direct access to communication with peers) they will likely use the tenet of IDEA that considers their responsibility toward LRE as: “Each public agency **must ensure that** to the maximum extent appropriate, **children with disabilities**, including children in public or private institutions or other care facilities, **are educated with children who are nondisabled**” (CFR 300.114 ((a)(2)(i)). However if they believe it important for deaf children to have deaf peers

(and therefor direct and fluid access to interactions) they will use the tenet of IDEA that places their responsibility to: “Consider the communication needs of the child, and **in the case of a child who is deaf or hard of hearing, consider the child’s language and communication needs, opportunities for direct communication with peers and professional personnel in the child’s language and communication mode, academic level, and full range of needs, including opportunities for direct instruction in the child’s language and communication mode**” (CFR 300.324 (a)(iv)).

To measure “beliefs about placement,” I asked respondents to rate agreement on their perspectives about the appropriateness of special schools or regular educational placements.

### **Administration of the Questionnaire**

Through my contacts, I sent an email with a link to the questionnaire to IEP team members at schools for the deaf, regional day schools for the deaf, and school districts in five states, New Mexico, California, Texas, Washington, and Florida. I targeted in the study all possible Individualized Education Program (IEP) team members required or listed by IDEA (34 CFR 300.321), except for parents and students, who have participated in an IEP meeting for a student who is deaf or hard of hearing. These are: a regular education teacher, a special education teacher, a representative of the public agency who is knowledgeable about and can commit services, an individual who can interpret evaluation results, and any other person with knowledge or special expertise regarding the child at all grade levels, preschool through grade 12.

I created the electronic questionnaire and hosted it via Survey Monkey. Respondents completed the questionnaire online and remained anonymous. The first page of the questionnaire contained consent for participation in the study. I created a customized link for each state in order to be able to distinguish among respondents at the state level.

I asked contacts at schools for the deaf in the five states to send a link to the survey to IEP team members, except for parents and students, at their own schools. At the same time, I asked contacts from four of the schools for the deaf (NM, TX, FL, WA) and from the state department of education in California to send the survey link to regular schools and programs that they know have deaf and hard of hearing students.

### **Dataset Construction**

The dataset has 54 variables with metrics that are both categorical (nominal and ordinal) and continuous (scale). Variables and variable sets are listed in Table 6 with the corresponding items from the questionnaire. A codebook with each variable name, description, label, and metric is provided in Appendix C.

Table 6

*Alignment of Variables and Corresponding Questions on the Survey*

Variable	Questionnaire Item(s)	Level of Measurement
PartID	N/A	
StateID	N/A	
Q3ROLE	Question 3	Nominal
Q4SETTING	Question 4	Nominal
Q5aPLACE - Q5gPLACE	Question 5 items a, b, c, d, e, f, g	Ordinal
Q6INFLU	Question 6	Nominal
Q7aACCESS - Q7hACCESS	Question 7, items a, b, c, d, e, f, g, h	Ordinal
Q8ATTITUDE	Question 8	Nominal
Q9aINTER - Q9dINTER	Question 9, items a, b, c, d	Ordinal
Q11DEAFHH	Question 11	Nominal
Q12aKNOW - Q12kKNOW	Question 12, items a, b, c, d, e, f, g, h, i, j, k	Ordinal
Q13aTWorkshops - Q13iOther	Question 13, items a, b, c, d, e, f, g, h, i	Nominal
Q14aCCW - Q14dFAM	Question 14, items a, b, c, d	Scale

I constructed the data set to provide categorical demographic information as to the role of the respondent during the last IEP meeting in which they participated. On the survey instrument, I listed 11 options and one opportunity to write in a role under the option “other.” Based on their written response, I assigned the role of transition specialist, residential staff, other specialist, and counselor when respondents provided a response to “other.”

Using IBM SPSS Statistics Version 23, I computed new variables using existing variables (see the codebook in Appendix C). One questionnaire item (question 8), which measures interaction, also provides information as to whether the respondent is deaf or hard of hearing. The variable Q11DEAFHH captures that demographic information. The variable with the name Q4SETTING had 7 options to identify what type of educational setting the respondent worked at when completing the questionnaire and one opportunity to write in a setting under the option “other.” The seven options were: neighborhood public school with no consultation from experts in the field of deaf education; public school with a special program for deaf/hh students; a neighborhood public school with a teacher of the deaf/h who visits to provide consultation; state school for the deaf; regional day program for deaf/hh students; special charter or magnet school for deaf/hh students; charter school. For respondents who completed “other,” I assigned the setting of: private school for the deaf; outreach/itinerant; other; or early childhood home visitor based on their written response. The variable Q6INFLU represents the respondents’ perception of the level of influence they had in making placement and educational decisions for the deaf or hard of hearing student during the IEP process.

Using the concepts of the research model of “knowledge and training”, “interaction with deaf individuals”, “beliefs about access” and “beliefs about placement”, I selected subsets of items from the EDHH to create six observed variables, KNOWIEP, KNOWDEAF, ACCESSINSTR, ACCESSINC, ACCESS, and PLACE. The codebook in Appendix C presents each of the six variables and the items used to create the composite variables for three of the constructs in Figure 1.

Following is a brief description of each variable and the construct it is measuring.

### **Knowledge and Training**

KNOWIEP is a sub score that was created from three items that included the level of knowledge the respondents have about IEP compliance issues.

KNOWDEAF is a sub score that was created from eight items regarding the level of knowledge the respondents have about a variety of educational issues commonly held as important to deaf education.

Q13aTWorkshops - Q13iOther are descriptions of the level of formal, specialized, and informal training of the respondents.

### **Interaction with Deaf Individuals**

Q9aINTER – Q9dINTER measure the frequency of interactions an individual has with deaf or hard of hearing people in various capacities, as colleagues or co-workers, as friends, as students, or as family members. These interactions are rated on a five-point scale from never to daily with many interactions.

Q11DEAFHH is a description of the quality of interactions a hearing person has with individuals who are deaf or hard of hearing. These descriptions are rated on a four-point scale from difficult (don't understand) to very good (discuss any topic).

### **Attitude toward Deaf Individuals**

Q8ATTITUDE identifies the lens through which the respondent views being deaf and deaf education as one of three constructs: a deficit lens, a sociocultural lens, or a medical lens.



### **Beliefs about Access**

ACCESS is a sub score that was created from eight items rated from not at all to clearly responsible that measures the respondents' beliefs as to the importance of communication access in both structured and incidental learning opportunities and to peers and adults.

ACCESSINSTR is a sub score that was created from two items rated from not-at-all to clearly responsible that measures the respondents' beliefs about access only during structured lessons.

ACCESSINC is a sub score that was created from 6 items rated from not-at-all to clearly responsible that measures the respondents' beliefs about access during all incidental learning opportunities throughout the school day.

### **Beliefs about Placement**

PLACE is a sub score that was created from seven items that measures a preference toward one of two educational placements, specialized school or regular school.

### **Data Analysis**

The data analysis included calculation of appropriate descriptive statistics to inform the reader about the methods used and the individuals studied (Vogt, 2007) such as IEP team member characteristics, including their role during the last IEP meeting they participated in, whether or not they are deaf or hard of hearing, what kind of setting they work in, what kind of training they have, and whether or not their role was influential in making decisions during the meeting. I used descriptive methods to

report the frequencies of types of responses for ordinal and nominal variables and the mean, maximum, and minimum for continuous variables.

In order to answer the question, How are interactions with individuals who are deaf and/or hard of hearing related to attitudes and the decisions IEP team members make on educational placement and more equitable learning environments for deaf and hard of hearing children?, I tested the relationships between IEP team members' characteristics and their responses on four constructs of the model: knowledge, interaction, access, and placement by estimating correlation coefficients.

Three hundred fourteen (314) respondents started the survey. However, I removed cases from the data set if the respondent did not continue responding to the survey past the first two questions or did not answer one or several sets of questions measuring a conceptual construct in the model. This resulted in an analytic set of 269 respondents. The contacts in the five states disseminated the surveys through a series of forwarded messages, not through a fixed list of individuals as in random sampling where the probability of all members being selected is identified (De Vaus, 2014). Therefore, it was not possible to calculate a response rate.

I replaced missing data by using the mean of responses to questions within the question sets or the mode of all responses for a particular question. For the variable INTER, I assumed that no response indicated that the respondent did not have a deaf hard of hearing friend, co-worker, colleague, or family member and therefore no opportunity to interact and replaced a no response with a 0 (indicating frequency of interactions as "never"). For more information on strategies for dealing with missing data see Appendices D1, D2, D3, and D4.

## Delimitations

This study had the following boundaries:

1. The population for this study were members of IEP teams, at public schools for the deaf and public regular schools, for students who are determined eligible for special education services under the disability category of *Deafness* (34 CFR 300.8 (c)(3)) or *Hearing Impairment* (34 CFR 300.8 (c)(5)).
2. I drew a sample of respondents from public schools, public charter schools, regional public schools, and public state schools for the deaf who have a population of students who are deaf or hard of hearing.
3. I included IEP teams of students, grades preschool through 12 with any level of IDEA B level services, from minimum to maximum.
4. The sampling frame, except for parents and students, was comprised of Individualized Education Program (IEP) team members required or listed by IDEA (34 CFR 300.321). These are: a regular education teacher, a special education teacher, a representative of the public agency who is knowledgeable about and can commit services, an individual who can interpret evaluation results, and any other person with knowledge or expertise regarding the child.
5. Parents were not included in the sample, as a bias would have been created for families not having Internet or by the unwillingness of schools to forward the survey to parents.
6. Students were not included in the sample as their perspective is outside the scope of the research design for this study.

7. I drew a sample from states that are representative of the characteristics important to this study (Table 2) where I had a contact at a state department of education or a state school for the deaf who agreed to encourage participation in the survey. These states were New Mexico, Florida, California, Texas, and Washington.
8. I selected states in which regular education or regional programs and the state school(s) for deaf have systems of collaboration and where the state school for the deaf has consistent adequate enrollment to constitute a critical mass of deaf individuals.

### **Limitations**

This study had several limitations.

1. My own experiential perspectives as a person who is not deaf or hard of hearing limits my ability to fully understand the needs of a deaf or hard of hearing child and may have caused omissions in the design of the research model or the construction of the questionnaire.
2. My experience and vitae are closely associated with a school for the deaf, which may have led to a perception of bias on the part of respondents as to the intent of the survey.
3. Noncontact between deaf and hearing individuals, which is a premise of this paper, promotes the feeling of being threatened. Potential respondents who felt threatened by the questions may not have completed the survey.

4. The type of information I gathered about the public school programs did not allow me to develop profiles of the types of programs offered in the neighborhood public schools needed for replication of the study.
5. The questionnaire did not specifically capture the ratio of deaf to hearing students and deaf to hearing adults in a particular setting. Therefore, for purposes of this analysis, I assumed that educators in settings other than state special or regional programs work in school environments where there is low critical mass and less direct student to student and student to adult communication access.
6. As the questionnaire was untried in prior research, the use of the EDHH in this study constitutes a pilot exploration of the use of this instrument in testing and measuring the constructs and their relationships in the conceptual model presented.
7. Limited experience of hearing respondents may have caused them to over estimate their knowledge and interaction levels when responding to the questionnaire.

### **Quality Standards**

Quality standards employed for this research project included the criteria of validity, reliability, replicability, and generalizability expected in social policy research (Bryman, Becker, & Sempik, 2008). This study was conducted under approval of The Institutional Review Board at The University of New Mexico (Appendix E).

I designed the format of the survey instrument to be visually appealing, easy to read, and intellectually engaging. In order to strengthen validity that the questions

were sampling the information desired related to the five concepts in the model, I conducted cognitive interviews using a “think-aloud” method (Willis, 1999).

Accordingly, I used the results of the cognitive interviews to make revisions to the questions.

I developed composite variables in order to use multiple indicators to test the concepts in the hypothesized model (De Vaus, 2014). I tested the survey for internal consistency and correlation between subset items by estimating Cronbach’s alpha reliability coefficient (Vogt, 2007) for the composite variables KNOWIEP, KNOWDEAF, ACCESSINSTR, ACCESSINC, ACCESS, and PLACE.

Descriptive statistics provided detail about the subjects studied and I outlined the research design with sufficient clarity to allow for replication or “results verification” (Vogt, 2007, p. 59) of the study.

In order to acquire a sample large enough to analyze, it was necessary to use purposive sampling and survey IEP members in five states by using my contacts to identify and disseminate the survey to programs in their state they know serve this student population. Therefore, I was not able to use statistical inference to determine if the outcomes of the study will generalize beyond the sample and measure the degree to which the data contradicted the null hypothesis that there is no relationship between amount and quality of interaction between policy implementers and deaf individuals and the decisions made regarding educational placement (Vogt, 2007). The results of this study are only suggestive of the larger population of IEP team members for students who are deaf or hard of hearing.

## Chapter IV: Findings

The purpose of this dissertation was to examine the relationships between characteristics of IEP team members, particularly the amount and quality of interactions with deaf people and their beliefs regarding educational placement of deaf and hard of hearing students. This chapter evaluates the effectiveness of the questionnaire as the data collection instrument. It provides a profile of the respondents and outlines the results of the purposive sampling for the total analytic set and by each state sampled. The results are organized by the five constructs in the conceptual model of this study: Beliefs about Placement; Beliefs about Access; Attitude; Interactions with Deaf Individuals; and Knowledge.

### Performance of Instrument

I developed a questionnaire titled “Education for Deaf and Hard of Hearing Students” (EDHH) as I was unable to find an instrument that surveyed IEP team members about their decision-making processes for students who are deaf or hard of hearing (see Appendix B for a copy of the questionnaire). As the questionnaire was untried in prior research, the use of the EDHH in this study constitutes a pilot exploration of the use of this instrument in testing and measuring the constructs and their relationships in the conceptual model presented.

**Questionnaire design.** The EDHH was self-administered with 14 questions containing a total of 51 items asking questions of IEP team members within the five concepts of the hypothesized model displayed in Figure 1. Additional questions provided a profile of the respondents. Of 314 respondents who started the survey, 14% (45) failed to complete the survey. Respondents either stopped answering the survey

after a few questions or did not respond to question sets. This could have been due to the number of questions in each set. For example, one question measuring belief about placement has seven sub-questions. Although the variation in each of the question sets allowed for the development of composite variables, researchers using the questionnaire in the future should consider reducing the number of questions within each set.

The questionnaire provided an adequate profile of respondents, but could have been enhanced in the following ways so as to clarify the setting where respondents were working:

- Include a question to ascertain ratio of deaf/hard of hearing students to hearing students in the school setting.
- Include a question to ascertain ratio of deaf/hard of hearing staff to hearing staff in the school setting.

Regarding the five concepts of this study, I asked respondents about specialized or informal training they have received, their knowledge regarding IEPs and deaf education, the frequency, type, and quality of interaction they have had with individuals who are deaf or hard of hearing, their attitude about deafness, their beliefs about language accessibility issues, and their beliefs about educational placements for students. Central to the conceptual model is the amount of contact a respondent has with deaf and hard of hearing individuals. Yet an attempt to quantify numbers of deaf and hard of hearing individuals the respondent had contact with did not produce useable data. The concept of contact was also measured in this study using a question



regarding type and frequency of interaction. This question yielded useable data. As noted by Pettigrew et al. (2011), prejudice is more likely to be reduced if the contact between groups, in this case hearing IEP team members and deaf individuals, is not superficial. The positive effect of diminished prejudice is the increased empathy (Pettigrew et al., 2011) needed for IEP team members to make appropriate educational placement decisions. Researchers following up on this study should consider a qualitative component to augment a written or online survey with face-to-face interviews to better ascertain amount, type, and persistence of interaction.

Also central to the hypothesis of the study is the concept of “attitude,” defined in this paper as the various frameworks used by those involved in the education of students who are deaf and hard of hearing. As defined in this study, three attitudes are apparent in deaf education: medical-pathological, disability, and sociocultural. Ninety-one percent of respondents, when given these three options, chose a sociocultural lens. Given the reticence to consider a school for the deaf as a placement option as described in this paper’s literature review, it is unlikely that this number of respondents truly understand or commit to a sociocultural lens in their practice. This response may have been influenced by a *social desirability bias* where respondents gave the answer they thought was most socially acceptable (Vogt, 2007). Therefore, questions to test application of the various lenses should have been included in the questionnaire to more fully explore this construct. Attitude is also characterized by a hearing individual’s willingness to self-analyze for audist behaviors and to monitor one’s perceptions of priorities for education of deaf student’s through their interactions with

the deaf community and deaf educational professionals. Future researchers should consider including strategies to measure this aspect of the definition of “attitude”.

**Reliability.** I examined the reliability of the composite variables to determine the “degree to which the items that make up the scale ‘hang together’” (Pallant, 2013, p. 101). Each of the six sub-scores is a reliable measure for indexing four constructs in the hypothesized model. Performance of the instrument is shown in Table 7 for the composite variables KNOWIEP, KNOWDEAF, ACCESSINSTR, ACCESSINC, ACCESS, and PLACE. The estimated Cronbach’s alpha reliability coefficients for the six composite variables were greater than .7; these estimates are considered acceptable (Pallant, 2013, p. 101). The estimated coefficient for the composite variable ACCESSINSTR was likely due to the fact that it had only two items (Pallant, 2013).

Table 7

*Estimates of Cronbach’s Alpha Reliability Coefficient for Six Sub-scales*

Composite Variable	Estimated Cronbach’s Alpha Reliability Coefficient
KNOWIEP	.815
KNOWDEAF	.868
ACCESSINSTR	.711
ACCESSINC	.856
ACCESS	.875
PLACE	.816

**Validity.** I examined the construct validity of the six composite variables presented in Table 7 by comparing the “intercorrelation between pairs of subscales with each subscale's reliability coefficient. When the intercorrelation between subscales is lower than the subscale reliability coefficients, it suggests that the subscales are measuring distinguishable constructs” (Hallinger, Taraseina, & Miller, 1994, p. 18). Table 8 presents the estimated correlation matrix for the intercorrelations of the six composite variables.

Table 8

*Estimated Intercorrelation Coefficients for Six Sub-scales from the EDHH*

	KNOWIEP	KNOWDEAF	ACCESSINSTR	ACCESSINC	ACCESS	PLACE
KNOWIEP	1					
KNOWDEAF	.469**	1				
ACCESSINSTR	.226**	.151*	1			
ACCESSINC	.139*	.352**	.651**	1		
ACCESS	.167**	.329**	.770**	.985**	1	
PLACE	-.051	-.443**	-.192**	-.372**	-.356**	1

\*\*Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed)

The only estimated intercorrelation that is greater than the estimated Cronbach's alpha reliability coefficient is the one between ACCESSINC and ACCESS (.985). This is not surprising as ACCESS incorporates all the items for ACCESSINSTR and ACCESSINC.

**Dissemination.** The incidence of hearing loss is low. Students ages 6 - 12 who are deaf or hard of hearing and receiving special education account for only 1.2% of 5,693, 441 students receiving special education in the United States. For example, in 2012 in New Mexico, 42,004 students were receiving special education services. Of those students only 510 were receiving services under the category of hearing impairment (Annual Disability Statistics Compendium, 2015). Therefore, in order to acquire a sample large enough to analyze, it was necessary to cast a wide net. I did this by surveying IEP members in five states by using my contacts to identify and disseminate the survey to programs in their state they know serve this student population.

The result of this targeted dissemination was a notable percentage of respondents (48.3%) who had master's degrees as teachers of the deaf and hard of hearing and a relatively high percentage (34.9.5%) that worked in state special schools for the deaf and hard of hearing or regional programs (18.6%) for students who are deaf or hard of hearing. It is in these settings we would assume a greater critical mass of deaf and hard of hearing peers and deaf and hard of hearing adults. The survey did not specifically capture the ratio of deaf to hearing students in a particular setting. Therefore, for purposes of this analysis, I assumed that educators in settings other than state special schools work in school environments where there is low critical mass and less direct (not through an interpreter) communication access and less overall student to student and student to adult interaction.

## Participants

In this section, I first present a description of the participants for all groups and then a comparison of respondents from each of the five states, Texas, California, Washington, New Mexico, and Florida.

**Total participants.** There was a total of 269 IEP team members in the analytic set for this study. Seventy-nine respondents in this set were from California, 66 from Texas, 62 from New Mexico, 42 from Washington, and 20 from Florida. The primary respondents were teachers or consultants of deaf or hard of hearing students (133 or 46.1%), followed by support staff such as speech language pathologists, audiologists, transition specialists, or interpreters (60 or 25.6%), principals or other administrators (47 or 17.5%), and general special or regular education teachers (29 or 10.8%).

Respondents primarily worked in one of five settings at the time they completed the questionnaire. A little over half (53.5%) worked in state special schools for the deaf and hard of hearing or regional programs for students who are deaf or hard of hearing. They also reported working in public school with a special program (55 or 20.4%), neighborhood schools with a teacher who consults (37 or 13.8%) and those schools with no consultation (16 or 5.9%). The remaining respondents (17 or 6.4%) were scattered in charter or private schools, worked as itinerant teachers or conducted home visits.

Fifty-four (20.1%) of the respondents were deaf or hard of hearing and 215 (79.9%) respondents were hearing. These results are similar to those of Simms et al. (2008) where 78% of teachers working in programs for deaf students who are deaf or hard of hearing were hearing (not deaf or hard of hearing). As reported earlier, over

half of the respondents worked in special or regional schools for the deaf. It is typically in these settings where there is a greater concentration of deaf and hard of hearing staff. Therefore, it is interesting to note that the respondents were still overwhelmingly hearing (not deaf or hard of hearing) themselves. These numbers illustrate the dichotomy between educators serving the deaf and hard of hearing, who are primarily hearing, and the student population they serve. This finding supports the need to study how educators who are not deaf or hard of hearing can develop sufficient empathy to adequately make educational decisions for deaf and hard of hearing students.

IEP team members in this sample had a BA in deaf education (66 or 24.5%). One hundred thirty (48.3%) had an MA in deaf education. Almost all (96.7%) of the respondents reported they had specialized training for working with students who are deaf or hard of hearing. It is interesting to note the discrepancy between percent of respondents who have BA and MA degrees in deaf education and those who considered themselves as having specialized training.

Respondents reported their level of influence in making placement decisions. One hundred fifty-four (57.2%) felt they were not influential at all or somewhat influential. One hundred fifteen (42.8%) felt very influential.

**Participants by state.** The profile of respondents in the analytic set by state is summarized in Table 9. Like the total data set for role during the IEP meeting, most were teachers or consultants for deaf or hard of hearing students. A notable exception is New Mexico where this was true for only 29% of respondents. Other IEP team members in New Mexico were support staff (29%), special or general education teachers (22.6%), and administrators (19.4%).

Over half of respondents in California, Texas, and New Mexico worked in state special schools or regional day programs for the deaf, which is similar to the total profile. When comparing special school and regional programs in Texas, however, we see that the survey did not reach potential respondents at their special school for the deaf. A majority, 60.6% of respondents, was from Texas Regional Day programs and only 1.5% was from their state special school. Washington may have had a more equal distribution of participants than other states as their respondents worked in public schools with public school special programs (28.6%), special school and regional programs (33.3%), neighborhood schools with and without consultation (26.2%), and other programs (11.9%). Florida's responses were heavily from their state special school (85%).

The percentage of deaf or hard of hearing respondents in four of the five states ranged from 19% to 29%. Texas, however only had 3% of respondents who were deaf or hard of hearing. This is very unusual and supports the contention that the survey was not distributed at their state special school for the deaf. It is also interesting that there were only two respondents to the survey who were deaf when a majority of respondents in Texas reported they work at regional day programs for the deaf. This suggests that there may be no or a very low number of deaf or hard of hearing staff at the Texas Regional Day programs for the deaf.

There was variation by state in the number of respondents in the analytic set that reported they had Master's degrees in deaf education. The highest percentages were in Washington (61.9%) and California (60.8%). New Mexico and Texas had lower percentages with 33.9% and 39.4% respectively. This makes sense for New Mexico as

only 29% of the respondents described their role as teachers of the deaf and hard of hearing at the time of their most recent IEP meeting. However, in Texas, given that 66.7% of respondents said their role was as a teacher of the deaf/hard of hearing, it would be expected that more respondents would have advanced training as deaf educators.

Respondents in Washington felt the least influential in making placement and educational decisions for students during the IEP process. This was followed by New Mexico at 61.3% where participants felt they were not or only somewhat influential. Texas respondents felt the most influential. It should be noted that 98.5% of the respondents from Texas are hearing not deaf or hard of hearing themselves.

Table 9

*Distribution of Participants' Characteristics by State*

State	Number in analytic set by state	Teacher of deaf/hard of hearing or consultant	Work at a state special school	Deaf or hard of hearing	MA degree in deaf education	Not or somewhat influential
California	79	53.2%	41.8%	25.3%	60.8%	58.2%
Texas	66	66.7%	1.5%	3%	39.4%	45.4%
New Mexico	62	29%	51.6%	29%	33.9%	61.3%
Washington	42	47.6%	26.2%	26.2%	61.9%	71.5%
Florida	20	40%	85%	15%	45%	50%



### **Results of the Five Constructs in the Model**

**Placement.** To measure “beliefs about placement,” I asked respondents to rate agreement on their perspectives about the appropriateness of special school for the deaf or regular educational placements. Seven questions probed whether the respondent felt that special school for the deaf should be considered only after a student failed in a neighborhood school and whether supports such as interpreters, hearing assistive devices and some sign language in the classroom constituted adequate supports for students to be placed in the regular education setting. I created a composite measure of the concept of “Placement” by combining the responses to these questions. The range of total possible scores was 7 to 28 with agreement to placement at special schools with critical mass of deaf and hard/hearing students and opportunity for direct communication (not through an interpreter) closer to a total score of 7 and agreement to placement at neighborhood regular schools closer to a total score of 28. With 14 considered the midpoint, 66.5% of respondents showed a preference to specialized educational settings for deaf and hard of hearing students. A preference for placement of deaf and hard of hearing students in neighborhood school programs with hearing students was selected by 33.5% of respondents.

**Placement by state.** Table 10 shows that the distribution by state for preference to specialized educational settings for deaf and hard of hearing students was similar in four of the five states ranging from 73.8% to 80%. Notable is Texas that showed a low preference at 36.4%. This is likely because most of the respondents from Texas worked at the Regional Programs for Deaf and Hard of Hearing students. This suggests that these IEP team members in Texas do not consider their regional programs

as specialized educational settings but more similar to regular and neighborhood school settings. It is also interesting to note that participants in Washington had a high preference for placement at special schools when we consider that the respondents from Washington worked in the most varied settings including public schools with special programs (28.6%), special school and regional programs (33.3%), neighborhood schools with and without consultation (26.2%), and other programs (11.9%). This suggests that respondents in Washington were apt to look beyond their own work setting as possible placements for students on the continuum of placement options.

Table 10

*Preference for Placement at Special Schools by State*

California n = 79	Texas n = 66	New Mexico n = 62	Washington n = 42	Florida n = 20
77.2%	36.4%	75.8%	73.8%	80%

**Access.** To measure belief in the importance of a deaf or hard of hearing student's language and communication access during the school day, I asked respondents to gauge their responsibility as IEP team members for considering supports and services so that the student has access to instruction and to incidental interactions. I structured this question in this way based on the premise that beliefs drive maneuverability within the law and are actualized by an IEP team member's perceived responsibility. Two composite measures were created from 8 questions:

- **Access to Instruction:** Two questions regarding access to instruction constituted one composite variable. These asked about language and communication access to peer-to-peer discussions and to teachers and other instructional staff during instruction.
- **Access to Incidental Interactions:** Six questions regarding access to incidental interactions constituted one composite variable. These asked about language and communication access to peer-to-peer discussions both in and out of the classroom. The questions also asked about language and communication access to adults both in and out of the classroom, to support staff such as cafeteria workers, and all instructional staff including administrators in the whole school. The questions also probed whether or not the respondent felt that regular interactions with deaf and hard of hearing peers and adults were important.

The total possible composite scores for access to instruction ranged from 2 to 10. A strong belief in the importance of access to language and communication during instruction is closer to a score of 10. The mean for this response was 9.24 indicating that the majority of IEP team members who responded to this survey were clearly in support of student access during planned instruction. It is interesting to note, however, that at least 25 respondents' scores ranged from 2 to 7 indicating they were not clear it was their responsibility to ensure access during instruction. This is indicative of the precedent-setting court cases establishing the sub-par quality of education expected by public schools through IDEA (Aldersley, 2002; Jackson, 2010; Mead & Paige, 2008).

Total possible composite scores for access to incidental communication ranged from 6 to 30. A strong belief in the importance of access to language and communication for incidental interactions through out the school day is closer to a score of 30. The mean for this response was 24.3 indicating fairly strong advocacy for this type of interaction though not as strong as for the variable of access to instruction only. However, it should be noted that 97 or 36% of IEP team members' scores ranged from 6 to 23 indicating they were not clear it was their responsibility to ensure access during incidental communication and language interactions. This suggests a need for IEP team members to be trained as to their obligations under ADA (Americans with Disabilities Act) as well as IDEA. The Justice Department has advised that when considering ADA, a school is obligated to provide a student with a disability effective communication and separately consider its obligation to provide a free appropriate education (U.S. Department of Justice Civil Rights Division, 2014).

I also created one composite measure from the eight questions. Total possible composite scores for access to language and communication ranged from 8 to 40. The mean for this response was 33.54 indicating that, on average, respondents had fairly strong belief in a student's right to access to communication through peers and adults.

**Access to instruction and incidental communication by state.** Table 11 shows the percentage by state of respondents who agreed that access to instruction was important. The total possible scores for the composite variable of access to instruction ranged from 2 to 10 with scores closer to 10 having strong beliefs in the rights of students to have access to instruction. With 7 as the midpoint, the percentages of respondents closer to 10 are listed in Table 11. We see a fairly equal distribution by

state, with advocacy toward access during instruction. Washington, however, stands out as the state where there is no doubt that students who are deaf or hard of hearing should have access to instruction.

Table 11 also shows the percentage by state of respondents who agreed that access to incidental communication was important. Total possible composite scores for access to incidental communication ranged from 6 to 30. A strong belief in the importance of language and communication access for incidental interactions throughout the school day is closer to a score of 30. With 18 as the midpoint, the percentages of those scores closer to 30 are listed in Table 11. Again, there is reasonably even distribution of responses suggesting fairly strong advocacy for language access to incidental learning. Washington again stands out; its educators had the strongest belief in access for incidental language and communication opportunities. Florida has the lowest percentage of the five states, which is interesting given that Florida has the highest percentage of respondents from their state special school for the deaf. This is surprising since state special schools typically boast about their uniqueness as places where students have access to on-going, fluid, direct communication both in and outside the classroom.

Table 11

*Percentages by State of Participants that Believe Access is Important*

	California n = 79	Texas n = 66	New Mexico n = 62	Washington n = 42	Florida n = 20
Access to instruction	89.9%	89.4%	83.9%	100%	80%
Access to incidental communication	84.8%	80.3%	88.7%	97.6%	70%

**Attitude.** To measure the respondent's attitude toward deaf and hard of hearing individuals, I included items that asked respondents to choose one of three statements that describe their focus as they work with deaf and hard of hearing students. The statements identify one of the three lenses through which the respondent views being deaf and deaf education: a deficit lens (A person who is deaf or hard of hearing has a disability and needs help), a sociocultural lens (Human interaction and language access is necessary for student motivation and learning), or a medical lens (Treatments such as hearing aids and cochlear implants provide the best opportunity for student outcomes).

A very large majority, 91.1% of respondents, chose the sociocultural lens, which implies that most IEP team members who responded to this survey perceive themselves as supporters of a child's right and need to have language access and interaction with other children and adults. This is noteworthy given 36% of respondents were not clear about their responsibility to ensure incidental access to language and communication. Also given the general reticence to consider a school for

the deaf as a placement option I described in this paper's literature review, it is unlikely that this number of respondents truly understands or commits to a sociocultural lens in their practice. This response may have been influenced by a *social desirability bias* where respondents gave the answer they thought was most socially acceptable (Vogt, 2007).

**Attitude by state.** The distribution for attitude by state was unremarkable ranging from 88.7% in New Mexico to 95% in Florida with respondents reporting a sociocultural frame of reference.

**Quality of interactions.** Respondents were asked a question that measured the quality of their interactions with deaf and hard of hearing individuals. They chose one of four descriptors: 1) Very good, we are able to discuss any topic; 2) Good, we discuss most topics and find ways to make sure we understand each other; 3) Awkward, we understand each other but only for basic conversations; 4) Difficult, we don't understand each other.

The tally removes deaf and hard of hearing respondents, as the purpose is to gauge the ability of hearing persons to communicate fluidly with deaf individuals. This leaves a sample of 215 for this question (54 respondents to the survey were deaf or hard of hearing). Sixty-two percent (133) of the 215 reported that their interactions with deaf or hard of hearing individuals were very good in that they are able to discuss any topic and 31% (66) checked that their interactions were good in that they could discuss most topics. A very small percentage, 7% felt their interactions were awkward or difficult. In order to communicate comfortably, a hearing individual needs to have repeated contact with deaf or hard of hearing people. It could be inferred from the high

percentage of respondents who report they have high quality interactions that these respondents have daily on-going contact with adult persons who are deaf or hard of hearing. However, when reviewing the data further, we see this is not the case. The majority of respondents had the most frequent interactions with students. It is likely some respondents overestimated their ability to communicate at a high level with individuals who are deaf or hard of hearing.

**Quality of interactions by state.** Quality of interactions was similar between states. Respondents felt that their interactions were good or very good. It takes considerable contact and language skill level in sign language to acquire the ability to discuss any topic. Therefore, it is interesting to note that respondents (who are hearing), given the options of “awkward”, “good”, or “very good”, in each state as shown in Table 12 had high confidence in their interactions with deaf and hard of hearing individuals, rating themselves as able to discuss any topic.

Table 12

*Quality of (hearing) Interaction with Deaf and Hard of Hearing Individuals*

	<b>California</b> n = 59	<b>Texas</b> n = 64	<b>New Mexico</b> n = 44	<b>Washington</b> n = 31	<b>Florida</b> n = 17
Interactions are good	28.1%	35.9%	29.5%	32.2%	17.6%
Interactions are very good	66.1%	60.9%	52.3%	58.0%	82.0%

**Frequency of interactions.** Respondents were also asked about the frequency of interactions they have with deaf or hard of hearing people in various categories, as



colleagues or co-workers, as friends, as students, or as family members. These interactions are rated on a five-point scale for each category: Never; Seldom, several times in my career; Regular, a few times a month; Often, a few times a week; Daily with many interactions throughout the day.

Respondents said they had the most interactions with students (76.2%), next with colleagues or co-workers (48.7%), with friends (33.8%), and with family (25.3%).

Table 13 shows the responses for each category.

Table 13

*Frequency of Interactions (n=269)*

	Never	Seldom	Regular (a few times a month)	Often (a few times a week)	Daily (with many interactions)
With colleagues or co-workers	7.4%	14.9%	15.6%	13.4%	48.7%
With friends	9.3%	19.3%	24.2%	13.4%	33.8%
With students	1.9%	3.0%	8.2%	10.8%	76.2%
With family	53.5%	10.4%	5.2%	5.6%	25.3%

**Frequency of interactions by state.** Table 14 shows variation by state for respondents who chose “daily, with many interactions” for frequency of interaction with colleagues or co-workers. Texas had the lowest percentage (28.8%) and Florida the highest (85%). This reflects the response from these states regarding the setting where most of the respondents worked, in the state’s regional programs and at the state

school for the deaf respectively. It is also interesting to note that New Mexico and Washington responses were clustered in never or seldom (32.2% for NM and 30.9% for WA) or in daily (56.5% for NM and 50% for WA). Washington is particularly interesting because only 26.2% of the respondents reported they worked at their state special school for the deaf where typically we would expect to have greater numbers of deaf and hard of hearing staff and therefore, more opportunities for interaction. This may suggest that Washington has a strategy for creating opportunities for interaction with deaf and hard of hearing educators outside their state school or that Washington programs in general have higher numbers of deaf or hard of hearing professional working in their various programs. In New Mexico, 51.6% of respondents work at the state special school, which suggests that if an IEP team member in New Mexico does not work at this kind of setting, she does not have the same opportunity for interaction with deaf or hard of hearing individuals. Respondents by state reflect total responses in that they had the most interactions with students and then with colleagues and co-workers.

Table 14

*Frequency of Interactions by State (CA n = 79; TX n = 66; NM n=62; WA n=42; FL n = 20)*

	State	Never	Seldom	Regular (a few times a month)	Often (a few times a week)	Daily (with many interactions)
With colleagues or co-workers	CA	6.3%	12.7%	21.5%	10.1%	49.4%
	TX	3%	15.2%	25.8%	27.3%	28.8%
	NM	14.5%	17.7%	6.5%	4.8%	56.5%
	WA	9.5%	21.4%	9.5%	9.5%	50%
	FL	0%	0%	0%	15%	85%
With friends	CA	7.6%	16.5%	22.8%	11.4%	41.8%
	TX	10.6%	28.8%	36.4%	9.1%	15.2%
	NM	12.9%	22.6%	11.3%	16.1%	37.1%
	WA	9.5%	11.9%	31%	16.7%	31%
	FL	0%	5%	15%	20%	60%
With students	CA	1.3%	1.3%	2.5%	11.4%	83.5%
	TX	3%	1.5%	3%	19.7%	72.7%
	NM	1.6%	8.1%	24.2%	4.8%	61.3%
	WA	2.4%	2.4%	7.1%	9.5%	78.6%
	FL	0%	0%	0%	0%	100%
With family	CA	51.9%	7.6%	5.1%	2.5%	32.9%
	TX	65.2%	19.7%	6.1%	1.5%	7.6%
	NM	46.8%	8.1%	1.6%	4.8%	38.7%
	WA	50%	9.5%	9.5%	14.3%	16.7%
	FL	50%	0%	5%	15%	30%

**Knowledge.** To measure the level of knowledge of the respondents, the questionnaire included items regarding level of knowledge about IEP compliance issues and about a variety of educational issues commonly held as important to deaf education. Two composite measures were created from 11 questions:

- Knowledge about IEPs: Three questions regarding knowledge of IEPs constituted one composite variable. These asked the respondents to rate their

familiarity with IEPs (Individualized Educational Programs), and the tenets of LRE (Least Restrictive Environment) and continuum of placement options.

- Knowledge of deaf education: Eight questions regarding knowledge of issues in deaf education constituted one composite variable. These asked the respondents to rate their familiarity with special factors of language and communication, ASL (American Sign Language), Deaf culture, specialized oral education, bilingual (ASL/English) education, and development of language and communication for deaf and hard of hearing students. Questions in this composite also asked about knowledge related to reform movements, Deaf President Now (DPN) (Gallaudet Website) and the National Agenda for Students who are Deaf or Hard of Hearing (NAD Website).

Total possible composite scores for knowledge about IEPs ranged from 0 to 9. Expert knowledge is closer to a score of 9. The mean for this response was 7.49 indicating that, on average, IEP team members who responded to this survey felt they were not experts but were knowledgeable about IEPs in general, Least Restrictive Environment (LRE), and the continuum of placement options.

Total possible composite scores for knowledge about deaf education ranged from 0 to 24. Expert knowledge is closer to a score of 24. The mean for this response was 15.59 indicating that, on average, IEP team members who responded to this survey felt they were not experts but were knowledgeable about issues related to deaf education.

**Knowledge by state.** Respondents in all states felt they were knowledgeable to expert regarding IEPs. With expert knowledge closer to a score of 10 and a midpoint of 5, percentages of those with scores between 5 and 10 are listed in Table 15.

Respondents in all states felt they were knowledgeable to expert regarding issues commonly associated with deaf education. With expert knowledge closer to a score of 24 and a midpoint of 12, the percentages of those with scores between 12 and 24 are listed in Table 15. It is interesting to note that, although respondents in all states feel knowledgeable, they are not as confident in their knowledge of deaf education as they are in the knowledge of IEPs.

Table 15

*Percentages by State of Participants that Rated Their Expertise with IEPs and Deaf Education as Knowledgeable to Expert*

	California n = 59	Texas n = 64	New Mexico n = 44	Washington n = 31	Florida n = 17
Knowledge of IEPs	94.9%	93.9%	88.7%	90.5%	100%
Knowledge of deaf education	84.8%	79%	72.9%	76.2%	75%

### **Relationships Between Construct Subscores**

The purpose of this study was to explore the interplay between various characteristics of IEP team members that may influence their educational decisions for deaf and hard of hearing students. Table 16 presents bivariate relationships between five variables that tap into the constructs of the model: the composite variables Access,

Placement, and Knowledge, the variable Interaction with deaf colleagues and co-workers and the categorical variable, whether or not the participant has a Master's degree in deaf education.

There was a moderate, negative statistically significant correlation ( $r = -.507, p < .001$ ) between interaction with deaf and hard of hearing colleagues and co-workers and placement. Lower scores in placement (preference for a special state school) are related to higher scores for frequency of interaction ( $r = -.507, p < .001$ ), knowledge ( $-.409, p < .001$ ), Master's in deaf education ( $-.277, p < .001$ ), and beliefs about access ( $-.472, p < .001$ ) (and vice versa).

There was a moderate, positive statistically significant correlation ( $r = .461, p < .001$ ) between interaction with deaf and hard of hearing colleagues and co-workers and knowledge of deaf education (and vice versa). There was also a moderate, positive statistically significant relationship ( $r = .453, p < .001$ ) between interaction with deaf and hard of hearing colleagues and co-workers and beliefs about access (and vice versa).

Table 16

*Estimated Correlation Matrix for Four Sub-scores on the EDHH and Degree Status*

*(Spearman's rho, n = 269)*

	PLACE Placement	KNOWDEAF Knowledge of deaf education	Q9aINTER Frequency of interaction with colleagues or co-workers	Q13fTMDEAF MA in deaf education	ACCESS Access
PLACE	1				
KNOWDEAF	-.409**	1			
Q9aINTER	-.507**	.461**	1		
Q13fTMDEAF	-.277**	.302**	.288**	1	
ACCESS	-.472**	.369**	.453**	.230**	1

\*\*Correlation is significant at the 0.01 level (2-tailed)

### Summary

In this section, I present the research question and a summary of findings that helped me answer the question. I also report notable findings that may inform policy, which emerged from the analysis of the demographics and the constructs, and from the analysis of individual states.

**Research question.** The research question for this investigation was: How are interactions with individuals who are deaf and/or hard of hearing related to attitudes and the decisions IEP team members make on educational placement and more equitable learning environments for deaf and hard of hearing children?

I tested the bivariate relationships between five variables that tap into four constructs of the model: Access, Placement, Knowledge, and Interaction. Based on this study, I found an association exists between the characteristics of IEP team members in terms of their knowledge of deaf education, their interaction with deaf and hard of hearing individuals, their beliefs about placement, and their beliefs about access.

In this sample at least, educators that tend to have more frequent interactions with deaf and hard of hearing colleagues and co-workers also tend to believe that students who are deaf or hard of hearing should receive their educational services in a special school for the deaf. Those educators with more frequent interaction also tended to acknowledge that deaf and hard of hearing students needed access to instructional and incidental language and communication through out the school day. This suggests that greater interaction with deaf and hard of hearing adults, the minority group in this study, may lead to greater empathy and concomitant understanding from the majority group (people who are not deaf or hard of hearing) of what constitutes language and communication access in an educational setting.

Also based on this sample, educators who tended to believe that students who are deaf or hard of hearing should be placed in a state special school for the deaf also reported greater knowledge of educational issues related to deaf and hard of hearing education and had a Master's degree in deaf education. This suggests that greater knowledge of deaf education may be related to an IEP team member's decisions on educational services and placement for students who are deaf or hard of hearing.

**Demographics.** Fifty-four (20.1%) of the respondents were deaf or hard of hearing and 215 (79.9%) respondents were hearing. These results are similar to



findings by Simms et al. (2008) who showed that 78% of teachers working in programs for students who are deaf or hard of hearing were hearing (not deaf or hard of hearing). These numbers illustrate the dichotomy between educators serving the deaf and hard of hearing, who are primarily hearing, and the student population they serve that is deaf or hard of hearing.

**Constructs.** I hypothesized that a relationship exists between IEP member interactions with deaf individuals, their knowledge and training, their attitude, and beliefs about access. These factors then influence the educational placement decisions for students who are deaf and hard of hearing made by IEP team members. I used descriptive methods to report the frequencies of types of responses for categorical variables and the mean, maximum and minimum of scores for continuous variables that measured the constructs. When looking at level of knowledge, IEP team members in this sample had a BA in deaf education (66 or 24.5%). One hundred thirty (48.3%) had an MA in deaf education. Almost all (96.7%) of the respondents reported they had specialized training for working with students who are deaf or hard of hearing. It is interesting to note the discrepancy between the percent of respondents who have BA and MA degrees in deaf education and those who considered themselves as having specialized training. This suggests there is not a common standard for what constitutes “specialized training” for individuals working with students who are deaf or hard of hearing. I consider the implications of this finding in Chapter 5.

IEP team members who responded to this survey were clearly in support of student access during planned instruction. It is interesting to note, however, that at least 25 respondents’ scores indicated they were not clear it was their responsibility to

ensure access during instruction. Scores were lower but still showed fairly strong advocacy for incidental communication and language interactions. However, I noted that scores for 97 IEP team members indicated they were not clear it was their responsibility to ensure this type of access. This finding, too, has implications for policy and practice. I discuss this in Chapter 5.

**Findings by state.** I found that 50% of respondents from Washington reported they had daily interaction with deaf individuals as colleagues or co-workers. I purposefully selected state schools, which had a high number of deaf educators for this sample (Table 2). Consequently, we might expect that most deaf educators in this sample worked at state schools for the deaf and this provided more opportunity for interaction. For example, Texas had the lowest percentage of frequency of interaction (28.8%) reflecting the demographic of the setting where those respondents worked, which were their state's regional programs. Florida had the highest percentage of frequency of interaction (85%) reflecting where those respondents worked, which was at their state special school for the deaf.

Washington is particularly interesting because only 26.2% of the respondents reported they worked at their state special school for the deaf where typically we would expect to have larger numbers of deaf and hard of hearing staff and more opportunities for interaction yet 50% of those respondents said they had daily interaction with deaf individuals as colleagues or co-workers. This may suggest that Washington has a strategy for creating opportunities for interaction with deaf and hard of hearing educators from their state school for the deaf or that Washington programs in general

have higher numbers of deaf or hard of hearing professional working in their various programs.

It is also interesting to note that 73.8% of respondents from Washington had a high preference for placement at state special schools when we consider that Washington respondents worked in the most varied settings including public schools with special programs (28.6%), state special school and regional programs (33.3%), neighborhood schools with and without consultation (26.2%), and other programs (11.9%). This may suggest that respondents in Washington were apt to look beyond their own work setting as possible placements for students on the continuum of placement options.

The descriptive statistics from Washington suggest that, at least for the respondents for this survey, these IEP team members had what is described by this study as a sociocultural “attitude.” They interacted with deaf professionals even though they did not work at schools for the deaf. They also considered placement at a school for the deaf, which is the education environment that is historically considered by the deaf as a critical element of their community and education (Gannon, 1981).

It is notable that when compared to other states, 71.5% of the respondents in Washington did not feel influential in making placement and educational decisions for students during the IEP process. This suggests that, although their system has been successful at developing and implementing a sociocultural attitude toward educational placement and opportunities for intergroup (between deaf and hearing) contact, factors other than the IEP team members’ characteristics are driving placement. There may be an administrative layer above the IEP team members that is constraining their

autonomy in making decisions they feel are appropriate for students who are deaf or hard of hearing. For this reason, strategies for ensuring implementation of policy should be a multi-layered approach, targeting educators and administrators at the school, district, state, and national levels.

## **Chapter V: Conclusions and Recommendations**

### **Overview**

The purpose of this study was to shed light on how educators come to the task of creating an educational plan for a child who is deaf or hard of hearing. Professionals come to their job of making decisions for students who are deaf and hard of hearing with a set of knowledge, attitudes, and beliefs that are likely influenced by the social context in which they live and work (Rodenborg & Boisen, 2013). If IEP team members do not have contact or interaction with deaf individuals, their decisions about appropriate educational environments for deaf children are made from suppositions that may not be accurate. Intergroup contact theory (IGC) has been suggested as a framework to increase cultural competence and decrease prejudice of social workers interacting with diverse populations (Rodenborg & Boisen, 2013). The premise of IGC is that increased interaction decreases prejudice not only for racial and ethnic groups but also for other marginalized groups (Pettigrew et al., 2011). I expected that how hearing (not deaf or hard of hearing) IEP team members approach educational decisions for deaf or hard of hearing children would be influenced by their contact and interaction with deaf individuals.

I begin this chapter with a brief summary of the findings I reported in Chapter 4. This is followed by limitations of the study, recommendations for development of a policy action plan based on the analysis of the collected data, suggestions for future research, and a summary.

## Research Question and Findings

At the implementation level, when members of an IEP team form to make educational and placement decisions, it is important to understand how different constructs impact educational and placement decisions for a student who is deaf or hard of hearing. I hypothesized that IEP team members use the constructs of knowledge about education of the deaf and hard of hearing, attitudes that reflect a sociocultural, medical or deficit lens, and beliefs about access as they develop educational plans for a student. These constructs are influenced by the consistency (how often, quality, and type) of interaction IEP team members have with deaf individuals. The interplay of these constructs impacts beliefs about appropriate educational placements for students who are deaf or hard of hearing. One research question was the guide for this investigation: How are interactions with individuals who are deaf and/or hard of hearing related to attitudes and the decisions IEP team members make on educational placement and more equitable learning environments for deaf and hard of hearing children?

**Relationships between construct subscores.** I tested bivariate relationships between four constructs of the model: Access, Placement, Knowledge, and Interaction. Based on this study, I found an association exists between the characteristics of IEP team members in terms of their knowledge of deaf education, their interaction with deaf and hard of hearing individuals, their beliefs about placement, and their beliefs about access.

Statistically significant negative correlations were found between interaction with deaf and hard of hearing colleagues and co-workers and placement ( $r = -.507$ ,  $p <$

.001), placement and knowledge ( $r = -.409, p < .001$ ), a Master's degree in deaf education and placement ( $r = -.277, p < .001$ ), and beliefs about access and placement ( $r = -.472, p < .001$ ). Lower scores in placement (preference for a special state school) are related to higher scores for frequency of interaction, knowledge, Master's in deaf education, and beliefs in access respectively (and vice versa). In other words, IEP team members who reported greater levels of interaction with deaf and hard of hearing colleagues and co-workers tended to believe in the appropriateness of placement in a state special school for students who are deaf or hard of hearing. IEP team members with an MA in deaf education were likely to consider placement and services at a special state school for the deaf. Those IEP team members who believed that access to language and communication throughout the school day was important preferred placement in a state special school for students who are deaf or hard of hearing.

Statistically significant, positive correlations were found between interaction with deaf and hard of hearing colleagues and co-workers and knowledge of deaf education ( $r = .461, p < .001$ ), interaction and beliefs about access ( $r = .453, p < .001$ ), and interaction and setting the respondent worked in ( $r = .652, p < .001$ ). Higher scores for interaction are associated with high scores for an IEP team member's beliefs about responsibility for ensuring access to instructional and incidental language and communication. Based on this sample, those educators with more frequent interaction had greater knowledge of deaf education and also tended to acknowledge that deaf and hard of hearing students need access to instructional and incidental language and communication through out the school day. This suggests that greater interaction with deaf and hard of hearing adults, the minority group in this study, may lead to greater

empathy and concomitant understanding from the majority group of what constitutes language and communication access in an educational setting for deaf and hard of hearing students.

While the relationship between interaction with deaf and hard of hearing colleagues and knowledge beliefs about access, and preference for placement at special schools may not seem unexpected given the literature on intergroup contact (IGC) (Pettigrew et al., 2011), it is important to remember that most educators working with deaf and hard of hearing students are not deaf or hard of hearing themselves (Simms et al., 2008) and are working with students in schools where there are only one or a few deaf students (Mitchell & Karchmer, 2006). Without consistent interaction with deaf adults, these educators will not bring the appropriate information to the IEP table and their decision making process (Lipsky, 2010). The results of this study show a relationship exists between the frequency of interaction an IEP team member has with deaf or hard of hearing colleagues and co-workers and placement at a special school for the deaf. Because colleagues and co-workers represent a professional set of individuals who are likely their own self advocates, it could be assumed that the quality of these interactions include professional conversations at an abstract level. Quality of contact has been noted in other research as a mitigating factor in decreasing prejudice (Pettigrew et al., 2011). The decisions of educational placement and services for students who are deaf or hard of hearing are influenced by an IEP team member's level of education and their beliefs in access. In this study, an association exists between whether or not the IEP member has a Master's Degree in deaf education and if their placement decision favors a special school for the deaf. Also in this study, there was a



relationship between IEP members who believed it was their responsibility to assure access during the school day both for instructional and incidental learning and their decision for placement at special schools for the deaf. This is relevant because even though there is a preference for the Least Restrictive Environment (LRE) in IDEA, knowledgeable educators and those who believe in the importance of language and communication access prefer special schools for the deaf as a placement for deaf and hard of hearing students. What is likely counterintuitive for caring general educators who do not have interaction with deaf adults and are not knowledgeable in deaf education is that placement at schools for the deaf is not segregation but liberation.

The results of the study also suggest an association between the frequency of interaction and IEP team member has with deaf or hard of hearing colleagues and co-workers and their beliefs about the importance of language and communication access during instruction and incidental learning. This suggests that IEP team members who interact with deaf adults have a better understanding of what constitutes language and communication access for a student and an ability to place themselves in that student's shoes, a trait central to the development of empathy. Greater contact between subgroups has been associated with increased empathy (Pettigrew et al., 2011). I found that an association exists between placement and interaction as well as interaction and beliefs about access. Because this study suggests that IEP team members who interact with deaf adults have a better understanding of what constitutes language and communication access for a student and an ability to place themselves in that student's situation, education leaders should consider how to capitalize on the human resource inherent in schools or programs where there are concentrated numbers of deaf and

hard of hearing individuals. This can be done in two ways. First, by encouraging the careful discussion of schools for the deaf as an educational placement option, more students will be able to take advantage of the rich language and cultural opportunities at schools for the deaf. Second, for those deaf and hard of hearing students who are receiving services in a mainstreamed setting, partnering with the school for the deaf will create opportunities for staff and students to regularly and meaningfully interact with the deaf community.

**Demographics and description of the data.** Even though about half of the respondents to the survey worked at schools for the deaf, where you would expect a greater concentration of deaf people, 79% of respondents to the survey were hearing (not deaf or hard of hearing). These results are similar to the study done by Simms et al. (2008) showing that 78% of teachers working in programs for students who are deaf or hard of hearing are hearing (not deaf or hard of hearing). These demographics illustrate the dichotomy between educators serving the deaf and hard of hearing, who are primarily hearing and the student population they serve.

Forty-eight percent of the respondents had an MA in deaf education yet 96.7% of the respondents reported they had specialized training for working with students who are deaf or hard of hearing. The discrepancy between percent of respondents who have MA degrees in deaf education and those who considered themselves as having specialized training suggests there is not a common standard for what constitutes “specialized training” for individuals working with students who are deaf or hard of hearing. For example, in New Mexico, teachers are required to have only 30 credit hours of general special education course work to work with deaf and hard of hearing

students (New Mexico Public Education Department, 2015). Because this study found a relationship between knowledge and what IEP team members determined to be an appropriate placement, I would encourage policy makers to review requirements for teachers working with deaf students. Specialized education of teachers should be a part of policy at the local, state and federal levels.

IEP team members who responded to this survey were clearly in support of student access during planned instruction. It is interesting to note, however, that at least 25 respondents' scores still indicated they were not clear it was their responsibility to ensure access during instruction. It would be a reasonable assumption that all educators would believe that students have the right to access to instruction. Scores were lower but still showed fairly strong advocacy for incidental communication and language interactions. However, 36% of IEP team members still indicated they were not clear it was their responsibility to ensure communication access to all parts of the school day that were not structured specifically for instruction by the teacher; given this response, we would expect a similar percentage of responses when respondents were asked about their attitude or lens for working with deaf or hard of hearing students. It is surprising, therefore, that only 8% of respondents chose an attitude other than the sociocultural lens to describe their work with students who are deaf or hard of hearing. A sociocultural lens implies that most IEP team members who responded to this survey perceive themselves as supporters of a child's right and need to have language access and interaction with other children and adults throughout the day (Siegel, 2008). This high response to a sociocultural lens may have been influenced by a *social desirability bias* where respondents gave the answer they thought was most

socially acceptable and which was not actually true (Vogt, 2007). I would, therefore, encourage teacher-training programs to include reflective practice (Costa & Garmston, 1994), anti-bias curriculum, and require multiple semesters of internships at schools for the deaf where the student will have ample opportunity to interact with deaf professionals and individuals.

**Findings by state.** When comparing findings between states, interesting trends emerged to consider as policy is developed and strategies for policy implementation are being considered. Because I was interested in the characteristics of IEP team members that drive placement, I compared placement preferences between states. Placement preferences from Texas and Florida reflected their work settings. In Texas only 1.5% of respondents worked at the state special school and as might be expected only 36.4% had preference for placement at a state special. In Florida, 85% of respondents worked at the state special school and as also might be expected, 80% preferred placement at a state special school. Participants in Washington did not follow this same pattern. Respondents from Washington worked in the most varied settings including public schools with special programs (28.6%), special school and regional programs (33.3%), neighborhood schools with and without consultation (26.2%), and other programs (11.9%), yet 73.8% reported their preference for placement for deaf and hard of hearing students at special schools. This suggests that respondents in Washington were apt to look beyond their own work setting as possible placements for students on the continuum of placement options.

When compared to other states, respondents in Texas felt the most influential in making placement decisions. I noted that 97% of respondents from Texas were hearing (not deaf or hard of hearing) and had the least contact with deaf and hard of hearing colleagues and co-workers. These responses demonstrate a weak sociocultural perspective when compared to other states, yet respondents felt the most influential in making decisions for deaf and hard of hearing students. This suggests there may be barriers to implementation of reforms for these educators that are caused by dominance of a majority group (hearing) over a minority group (deaf and hard of hearing) and lack of intergroup contact. Respondents in Washington felt the least influential in making placement and educational decisions for students during the IEP process yet their system appears to be successful at developing and implementing a sociocultural attitude toward educational placement and opportunities for intergroup (between deaf and hearing) contact. This suggests that factors other than the IEP team members' characteristics are driving placement such as an administrative layer above the IEP team that is constraining autonomous decision-making. I suggest that further research in Washington to validate these trends would be helpful to the field. If the trends can be duplicated, educators could use Washington as a model for effective communication between programs serving deaf and hard of hearing students in developing shared understanding of the needs of this population.

There was variation by state in the number of respondents in the analytic set that reported they had Master's degrees in deaf education. The highest percentages were in Washington (61.9%) and California (60.8%). New Mexico and Texas had lower percentages with 33.9% and 39.4% respectively. This makes sense for New Mexico as

only 29% of the respondents described their role as teachers of the deaf and hard of hearing at the time of their most recent IEP meeting. However, in Texas, given that 66.7% of respondents said their role was as a teacher of the deaf/hard of hearing, it would be expected that more respondents would have advanced training as deaf educators. These findings suggest great variation in expectations for what constitutes a qualified teacher of the deaf. In this study, I found a relationship between level of education and preference for placement at schools for the deaf therefore policy should strongly convey that staff who work in educational settings with deaf and hard of hearing students are appropriately and trained and qualified.

### **Limitations**

This study has several limitations including the lack of a random sample from which to gauge whether the findings can be generalized to the larger population of IEP team members. The findings cannot be generalized to IEP team members who did not respond to the survey or allow us to explain the characteristics of IEP team members that motivate educational placement.

Further, in order to gain deeper understanding of the quality and quantity of interaction between IEP team members who are hearing and deaf and hard of hearing individuals, subsequent research could include a question to ascertain ratio of deaf/hard of hearing students to hearing students and a question to ascertain ratio of deaf/hard of hearing staff to hearing staff in the school setting.

However, the results of the study do suggest relationships between the constructs in the model and between demographics of the respondents and the

constructs. Additionally, descriptive analyses of the responses from and across each state suggest trends for further exploration and policy discussions.

### **Practice and Policy Implications of the Study**

Despite a period of robust reform efforts followed by on-going advocacy by deaf leaders, implementation of IDEA for students who are deaf or hard of hearing is confounded by the overarching interpretation of least restrictive environment (LRE) that inclusion with non-disabled peers is the cornerstone of the law. Although policy has transformed to broaden this perspective, interpretation is stagnant.

Additional laws, regulations, and guidance statements may not change the prevailing interpretation of LRE for students who are deaf or hard of hearing. Policy makers interested in changing the implementation of LRE for students who are deaf and hard of hearing may instead need to consider the influences of policy implementation and work toward altering the understanding, empathy, and attitudes of the decision makers who are constructing a student's educational plan and those administrators at the state level who directly influence those team members.

A multi-layered approach with specific policy recommendations at the local, state and federal levels is necessary to raise the awareness of the unintended consequences for deaf and hard of hearing students of the tenet of LRE. But writing policy is not enough. At each level, policy creators and reformers must consider how IEP team members, who will be interpreting policy, will come to understand and apply the original intent and urgency in promoting such policy. This study suggests that through interaction with deaf and hard of hearing individuals, the majority group (hearing IEP team members) develop empathy or perspective taking to help them

recognize the types of educational environments that are inclusive and equitable for deaf and hard of hearing students. Only then will policy that was written to be just, equitable, and fair for deaf and hard of hearing students be implemented with that intent.

Given the findings of this study, the following recommendations should be included in a policy action plan intended to support the individualization and equity of the application of IDEA for students who are deaf or hard of hearing. Each recommendation represents the hypothesis that implementers of IDEA such as principals and teachers require greater contact with deaf and hard of hearing individuals, heightened awareness of deaf culture, and knowledge of the significant ramifications of no to limited access to language and communication has on a deaf and hard of hearing child's social and concomitant academic success (Konold et al., 2010). This will lead to greater empathic ability on the part of decision makers and thus the appropriate acumen to apply policy reforms in the best interest of deaf and hard of hearing students.

I urge that all recommendations at the local, state, and federal levels be tested for probable effectiveness by considering the following questions:

1. How does this action item raise awareness of the individual and unique learning of students who are deaf and hard of hearing for creators as well as implementers of the policy?
2. How does this action item require or enable greater contact with deaf and hard of hearing adults and students?



3. How does this action item support the ability of policy implementers such as district special education directors, principals, teachers and related service personnel, to shift to an empathic analysis of student language and communication needs?

**Policy recommendations at the school level.** State and Special Schools for the Deaf have a particular responsibility and opportunity for raising awareness of the educational needs of deaf and hard of hearing students. The resources inherent to schools for the deaf include a concentrated population of professional educators who are deaf and hard of hearing, many of who have experienced their own educational successes and challenges at both mainstreamed and school for the deaf settings. This unique resource can be capitalized on to promote interaction between deaf education professionals and hearing (not deaf or hard of hearing) educators. Some schools for the deaf are also established in their states as a center of information and expertise and reach out beyond their main campuses to consult and provide training. These already developed infrastructures can be optimized to increase intergroup contact in order to promote empathy and greater understanding of reform efforts.

Schools for the deaf should also take the lead in gathering stakeholders to review their state's Deaf Education Bill of Rights and determine if their state is realizing the goals of language and communication access for deaf and hard of hearing students. They should include in their agendas meaningful opportunities for interaction between deaf and hearing professionals through raised awareness activities such as student and adult panels sharing their educational challenges and successes.

Parallel to increasing awareness and empathy through greater contact with deaf and hard of hearing individuals, IEP team members should be supported in developing their skills in advocating to their school district administrators and state policy makers the urgency of access to language and communication for deaf and hard of hearing students. This is particularly important if they feel they do not have maneuverability because of district and state interpretation of policy that does not include consideration of the unique needs of students who are deaf or hard of hearing.

**Policy recommendations at the state level.** History and the sequence of events that have shaped the interpretation of the provision of LRE (Jackson, 2010) provide insight into the important actors and strategies needed to have a collective impact on the clarification of LRE for students who are deaf or hard of hearing. These actors at the state level include parents, deaf leaders, deaf educators, public education departments, school district personnel, and curriculum specialists. The following recommendations have the potential for impact on increasing equity of educational outcomes by maintaining the trajectory of excellence begun when deaf and hard of hearing children receive services through early intervention. Quality dialogues at IEP meetings about student language and communication needs will help shape the student's current environment or determine a more appropriate school environment that will allow a student to continue to develop and use language for academic purposes and develop a positive self identity (COED, 1988).

1. Engage the key actors listed above in developing the following rule changes in their state regulations and administrative codes to require:

- a. The section of the IEP regarding consideration of Special Factors for Deaf and Hard of Hearing Students be completed with integrity, including a state mandated form to guide discussions.
  - b. Services from the state special schools are considered at all IEP meetings.
2. Engage the key actors listed above in planning on-going professional development and training to educate staff, parents, and other stakeholders to implement the required discussion regarding considerations of special factors for deaf and hard of hearing students. Contemporary training models to increase cultural consciousness (Gay & Kirkland, 2003), including interaction with deaf individuals for educators working with deaf students, should be a required component of all professional development and training. Professional development should also include a reflective analysis of skill levels in language and communication ability in sign language.
3. Establish state certification or licensure requirements along with high-level specialization or advanced degrees at the post secondary level for teachers working with deaf and hard of hearing students. As with professional development of all stakeholders involved with deaf or hard of hearing students, contemporary training models to increase cultural consciousness (Gay & Kirkland, 2003) including interaction with deaf individuals and a reflective analysis of skill levels in language and communication ability in sign language should be a mandated part of any degree or certification program.

**Policy recommendations at the federal level.** Congressional (COED, 1988) and stakeholder (National Agenda, 2005) reports have consistently described subpar

educational outcomes for deaf and hard of hearing students and the grave concern that deaf and hard of hearing students are isolated in environments that do not provide for language and communication access. With turnover in individuals working with students who are deaf and hard of hearing, educators and advocates cannot rest. Stakeholders need to continually work together to educate each other, policy makers and implementers. These stakeholders include parents, deaf leaders and educators, deaf advocacy groups (National Association for the Deaf, Conference of Educational Administrators for Schools and Programs for the Deaf, Child First Campaign; Gallaudet University), Office of Special Education and Rehabilitative Services (OSERS), special education specialists with experience in IEP compliance management, curriculum specialists, school and parent advocate attorneys, schools for the deaf, university teacher training programs. I recommend the following strategies:

1. Operationalize the shift to greater emphasis on quality of education made by the 1997 IDEA amendments requiring attention to communication and social support for deaf children, and the 2004 IDEA amendments to student academic progress mandated by the Every Student Succeeds Act (ESSA) (The White House, 2015), through: a) a systemic effort to educate deaf community, parents, attorneys, hearing officers, judges, administrators and teachers regarding the changes; b) the addition of clarifying language to policy guidance statements on applications to deaf and hard of hearing students; c) the addition of clarifying language to the IDEA balancing the provisions of Free Appropriate Education (FAPE) and LRE for students who are deaf or hard of hearing.

2. Seek Office of Special Education and Rehabilitative Services (OSERS) guidance and clarification regarding:
  - a. The IDEA provision of special considerations for deaf and hard of hearing students.
  - b. The submission of state improvement plans, with targeted goals on least restrictive environment should not influence the appropriate placement of deaf or hard of hearing students.
3. Identify a congressional sponsor to commission a status report on education of deaf children before the next reauthorization of IDEA to include current research and information regarding:
  - a. Identification of issues that drive placement decisions during the IEP process.
  - b. Parental understanding of their deaf child's needs and how they evaluate progress and social isolation.
  - c. Reading and achievement levels and social emotional status of deaf students.
  - d. Types of educational placements of deaf and hard of hearing children and access or lack of access to a critical mass of other deaf students and deaf professional role models.
  - e. Data from schools for the deaf on educational, social-emotional status of students transferring to their schools.
4. Lobby for an amendment to IDEA in the next reauthorization to emphasize the continuum of placement options and equal weight to FAPE and LRE.

5. Work with the Conference of Educational Administrators for Schools and Programs for the Deaf (CEASD) to re-envision schools for the deaf to: 1) increase collaboration with parents in educating their deaf children; 2) extend outreach services to more closely ensure quality education in all educational settings, appropriately evaluate student progress and create a smooth transition between the continuum of placement options; 3) use the critical mass of deaf staff and educational professionals at schools for the deaf as contact points with staff and administrators at public schools where there are no or few deaf individuals.

### **Recommendations for Future Research**

As the questionnaire was untried in prior research, the use of the EDHH constitutes a pilot exploration of the use of this instrument in testing and measuring the constructs and their relationships in the conceptual model I presented. The EDHH should continue to be piloted with changes to the questions as outlined in this study.

Future researchers should consider:

- Exploring each of the constructs separately in order to gain better understanding of how each characteristic impacts placement decisions.
- Developing strategies to create a random sample in order to test generalizability to the larger population.
- Drawing a random sample of sufficient size to conduct regression analysis and determine which IEP team member characteristics have the greatest impact on the educational choices they make for children who are deaf or hard of hearing.

- Including a qualitative component to the research to develop a deeper understanding of how the quantitative trends found in this study correlate with the lived experiences of professionals who are not deaf or hard of hearing in understanding and implementing educational programs for students who are deaf or hard of hearing.
- Studying whether or not the trends noted in the state of Washington that seem to indicate a more balanced understanding of the needs of deaf and hard of hearing students among IEP team members are replicable. If so, what systems in Washington have influenced interaction between IEP team members who do not work at their school for their school for the deaf and deaf co-workers and colleagues? What makes IEP team members in Washington more apt to look beyond their own setting as possible placement options?

### **Summary**

Hearing educational professionals are working with and making decisions for deaf and hard of hearing students. As individuals who are not deaf or hard of hearing they cannot share the experience and challenges of navigating environments that use sound for information or fully appreciate the language and culture of the deaf. Yet these professionals must have the capacity to take the perspective of the deaf or hard of hearing student to make appropriate education decisions. Hearing individuals when compared to deaf individuals constitute a majority group with privileges that manifest in a society favoring an auditory environment and those that use their sense of hearing to navigate their world. This study explored how perspective taking or empathy can be

developed and prejudice common to majority and minority groups can be alleviated through interaction between deaf and hearing individuals to promote equitable learning environments for deaf and hard of hearing students.

This study is a first attempt to explore the association between characteristics of IEP team members and the educational placement decisions they make for students who are deaf and hard of hearing. These constructs are attitude, knowledge, beliefs about access, beliefs about placement, and interaction with deaf individuals. This study shows that a relationship exists between these constructs and provides information to policy makers at the local, state, and federal levels on implications for strategies in strengthening and assuring appropriate services to deaf and hard of hearing students that meet the intent of IDEA for a Least Restrictive Environment, the mandates of ADA for effective communication, and the constitutional guarantees of freedom to associate and express information.

Findings from this study demonstrate that progress has been made in raising awareness of the importance of access and communication for students who are deaf and hard of hearing. In examining responses, I found that there is still a discrepancy between respondents who overwhelmingly described themselves as having a sociocultural framework of education but not full determination about the importance of access to language and communication during instruction and incidental opportunities throughout the school day. A small (9%) percentage of respondents felt that it was not their responsibility to assure access during instruction and over a third of respondents felt that it was not their responsibility to assure access throughout the school day. At a minimum, all educators should think it is their responsibility to make



sure students have access to instruction. This leads me to the assumption that educators are becoming better about talking about appropriate approaches for deaf and hard of hearing students but do not yet fully understand how to implement or actualize a sociocultural framework where students who are deaf and hard of hearing are full members of their educational environments.

## References

- Aldersley, S. (2002). Least Restrictive Environment and the Courts. *Journal of Deaf Studies and Deaf Education, 7*(3), 189-199.
- American Annals for the Deaf (2014). Schools and programs in the United States. *American Annals of the Deaf, 159*(2), 88-138.
- Annual Disability Statistics Compendium (2015). *Section 11: Special Education*. Retrieved November 7, 2015 from <http://disabilitycompendium.org/compendium-statistics/special-education>
- Antia, S. D., Stinson, M., & Gaustad, M. (2002). Developing membership in the education of deaf and hard-of-hearing students in inclusive settings. *Journal of Deaf Studies and Deaf Education, 7*(3), 214-229.
- Bell, D. (2004). *Silent covenants: Brown v. Board of Education and the unfulfilled hopes for racial reform*. Oxford, UK: Oxford University Press.
- Bauman, H. (2004). Audism: Exploring the metaphysics of oppression. *Journal of Deaf Studies and Deaf Education, 9*(2). DOI: 10.1093/deafed/enh025.
- Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-nurture reconceptualized in developmental perspective: A bioecological model. *Psychological Review, 101*, 568-586.
- Brown v. Board of Education of Topeka, 347 U.S. 483 (1954)*.
- Bryman, A., Becker, S., & Sempik, J. (2008). Quality criteria for quantitative, qualitative and mixed methods research: A view from social policy. *International Journal of Social Research Methodology, 11*(4), 261-276. doi: 10.1080/13645570701401644

California Deaf and Hard-of-Hearing Education Advisory Task Force (1999).

*Communication access and quality education for deaf and hard-of-hearing children. The report of the California deaf and hard-of-hearing education advisory task force.* Sacramento, CA: California Department of Education. Retrieved

October 12, 2014 from

<http://www.cde.ca.gov/sp/ss/dh/documents/deafhrpt.pdf>

California Department of Education (2014a). *Position Statement on Language Access.*

Retrieved September 14, 2014, from

<http://www.cde.ca.gov/sp/ss/dh/positionstmnt.asp>

California Department of Education (2014b). *Family Involvement & Partnerships.*

Retrieved September 14, 2014, from <http://www.cde.ca.gov/sp/se/fp/>

Cerney, J. (2002). *Deaf education in America. Voices of children from inclusion settings.*

Washington, DC: Gallaudet University Press.

Chambers, J., & Davis, M. (2012). The role of the self in perspective-taking and empathy:

Ease of self-simulation as a heuristic for inferring empathic feelings. *Social Cognition, 30(2)*. 153-180.

Clerc Center (2013). *Critical needs of students who are deaf or hard of hearing: A public input summary.* Washington, DC: Laurent Clerc National Deaf Education Center.

Retrieved October 12, 2014 from

<http://www.gallaudet.edu/documents/Clerc/PublicInputSummary.pdf>

Commission on Education of the Deaf - COED (1988). *Toward equality, education of the deaf. A report to the President and the Congress of the United States.*

Conference of Educational Administrators of Schools and Programs for the Deaf, Inc.

(CEASD) *Child First Campaign*. Retrieved April 8, 2014, from

<http://www.ceasd.org/child-first/child-first-campaign>

Connor, D. (2013). Who “owns” dis/ability? The cultural work of critical special educators as insider-outsiders. *Theory & Research in Social Education, 41*(4), 494-513, doi: 10.1080/00933104.2013.838741

Costa, A. L., & Garmston, R. J. (1994). *Cognitive coaching*. Norwood, MA: Christopher-Gordon Publishers.

Creswell, J.W. (2007). *Qualitative inquiry & research design choosing among five approaches*. Thousand Oaks, CA: Sage Publications.

Danforth, S. (2008). John Dewey’s contributions to an educational philosophy of intellectual disability. *Educational Theory, 58*(1), 45–62. doi:10.1111/j.1741-5446.2007.00275.x

De Vaus, D. (2014). *Surveys in social research*. New York, New York: Routledge.

Dixon-Krauss, L. (1996). *Vygotsky in the classroom. Mediated literacy instruction and assessment*. White Plains, New York: Longman Publishers.

Dumas, M.J., & Anyon, J. (2006). Toward a critical approach to education policy implementation, implications for the (battle) field. In M. Honig (Ed.), *New directions in education policy implementation* (pp. 209-228). Albany, New York: State University of New York Press.

Education for all Handicapped Children Education Act, Public Law 94-142, 89 Stat. 773 (1975).

- Federal Register (October 30, 1992). Department of Education. Notice of Policy Guidance, Vol. 57, No. 211.
- Federal Register (August 14, 2006). Department of Education. Assistance to states for the education of children with disabilities and preschool grants for children with disabilities; final rule, 34 CFR Parts 300 and 301.
- Florida Department of Education (2014). *Exceptional Education and Student Services*. Retrieved September 15, 2014 from <http://www.fldoe.org/ease/pdf/EdOppSenlet.pdf>
- Gaertner, S.L., & Dovidio, J. F. (2005). Understanding and addressing contemporary racism: From aversive racism to the common ingroup identity model. *Journal of Social Issues, 61(3)*, 615-639. doi:10.1111/j.1540-4560.2005.00424.x
- Gallaudet University. *Deaf president now*. Retrieved April 8, 2014 from [http://www.gallaudet.edu/dpn\\_home/profiles\\_and\\_viewpoints/notable\\_quotes.html](http://www.gallaudet.edu/dpn_home/profiles_and_viewpoints/notable_quotes.html)
- Gallaudet University. *History of Gallaudet*. Retrieved April 24, 2014 from <http://www.gallaudet.edu/history.html>
- Gannon, J. R. (1981). *Deaf heritage a narrative history of deaf America*. Silver Spring, MD: National Association of the Deaf.
- Gay, G., & Kirkland, K. N. (2003). Developing cultural critical consciousness and self-reflection in preservice teacher education. *Theory into Practice, 42(3)*, 181-187.
- Graham, P. A. (2005). *Schooling America. How the public schools meet the nation's changing needs*. Oxford, UK: Oxford University Press.

- Hauser, P. C., O' Hearn, A., McKee, M., Steider, A., & Thew, D., (2010). Deaf epistemology: deafhood and deafness. *American Annals of the Deaf*, 154(5), 486-492.
- Hehir, T. (2010). *New directions in special education. Eliminating ableism in policy and practice*. Cambridge, MA: Harvard Education Press.
- Hallinger, P., Taraseina, P., & Miller, J. (1994). Assessing the instructional leadership of secondary school principals in Thailand. *School Effectiveness and School Improvement*, 5(4), 321-348.
- Hopper, M.J. (2011). Positioned as bystanders: deaf students' experiences and perceptions of informal learning phenomena. *Dissertation*. Rochester, NY: University of Rochester.
- Humphries, T., & Humphries, J. (2011). Deaf in the time of the cochlea. *Journal of Deaf Studies and Deaf Education*, 16(2), 153-163. doi:10.1093/deafed/enq054
- Humphries, T., Kushalnagar, R. Mathur, G., Napoli, D.J., Padden, C., Rathmann, C., Smith, S. (2013). The Right to Language. *Journal of Law, Medicine, and Ethics*, v41 i4, p872(14).
- Individuals with Disabilities Education Act Amendments of 1997, 20 U.S.C. Chapter 33, Sec. 1412.
- Individuals with Disabilities Education Improvement Act of 2004. Pub. L. No. 108-446, 118 Stat. 2547 (2004).
- Jackson, C. (2010). The Individuals with Disabilities Education Act and its impact on the deaf community. *Stanford Journal of Civil Rights and Civil Liberties*. 6 Stan.J.Civ.Rts. & Civ. Liberties 355.

- Johnson, C., & DesGeorges, J. (2014). How many are enough? Defining "Critical Mass". *Communicator, XI*. Retrieved October 12, 2014 from [http://www.handsandvoices.org/articles/education/ed/V11-4\\_Criticalmass.htm](http://www.handsandvoices.org/articles/education/ed/V11-4_Criticalmass.htm)
- Konold, T. R., Jamison, K. R. Stanton-Chapman, T. L., & Rimm-Kaufman, S. E. (2010). Relationships among informant based measures of social skills and student achievement: A longitudinal examination of differential effects by sex. *Applied Developmental Science, 14(1)*, 18-34. doi:10.1080/10888690903510307
- Kraus, M.W., & Keltner, D. (2013). Social class rank, essentialism, and punitive judgement. *Journal of Personality and Social Psychology, 105(2)*, 247-261. doi: 10.1037/a0032895.
- Ladd, P. (1994). Deaf culture: finding it and nurturing it. In Ertling, C. J. (Ed.), *The Deaf way: Perspectives from the international conference on deaf culture (pp. 5-15)*. Washington, DC: Gallaudet University Press.
- Lang, H. G., Cohen, O. P., & Fischgrund, J.E. (2007). *Moments of truth Robert R. Davila the story of a deaf leader*. Rochester, NY: RIT Press.
- Lederberg, A., Schick, B., & Spencer, P. (2012). Language and literacy development of deaf and hard-of-hearing children: Successes and challenges. *Developmental Psychology, 49(1)*, 15-30.
- Lipsky, M. (2010). *Street-level bureaucracy, dilemmas of the individual in public services*. New York, NY: Russell Sage Foundation.
- MacFarlane, M.A. (2012). The shifting floor of educational opportunity: the impact of educational reform on Rowley. *Journal of Law and Education, 41(1)*, 45-69.

- Martin, E. W., Martin, R., & Terman, D. (1996). The legislative and litigation history of special education. *Special Education for Students with Disabilities, 6(1)*, 25-39.
- McCullough, D. (2001). *John Adams*. New York, NY: Touchstone.
- McLaughlin, M. W. (2006). Implementation research in education lessons learned, lingering questions and new opportunities. In M. Honig (Ed.), *New directions in education policy implementation* (pp. 209-228). Albany, NY: State University of New York Press.
- Mead, J. F., & Paige, M.A. (2008). Board of Education of Hendrick Hudson v. Rowley: An examination of its precedential impact. *Journal of Law and Education, 37(3)*, 329-345.
- Meyer, M. (1989). *A Century of Progress: History of the New Mexico School for the Deaf*. Santa Fe, NM: New Mexico School for the Deaf.
- Mills v. Board of Education*, 348 F. Supp. 866 (1972).
- Milson, A.J., Bohan, C.H., Glanzer, P.L., & Null, J.W. (Eds.). (2010). *American educational thought essays from 1640-1940*. Charlotte, NC: Information Age Publishing, Inc.
- Mitchell, R., & Karchmer, M. (2006). Demographics of deaf education: more students in more places. *American Annals of the Deaf, 151(2)*, 95-104.
- Monserud, G. (2004). The quest for a meaningful mandate for the education of children with disabilities. *Journal of Civil Rights and Economic Development, 18(3)*.
- Most, T., Ingber, S., & Heled-Ariam, E. (2011). Social competence, sense of loneliness, and speech intelligibility of young children with hearing loss in individual inclusion and group inclusion. *Journal of Deaf Studies and Deaf Education, 17(2)*, 259-271.



National Agenda: Moving Forward on Achieving Educational Equality for Deaf and Hard of Hearing Students (April 2005).

National Association for the Deaf. *Bill of Rights for Deaf and Hard of Hearing Children.*

Retrieved April 8, 2014, from <http://www.nad.org/issues/education/k-12/bill-of-rights>

National Association for the Deaf (2011). *NAD Action Alert: Preserve State Schools for the Deaf.* Retrieved May 8, 2014, from <http://nad.org/news/2011/2/nad-action-alert-preserve-state-schools-deaf>

Newcomer, J. R., & Zirkel, P. A. (1999). An analysis of judicial outcomes of special education cases. *Exceptional Children*, 65(4), 469–480.

New Mexico Public Education Department. (2011). *Technical Assistance Manual, Developing Quality IEPs.* Retrieved February 1, 2016 from <http://ped.state.nm.us/ped/SEBdocuments/technical/IEP%20Manual%20October%202011.pdf>

New Mexico Public Education Department. (2015). *Professional Licensure Bureau.* Retrieved February 2, 2016 from <http://ped.state.nm.us/Licensure/2010/index.html>

New Mexico School for the Deaf. (2014). *Programs.* Retrieved September 15, 2014 from <http://www.nmsd.k12.nm.us/about/programs.php>

New Mexico Statutes Annotated (2015). Deaf and Hard of Hearing Children's Bill of Rights, 28-11C-3.

Osgood, R. (2002). *The history of inclusion in the United States.* Washington, DC: Gallaudet University Press.

- Padden, C., & Humphries, T. (2006). Introduction, the lens of culture. In C. Padden and T. Humphries (Eds.), *Inside deaf culture* (p. 1-10). Cambridge, MA: Harvard University Press.
- Pallant, J. (2013). *SPSS Survival Manual: A step by step guide to data analysis using IBM SPSS*. Berkshire, England: Open University Press.
- Pennsylvania Association for Retarded Children (PARC) v. Commonwealth of Pennsylvania*, 334 F. Supp. 1257 (E.D. PA 1971).
- Pettigrew, T. F., Tropp, L. R., Wagner, U., & Christ, O. (2011). Recent advances in intergroup contact theory. *International Journal of Intercultural Relations*, 35(3), 271-280. doi: 10.1016/j.ijintrel.2011.03.001.
- Ramsey, C. L. (1997). *Deaf children in public schools*. Washington, DC: Gallaudet University Press.
- Revised Code of Washington (RCW), Title 72, State Institutions.
- Rodenborg, N.A., & Boisen, L.A. (2013). Aversive racism and intergroup contact theories: cultural competence in a segregated world. *Journal of Social Work Education*, 49: 564-579. doi: 10.1080/10437797.2013.812463
- Schildroth, A. (1988). Recent changes in the educational placement of deaf students. *American Annals of the Deaf*, 133(2), 61-67.
- Shaver, D., Marschark, M., Newman, L., & Marder, C. (2014). Who is where? Characteristics of deaf and hard-of-hearing students in regular and special schools. *Journal of Deaf Studies and Deaf Education*, 19(2), 203-219.

- Siegel, L. (2000). *The educational and communication needs of deaf and hard of hearing children: A statement of principle regarding fundamental systemic educational changes*. Greenbrae, CA: National Deaf Education Project.
- Siegel, L. M. (2008). *The human right to language communication access for deaf children*. Washington, DC.: Gallaudet University Press.
- Simms L., Rusher, M., Andrews, J., & Coryell, J. (2008, Fall). Apartheid in deaf education: examining workforce diversity. *American Annals of the Deaf*, 153(4), 384-95.
- Simms, L., & Thumann, H. (2007). In search of a new, linguistically and culturally sensitive paradigm in deaf education. *American Annals of the Deaf*, 152(3), 302-311.
- Singleton J. L., & Morgan, D. D. (2006). Natural signed language acquisition within the social context of the classroom. In B. Schick, M. Marschark, & P. Spencer (Eds.), *Advances in the sign language development of deaf children (pp. 334 – 375)*. New York, NY: Oxford University Press.
- Springdale Sch. Dist. v. Grace (Springdale I), 656 F.2d 300 (8<sup>th</sup> Cir. 1981)
- Texas Education Code, State and Regional Programs and Services, Sec. 30.004.
- The White House, Office of the Press Secretary (2015). *Fact Sheet: Congress Acts to Fix No Child Left Behind*. Retrieved February 4, 2016 from <https://www.whitehouse.gov/the-press-office/2015/12/03/fact-sheet-congress-acts-fix-no-child-left-behind>
- Tucker, J. (2014). H. R. 4040. *Maryland Bulletin*. Retrieved May 8, 2014 from <http://gallery.mailchimp.com/695159b7749bcfabaf68467b/files/69d8d635-ba77-4e79-b139-599a3f96b19f.pdf>

- U.S. Department of Education Office of Civil Rights. (2014). *Deaf Students Education Services*. Retrieved October 13, 2014 from <http://www2.ed.gov/about/offices/list/ocr/docs/hq9806.html> .
- U.S. Department of Education, Special Education. (2013). Fiscal year 2013 budget request. Retrieved October 12, 2014 from <http://www2.ed.gov/about/overview/budget/budget13/justifications/i-special.ed.pdf>
- U.S. Department of Justice Civil Rights Division. (2014). Dear Colleague Letter. Retrieved February 1, 2016 from [http://www.ada.gov/doe\\_doj\\_eff\\_comm/doe\\_doj\\_eff\\_comm\\_ltr.htm](http://www.ada.gov/doe_doj_eff_comm/doe_doj_eff_comm_ltr.htm)
- Van Dijk, T. (1993). Principles of critical discourse analysis. *Discourse & Society*, 4(2), 249-283.
- Vogt, W.P. (2007). *Quantitative research methods for professionals*. Boston, MA: Allyn & Bacon.
- Vygotsky, L. (1986). *Thought and language newly revised and edited by Alex Kozulin*. Cambridge, MA: MIT Press.
- Walsh, M. (2014). School appeals declined on services for deaf, hard-of-hearing students. *Education Week*, (33)23. Retrieved from [http://blogs.edweek.org/edweek/school\\_law/2014/03/school\\_appeals\\_declined\\_on\\_services\\_for\\_deaf.html](http://blogs.edweek.org/edweek/school_law/2014/03/school_appeals_declined_on_services_for_deaf.html)
- Willis, G. B. (1999). Cognitive interviewing. A "How To" guide. Short course presented at the 1999: *Meeting of the American Statistical Association*. Research Triangle Park, NC: Research Triangle Institute.

- Wolfin, K., Corneille, O. Yzerbyt, V., & Forster, J. (2010). Narrowing down to open up for other people's concerns: Empathic concern can be enhanced by inducing detailed processing. *Journal of Experimental Social Psychology, 47(2)*, 418-424.
- Wright, P. W. D., & Wright, P. D. (2012). *Special Education Law*. Hartfield, VA: Harbor House Law Press, Inc.
- Zirkel, P. A. (2005). Does "Brown v. Board of Education" play a prominent role in special education law? *Journal of Law and Education, 34(2)*, 255-271.
- Zirkel, P.A. (2008). Have the amendments to the Individuals with Disabilities Education Act razed Rowley and raised the substantive standard for "Free Appropriate Public Education? *Journal of the National Association of Administrative Law Judiciary, 28 J. Nat'l Ass'n L. Jud.* 397.

## **Appendices**

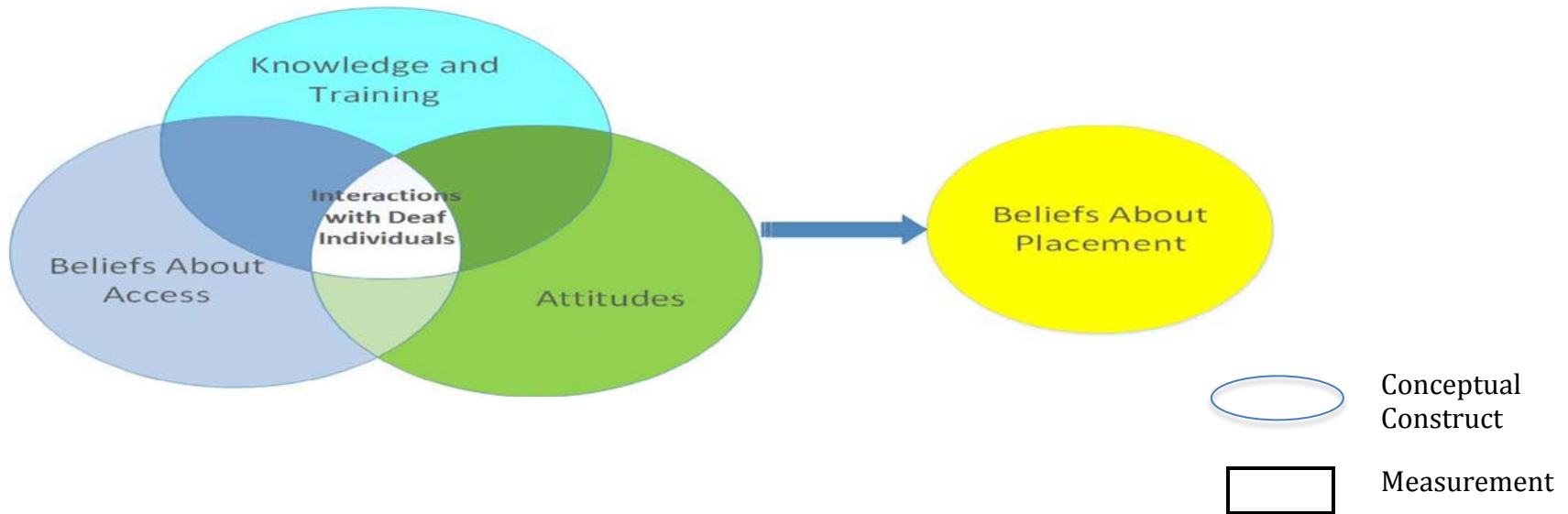
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## Appendix A

### Conceptual and Measurement Model

Hypothesized Relationships among Antecedent Constructs and IEP Member Beliefs about Student Placement

Knowledge and Training	Interaction with Deaf Individuals	Attitudes	Beliefs about Access	Beliefs about Placement
Types and levels of postsecondary programs; informal training	Type of relationship INTER	Deficit lens ATTITUDE	To peers ACCESS	Regular schools PLACE
Knowledge: *IDEA KNOW *Deaf education KNOW	Frequency of relationship INTER	Sociocultural lens ATTITUDE	To adults ACCESS	Special schools PLACE
	Quality of interaction DEAF/HH	Medical lens ATTITUDE	Instructional ACCESS Incidental ACCESS	



## Appendix B

### Education for Deaf and Hard of Hearing Students Survey

1. I agree to participate in the study about IEP teams and education of deaf and hard of hearing students.
  - Yes
  - No
  
2. I have participated as an IEP team member for a student who is deaf or hard of hearing
  - Yes
  - No
  
3. I have most recently participated in one or more IEP meetings for a student who is deaf or hard of hearing in the following role (choose one):
  - General Education Teacher
  - Special Education Teacher
  - Consultant for deaf/hh children
  - Teacher of the deaf/hh
  - Parent Advocate
  - Early Interventionist
  - Speech Language Pathologist
  - Audiologist
  - Principal or other Administrator
  - Interpreter (for student as a related service)
  - Educational Diagnostician
  - Other (please specify): \_\_\_\_\_
  
4. The school I work in can best be described as (choose one):
  - A neighborhood public school with no consultation from experts in the field of deaf education
  - A public school with a special program for deaf/hh students
  - A neighborhood public school with a teacher of the deaf/hh who visits to provide consultation
  - A state special school for deaf/hh students
  - A regional day program for deaf/hh students
  - A special charter or magnet school for students who are deaf/hh
  - A charter school
  - Other (please specify): \_\_\_\_\_
  
5. I agree with the statements below to the following extent (rate: Completely Disagree, Disagree, Agree, Completely Agree):
  - a) The first and best option for deaf and hard of hearing students is to be educated with hearing students in their neighborhood schools.



- b) It is not necessary for deaf or hard of hearing students to be educated with other deaf or hard of hearing students.
  - c) A special school for the deaf should be considered for deaf or hard of hearing students only after they are failing in their neighborhood school program.
  - d) Use of a sign language interpreter equalizes the regular educational setting for a deaf or hard of hearing student who uses sign language.
  - e) If students use hearing aids or cochlear implants they are able to fully participate in their neighborhood school program with little support.
  - f) A neighborhood school should be considered first as the least restrictive environment for students who are deaf or hard of hearing.
  - g) It is adequate for deaf and hard of hearing children who sign to be in classrooms where other students do not sign as long as their teacher has some signing skills.
6. In the role I selected in Question 3, I had the following level of influence in making placement and educational decisions for the student during the IEP process (choose one):
- Very influential
  - Somewhat
  - Not at all influential
- Please explain the reason for your response:\_\_\_\_\_
7. Please rate from 1 (not at all responsible) to 5 (clearly responsible) to the extent to which it is the responsibility of IEP teams to consider services and/or accommodations so that the deaf or hard of hearing student:
- a) Has the opportunity to communicate easily with other students both in and out of the classroom while at school.
  - b) Participates in curricular peer to peer discussions in the classroom.
  - c) Knows what peers and adults are saying though the conversation is not directed at them.
  - d) Interacts with support staff such as cafeteria workers, custodial staff and secretaries.
  - e) Knows what teachers and other instructional staff are saying during instruction.
  - f) Has teachers, administrators and other educational staff in whole school that can sign fluently if the student uses sign language.
  - g) Has the opportunity to regularly interact with other deaf or hard of hearing students.
  - h) Has the opportunity to regularly interact with adults who are deaf or hard of hearing.
8. In my work with students who are deaf or hard of hearing I primarily focus on the following fact (choose one):
- A person who is deaf or hard of hearing has a disability and needs help.

- Human interaction and language access is necessary for student motivation and learning.
  - Treatments such as hearing aids and cochlear implants provide the best opportunity for student outcomes.
9. I would describe the frequency of my current interaction with deaf or hard of hearing individuals (rate: Never, Seldom - Several times in my career, Regular - A few times a month, Often - A few times a week, Daily with many interactions throughout the day):
- a) As colleague(s) or co-workers
  - b) As friends
  - c) As students who attend the school I work at
  - d) As a member of my family
10. If you do not have current interaction with deaf or hard of hearing persons but have had interaction in the past, please describe the nature of those interactions.
- 
11. As a hearing person, my interactions with individuals who are deaf or hard of hearing are best described as (choose one):
- Not applicable. I am deaf or hard of hearing
  - Very good. We are able to discuss any topic.
  - Good. We discuss most topics and finds ways to make sure we understand each other.
  - Awkward. We understand each other but only for basic conversations.
  - Difficult. We do not understand each other.
12. When I most recently participated in an IEP meeting for a student who is deaf or hard of hearing, I would describe my familiarity with the following as: (rate: Expert, Knowledgeable, Somewhat Familiar, Not Familiar):
- a) IEPs (Individualized Education Programs)
  - b) Special factors of language and communication for deaf and hard of hearing students
  - c) American Sign Language (ASL)
  - d) Deaf Culture
  - e) Specialized oral education for deaf and hard of hearing students
  - f) Bilingual Education (ASL/English)
  - g) Deaf President Now (DPN)
  - h) National Agenda for Students who are Deaf or Hard of Hearing
  - i) Least Restrictive Environment (LRE)
  - j) Continuum of placement options
  - k) How deaf and hard of hearing children develop language and communication

13. When I participated in the most recent IEP meeting in the role I selected in Question 3, I had the following training for working with students who are deaf or hard of hearing (select all that apply):

- a) Workshops
- b) Several courses in college
- c) On the job training
- d) Bachelor's or Master's Degree in Special Education
- e) Bachelor's Degree in Deaf Education
- f) Master's Degree in Deaf Education
- g) Informal training through extensive interaction with students who are deaf or hard of hearing.
- h) No specialized training in Deaf Education
- i) Other (please specify): \_\_\_\_\_

14. I estimate the number of deaf and hard of hearing people I have known in my life to be:

- a) As colleagues and co-workers \_\_\_\_\_
- b) As friends \_\_\_\_\_
- c) As students who attend(ed) the school I work(ed) at \_\_\_\_\_
- d) As members of my family \_\_\_\_\_

## Appendix C

### Codebook

<b>Dataset Overview</b>	Deaf Dataset This dataset contains the responses to a questionnaire with 51 items; the questionnaire was completed by individuals who have participated as members of IEP teams for students who are deaf or hard of hearing preschool through grade 12; the individuals recorded their knowledge of deaf educational issues particularly related to language access and their interaction with and attitude toward students and adults who are deaf or hard of hearing; they also recorded their beliefs about communication access and educational placements.
<b>Source</b>	Rosemary J. Gallegos
<b>Sample Size</b>	269
<b>Updated</b>	October 21, 2015

#### Structure of the Dataset

Col. #	Variable Name	Variable Description	Variable Metric/Label
1	PartID	Unique participant ID Number	
2	StateID	State ID	1 California 2 Washington 3 New Mexico 4 Florida 5 Texas
3	Q3ROLE	IEP member role at meeting	1 Teacher of Deaf/HH 2 Special Education Teacher 3 Principal or other Administrator 4 General Education Teacher 5 Consultant for Deaf/HH Children 6 Parent Advocate 7 Early Interventionist 8 Speech Language Pathologist 9 Audiologist 10 Interpreter 11 Educational Diagnostician 12 Transition Specialist 13 Residential Staff 14 Other Specialist 15 Counselor 16 Child Advocate
4	Q4SETTING	Type of school setting the respondent works in	1 State special school for deaf/hh students 2 Neighborhood school w/teacher who consults 3 Public school w/special program 4 Neighborhood school w/no

Col. #	Variable Name	Variable Description	Variable Metric/Label
			consultation 5 Regional day program 6 Charter School for Deaf 7 Charter School 8 Private school 9 Outreach/Itinerant 10 Other 11 Early Childhood Home Visits
5	Q5aPLACE	Educated with hearing students in neighborhood school	1 Completely disagree 2 Disagree 3 Agree 4 Completely agree
6	Q5bPLACE	Not necessary to be educated with other deaf/hh	1 Completely disagree 2 Disagree 3 Agree 4 Completely agree
7	Q5cPLACE	Special school only after failing neighborhood school	1 Completely disagree 2 Disagree 3 Agree 4 Completely agree
8	Q5dPLACE	Interpreter equalizes regular education setting	1 Completely disagree 2 Disagree 3 Agree 4 Completely agree
9	Q5ePLACE	If student uses hearing aids or cochlear implants can fully participate with little support	1 Completely disagree 2 Disagree 3 Agree 4 Completely agree
10	Q5fPLACE	Neighborhood school first LRE	1 Completely disagree 2 Disagree 3 Agree 4 Completely agree
11	Q5gPLACE	Teacher with some signing and no other student is signing is adequate	1 Completely disagree 2 Disagree 3 Agree 4 Completely agree
12	Q6INFLU	Level of influence in making placement decisions	0 Not influential at all 1 Somewhat 2 Very influential
13	Q7aACCESS	Access to communication in and out of the classroom	1 =Not at all responsible 2 =2 3 =3 4 =4 5 =Clearly responsible

<b>Col. #</b>	<b>Variable Name</b>	<b>Variable Description</b>	<b>Variable Metric/Label</b>
14	Q7bACCESS	Access to curricular peer to peer discussions in the classroom	1 =Not at all responsible 2 =2 3 =3 4 =4 5 =Clearly responsible
15	Q7cACCESS	Access to peers and adults for conversations not directed at the student	1 =Not at all responsible 2 =2 3 =3 4 =4 5 =Clearly responsible
16	Q7dACCESS	Access to interaction with school support staff	1 =Not at all responsible 2 =2 3 =3 4 =4 5 =Clearly responsible
17	Q7eACCESS	Access to others' communication during instruction	1 =Not at all responsible 2 =2 3 =3 4 =4 5 =Clearly responsible
18	Q7fACCESS	All staff sign fluently	1 =Not at all responsible 2 =2 3 =3 4 =4 5 =Clearly responsible
19	Q7gACCESS	Regular interaction with other deaf or hard of hearing students.	1 =Not at all responsible 2 =2 3 =3 4 =4 5 =Clearly responsible
20	Q7hACCESS	Regular interaction with deaf or hard of hearing adults	1 =Not at all responsible 2 =2 3 =3 4 =4 5 =Clearly responsible
21	Q8ATTITUDE	Focus is on disability, human interaction, or treatments	0 Treatments 1 Human interaction 2 Person has a disability
22	Q9aINTER	Frequency of interactions with colleagues or co-workers	0 Never 1 Seldom 2 Regular - a few times a month 3 Often - few times a week 4 Daily with many interactions

<b>Col. #</b>	<b>Variable Name</b>	<b>Variable Description</b>	<b>Variable Metric/Label</b>
23	Q9bINTER	Frequency of interactions with friends	0 Never 1 Seldom 2 Regular - a few times a month 3 Often - few times a week 4 Daily with many interactions
24	Q9cINTER	Frequency of interactions with students	0 Never 1 Seldom 2 Regular - a few times a month 3 Often - few times a week 4 Daily with many interactions
25	Q9dINTER	Frequency of interactions with family	0 Never 1 Seldom 2 Regular - a few times a month 3 Often - few times a week 4 Daily with many interactions
26	Q11DEAFHH	Description of quality of interactions with individuals deaf/hh	0 deaf/hh 1 difficult - don't understand 2 awkward - basic conversation 3 good - discuss most topics 4 very good - discuss any topic
27	Q12aKNOW	Familiarity with IEPs	0 not familiar 1 somewhat familiar 2 knowledgeable 3 expert
28	Q12bKNOW	Familiarity with special factors	0 not familiar 1 somewhat familiar 2 knowledgeable 3 expert
29	Q12cKNOW	Familiarity with ASL	0 not familiar 1 somewhat familiar 2 knowledgeable 3 expert
30	Q12dKNOW	Familiarity with deaf culture	0 not familiar 1 somewhat familiar 2 knowledgeable 3 expert
31	Q12eKNOW	Familiarity with oral education	0 not familiar 1 somewhat familiar 2 knowledgeable 3 expert
32	Q12fKNOW	Familiarity with bilingual education	0 not familiar 1 somewhat familiar 2 knowledgeable 3 expert

<b>Col. #</b>	<b>Variable Name</b>	<b>Variable Description</b>	<b>Variable Metric/Label</b>
33	Q12gKNOW	Familiarity with DPN	0 not familiar 1 somewhat familiar 2 knowledgeable 3 expert
34	Q12hKNOW	Familiarity with national agenda	0 not familiar 1 somewhat familiar 2 knowledgeable 3 expert
35	Q12iKNOW	Familiarity with LRE	0 not familiar 1 somewhat familiar 2 knowledgeable 3 expert
36	Q12jKNOW	Familiarity with continuum of placement options	0 not familiar 1 somewhat familiar 2 knowledgeable 3 expert
37	Q12kKNOW	Familiarity with development of language and communication	0 not familiar 1 somewhat familiar 2 knowledgeable 3 expert
38	Q13aTWorkshops	Training - workshops	0 did not select workshops 1 yes selected workshops
39	Q13bTCourses	Training - several courses in college	0 did not select several courses in college 1 selected several courses in college
40	Q13cTOTJ	Training - on the job training	0 did not select on the job training 1 selected on the job training
41	Q13dTBMSPED	Training - BA or MA in SPED	0 did not select BA or MA in SPED 1 selected BA or MA in SPED
42	Q13eTBDEAF	Training - BA or MA in deaf ed	0 did not select BA in deaf ed 1 selected BA in deaf ed
43	Q13fTMDEAF	Training - MA in deaf ed	0 did not select MA in deaf ed 1 selected MA in deaf ed
44	Q13gTINFORM	Training - informal	0 did not select informal training 1 selected informal training
45	Q13hTNO	Training - no specialized training	0 did not select no specialized training 1 selected no specialized training
46	Q13iOTHER	Training - other	0 did not select other



<b>Col. #</b>	<b>Variable Name</b>	<b>Variable Description</b>	<b>Variable Metric/Label</b>
			1 selected other
47	Q14aCCW	Estimate of number of deaf/hh as colleagues and co-workers	Number
48	Q14aCCWcopy	Estimate of number of deaf/hh as colleagues and co-workers	Number
49	Q14bFR	Estimate of number of deaf/hh as friends	Number
50	Q14bFRcopy	Estimate of number of deaf/hh as friends	Number
51	Q14cST	Estimate of number of deaf/hh as students	Number
52	Q14cSTcopy	Estimate of number of deaf/hh as students	Number
53	Q14dFAM	Estimate of number of deaf/hh as family members	Number
54	Q14dFAMcopy	Estimate of number of deaf/hh as family members	Number
The following composite variables are based on the original variables in the data set.			
	KNOWIEP	Knowledge of IEPs	Scale 0 - 9
	Q12a, Q12i, Q12j KNOWDEAF	Knowledge of Deaf Education	Scale 0 - 24
	Q12b, Q12c, Q12d, Q12e, Q12f, Q12g, Q12h, Q12k		
	ACCESSINSTR Q7b, Q7e	Access to Instruction	Scale 2 - 10
	ACCESSINC Q7a, Q7c, Q7d, Q7f, Q7g, Q7h	Access to incidental language and communication	Scale 6 - 12
	ACCESS Q7a, Q7, b, Q7c, Q7d, Q7e, Q7f, Q7g, Q7h	Access to instruction and incidental language and communication	Scale 8 - 40
	PLACE Q5a, Q5b, Q5c, Q5d, Q5e, Q5f, Q5g	Educational placement	Scale 7 - 28

## Appendix D1

### Strategies for Replacing Missing Values for Respondents from California

Part ID	Question	Variable Name	Replacement Value	Notes
49	I agree...the first best option for a deaf/hh student is be educated with hearing students in their neighborhood school.	Q5aPLACE	2	Mean of responses by case to questions within the question set
95	I agree...it is not necessary for deaf/hh students to be educated with other deaf/hh students.	Q5bPLACE	2	Mean of responses by case to questions within the question set
95	I agree... Use of a sign language interpreter equalizes the regular educational setting for a deaf or hard of hearing student who uses sign language.	Q5dPLACE	2	Mean of responses by case to questions within the question set
95	I agree...if students use hearing aids or cochlear implants they are able to fully participate in their neighborhood school program with little support.	Q5ePLACE	2	Mean of responses by case to questions within the question set
38	I agree...it is adequate for deaf and hard of hearing children who sign to be in classrooms where other students do not sign as long as the teacher has some sign skills.	Q5gPLACE	2	Mean of responses by case to questions within the question set
50	I agree...it is adequate for deaf and hard of hearing children who sign to be in classrooms where other students do not sign as long as the teacher has some sign skills.	Q5gPLACE	1	Mean of responses by case to questions within the question set
95	I had the following influence: very; somewhat; or not at all	Q6INFLU	1	Mode of responses for this variable
12	Responsibility of IEP teams to ensure deaf/hh has teachers, administrators and other education staff in the whole school that can sign fluently if the student uses sign language.	Q7fACCESS	5	Mean of responses by case to questions within the question set
12	Responsibility of IEP teams to ensure deaf/hh has the opportunity to regularly interact with adults who are deaf/hh.	Q7hACCESS	5	Mean of responses by case to questions within the question set
12	I focus on...disability and needs help; human interaction; or treatments such as CI or hearing aids.	Q8ATTITUDE	1	Mode of responses for this variable
50	I focus on...disability and needs help; human interaction; or treatments such as CI or hearing aids.	Q8ATTITUDE	1	Mode of responses for this variable

<b>Part ID</b>	<b>Question</b>	<b>Variable Name</b>	<b>Replacement Value</b>	<b>Notes</b>
63	Frequency of interactions as: colleagues, co-workers	Q9aINTER	0	No response assumes respondent does not have deaf colleagues, co-workers
67	Frequency of interactions as: colleagues, co-workers	Q9aINTER	0	No response assumes respondent does not have deaf colleagues, co-workers
63	Frequency of interactions as: friends	Q9bINTER	0	No response assumes respondent does not have deaf friends
67	Frequency of interactions as: friends	Q9bINTER	0	No response assumes respondent does not have deaf friends
67	Frequency of interactions as: students	Q9cINTER	0	No response assumes respondent does not have interaction with deaf students
67	Frequency of interactions as: members of my family	Q9dINTER	0	No response assumes respondent does not have a family member who is deaf
63	Frequency of interactions as: members of my family	Q9dINTER	0	No response assumes respondent does not have a family member who is deaf
51	Frequency of interactions as: members of my family	Q9dINTER	0	No response assumes respondent does not have a family member who is deaf
47	My interactions with deaf/hh are very good; good; awkward; or difficult	Q11DEAFHH	4	Mode of responses for this variable
91	My interactions with deaf/hh are very good; good; awkward; or difficult	Q11DEAFHH	4	Mode of responses for this variable
95	My interactions with deaf/hh are very good; good; awkward; or difficult	Q11DEAFHH	4	Mode of responses for this variable
41	Familiarity with IEPs	Q12aKNOW	2	Mean of all responses to this variable

\*.5 and below rounded down for calculations of the mean

## Appendix D2

### Strategies for Replacing Missing Values for Respondents from Washington

<b>Part ID</b>	<b>Question</b>	<b>Variable Name</b>	<b>Replacement Value</b>	<b>Notes</b>
110	I agree...the first and best option for a deaf/hh student is to be educated with hearing students in their neighborhood school.	Q5aPLACE	1	Mean of responses by case to questions within the question set
108	I had the following influence: very; somewhat; or not at all	Q6INFLU	1	Mode of responses for this variable
147	Responsibility of IEP teams to ensure deaf/hh has the opportunity to regularly interact with adults who are deaf/hh.	Q7hACCESS	5	Mean of responses by case to questions within the question set
126	Frequency of interactions as: colleagues, co-workers	Q9aINTER	0	No response assumes respondent does not have deaf colleagues, co-workers
126	Frequency of interactions as: friends	Q9bINTER	0	No response assumes respondent does not have deaf friends
128	Frequency of interactions as: friends	Q9bINTER	0	No response assumes respondent does not have deaf friends
129	Frequency of interactions as: members of my family	Q9dINTER	0	No response assumes respondent does not have a family member who is deaf
105	Familiarity with special factors of language and communication for deaf/hh students	Q12bKNOW	3	Mean of all responses to this variable
131	Familiarity with deaf culture	Q12dKNOW	2	Mean of all responses to this variable

\*.5 and below rounded down for calculations of the mean

### Appendix D3

#### Strategies for Replacing Missing Values for Respondents from New Mexico

Part ID	Question	Variable Name	Replacement Value	Notes
155	I agree...Use of a sign language interpreter equalizes the regular educational setting for a deaf or hard of hearing student who uses sign language.	Q5dPLACE	3	Mean of responses by case to questions within the question set
155	I agree...it is adequate for deaf and hard of hearing children who sign to be in classrooms where other students do not sign as long as the teacher has some sign skills.	Q5gPLACE	3	Mean of responses by case to questions within the question set
156	Responsibility of IEP teams to ensure deaf/hh knows what peers and adults are saying though the conversation is not directed at them.	Q7cACCESS	2	Mean of responses by case to questions within the question set
182	Responsibility of IEP teams to ensure deaf/hh knows what peers and adults are saying though the conversation is not directed at them.	Q7cACCESS	4	Mean of responses by case to questions within the question set
212	Responsibility of IEP teams to ensure deaf/hh has the opportunity to regularly interact with adults who are deaf/hh.	Q7hACCESS	5	Mean of responses by case to questions within the question set
179	I focus on...disability and needs help; human interaction; or treatments such as CI or hearing aids.	Q8ATTITUDE	1	Mode of responses for this variable
164	My interactions with deaf/hh are very good; good; awkward; or difficult	Q11DEAFHH	4	Mode responses for this variable
167	My interactions with deaf/hh are very good; good; awkward; or difficult	Q11DEAFHH	4	Mode of responses for this variable
180	Familiarity with continuum of placement options	Q12jKNOW	2	Mean of all responses to this variable

\*.5 and below rounded down for calculations of the mean

## Appendix D4

### Strategies for Replacing Missing Values for Respondents from Texas

<b>Part ID</b>	<b>Question</b>	<b>Variable Name</b>	<b>Replacement Value</b>	<b>Notes</b>
256	I agree...the first and best option for a deaf/hh student is to be educated with hearing students in their neighborhood school.	Q5aPLACE	2	Mean of responses by case to questions within the question set
309	I agree...the first and best option for a deaf/hh student is to be educated with hearing students in their neighborhood school.	Q5aPLACE	1	Mean of responses by case to questions within the question set
256	I agree...it is not necessary for deaf/hh students to be educated with other deaf/hh students.	Q5bPLACE	2	Mean of responses by case to questions within the question set
253	I agree...it is not necessary for deaf/hh students to be educated with other deaf/hh students.	Q5bPLACE	2	Mean of responses by case to questions within the question set
310	I agree...a special school for the deaf should be considered for deaf/hh students only after they are failing in their neighborhood school program.	Q5cPLACE	2	Mean of responses by case to questions within the question set
309	I agree...a neighborhood school should be considered first as the least restrictive environment for students who are deaf or hard of hearing.	Q5fPLACE	1	Mean of responses by case to questions within the question set
256	I agree...a neighborhood school should be considered first as the least restrictive environment for students who are deaf or hard of hearing.	Q5fPLACE	2	Mean of responses by case to questions within the question set
246	I had the following influence: very; somewhat; or not at all	Q6INFLU	2	Mode of responses for this variable
312	Frequency of interactions as: members of my family	Q9dINTER	0	No response assumes respondent does not have a family member who is deaf
277	My interactions with deaf/hh are very good; good; awkward; or difficult	Q11DEAFHH	4	Mode of responses for this variable

\*.5 and below rounded down for calculations of the mean

## Appendix E

### UNM IRB Approval



Office of the  
Institutional Review Board

DATE: April 20, 2015

REFERENCE #: 02715

PROJECT TITLE: [723584-1] Interaction with Deaf or Hard of Hearing Individuals and Decisions Made by IEP Team Members

PI OF RECORD: Allison Borden

SUBMISSION TYPE: New Project

BOARD DECISION: DETERMINATION OF EXEMPT STATUS

EFFECTIVE DATE: April 18, 2015

REVIEW CATEGORY: Exemption category # 2

DOCUMENTS:


- Application Form - Project Information Form (UPDATED: 02/20/2015)
- Consent Form - Gallegos Consent for Electronic Anonymous Questionnaire (UPDATED: 02/20/2015)
- CV/Resume - Borden CV (UPDATED: 02/20/2015)
- CV/Resume - CV Gallegos (UPDATED: 02/20/2015)
- Other - Recruitment Messages (UPDATED: 04/14/2015)
- Other - Gallegos Description of the Study (UPDATED: 02/20/2015)
- Other - Dissertation Committee Approval Form (UPDATED: 02/20/2015)
- Other - Project Team Form (UPDATED: 02/20/2015)
- Other - Departmental Approval (UPDATED: 02/20/2015)
- Protocol - Gallegos Protocol (UPDATED: 04/14/2015)
- Questionnaire/Survey - Gallegos Questionnaire (UPDATED: 02/20/2015)
- Training/Certification - CITI Borden HSC (UPDATED: 02/20/2015)
- Training/Certification - CITI Borden Main (UPDATED: 02/20/2015)
- Training/Certification - CITI Gallegos (UPDATED: 02/20/2015)

Thank you for your submission of New Project materials for this project. The University of New Mexico (UNM) IRB Main Campus has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations. Because it has been granted exemption, this research project is not subject to continuing review. This determination applies only to the activities described in the submission and does not apply should any changes be made to these documents. If changes are being considered, it is the responsibility of the Principal Investigator to submit an amendment to this project for IRB review and receive IRB approval prior to implementing the changes. A change in the research may disqualify this research from the current review category.

Please use the appropriate reporting forms and procedures to request amendments for this project.

The Office of the IRB can be contacted through: mail at MSC02 1665, 1 University of New Mexico, Albuquerque, NM 87131-0001; phone at 505.277.2644; email at [irbmaincampus@unm.edu](mailto:irbmaincampus@unm.edu); or in-person at 1805 Sigma Chi Rd. NE, Albuquerque, NM 87106. You can also visit our website at [irb.unm.edu](http://irb.unm.edu).

Sincerely,

A handwritten signature in black ink, appearing to read "J. Scott Tonigan".

J. Scott Tonigan, PhD  
*IRB Chair*