INFLUENCES ON PARENTAL DECISIONS REGARDING COMMUNICATION OPTIONS FOR CHILDREN IDENTIFIED WITH HEARING LOSS

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ABSTRACT

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Choosing a method of communication for a child who is deaf or hard of hearing (d/hh) is a complex process that must be addressed early in order to avoid severe developmental consequences. Limited research shows that parents' decisions are influenced by professionals who are often biased toward a particular communication method, and that parental attitudes and knowledge related to their child's development may also be influential. This study addresses a gap in the literature by investigating potential influences on parents' choices of a communication method including parents' knowledge of communication development, values, and sources of information. Data were collected via an online survey for parents of children who are d/hh (N = 36). Findings indicate that there were no differences between parents who chose an oral versus signed method of communication in their knowledge of communication development or their perceptions of the media's portrayal of children who are d/hh. However, parents who chose an oral communication method placed higher value on their child's ability to fit in with typically developing children, felt more negatively about their own abilities to learn or use a signed method of communication, and sought information from education or speech/audiology professionals more often. However, there were no group differences in sources parents cited as influential to their decisions. Instead, all parents reported relying on their own judgment, indicating that they had internalized the opinions of the professionals from whom they had sought information.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

CI	Cochlear implant
ASHA	American Speech-Language-Hearing Association
dB	Decibels
NIH	National Institutes of Health
UNHS	Universal Newborn Hearing Screening
EHDI	Early Hearing Detection and Intervention
PCHL	Permanent congenital hearing loss
GRI	Gallaudet Research Institute
KIDI	Knowledge of Infant Development Inventory
SPSS	Statistical Package for the Social Science

CHAPTER 1: INTRODUCTION

Rationale for Proposed Study

The ability to effectively communicate is critical to the healthy development of children. Effective communication supports cognitive development as well as social development, including the ability to form and develop relationships. Although children with hearing loss may have methods of communication that differ from children who have typical hearing abilities, effective communication is still an essential part of their development. Therefore, it is important that children with hearing loss are given the opportunity to experience healthy development by learning and using an elaborated system of communication that best fits their needs and the needs of those with whom it is important that they communicate. In order for this to occur it is necessary that parents of these children make choices regarding their child's method of communication early in the child's life so that healthy language development is not disrupted. The majority of parents who have a child with hearing loss have typical hearing abilities (Gallaudet Research Institute (GRI) 2007; Mitchell & Karchmer, 2004, 2005), which means that in order to make choices related to their child's communication parents either rely on their limited knowledge and experiences related to hearing loss or seek out information or advice elsewhere.

It is imperative that parents are able to make well-informed decisions about their child in order to promote effective communication as well as healthy cognitive and social development, including the ability to form and maintain relationships. However, there is a dearth of literature on how communication choices are made by parents and, in particular, how these choices are influenced. If the influential factors related to parents' communication choices for their children can be better understood, not only will it be possible to determine how parents receive information, but it will also be possible to discover what type of information parents need in

order to make well-informed decisions. The recognition of the type of information parents need in order to make communication decisions for their child is important, however, in order to make sure that parents actually receive this information it is necessary to first understand from whom they receive guidance or how their views are formed. Once these sources are determined, it will then be possible to educate those sources in regards to the type of information that parents need, and there will be a greater chance that parents will receive adequate, useful, and appropriate information on which to base their choices.

This study addresses an under-investigated set of issues, and the results will contribute to a better understanding of some of the existing gaps in the literature on the communication choices made by parents of deaf or hard of hearing children. The aim of this study is to discover influential factors related to parents' decisions about their child's method of communication. In particular, this study focuses on influential sources of information such as where parents seek and receive information, parental beliefs and knowledge, and the media's portrayal of children or other individuals with hearing loss.

Theoretical framework

Child development occurs within a system that is composed of interacting and changing contexts, as well as the bidirectional relationships that exist between those contexts. This system is complex, and is continuously being transformed by societal influences (Bronfenbrenner, 1979). According to ecological systems theory, the system in which each child develops consists of multiple layers (Bronfenbrenner & Morris, 2006; see Figure 1.1). The first layer, called the microsystem, includes the interactions and relationships that the child is part of each day, as well as their physical surroundings (Bronfenbrenner, 1979). The relationships in this layer of the child's environment are bidirectional in the sense that the child's biological and social

characteristics influence the adults with whom the child interacts, and, at the same time, adults influence the child. Relationships between microsystems, such as the child's home and child care setting, form the child's mesosystem (Bronfenbrenner, 1979). Consistent and positive relationships between aspects of the child's microsystem, such as contact and communication, are beneficial to children's development (Berk, 2005). The third layer in which development takes place does not include the child directly but rather influences others with whom the child interacts; this is called the exosystem (Bronfenbrenner, 1979). The exosystem contains formal or informal social structures, including workplaces, government policies, and mass media, as well as friends and extended family. Finally, the macrosystem is comprised of the cultural aspects of society such as norms, attitudes, and values (Bronfenbrenner, 1979). Within each of the layers, change and development occur over time. These transformations that occur over time at the individual and environmental level represent what is called the chronosystem (Bronfenbrenner, 1992). For children who are deaf or hard of hearing, their ecological system will contain a number of distinct features, contexts, and relationships (see Figure 1.1 for examples).

Figure 1.1. *The ecological system of a child*

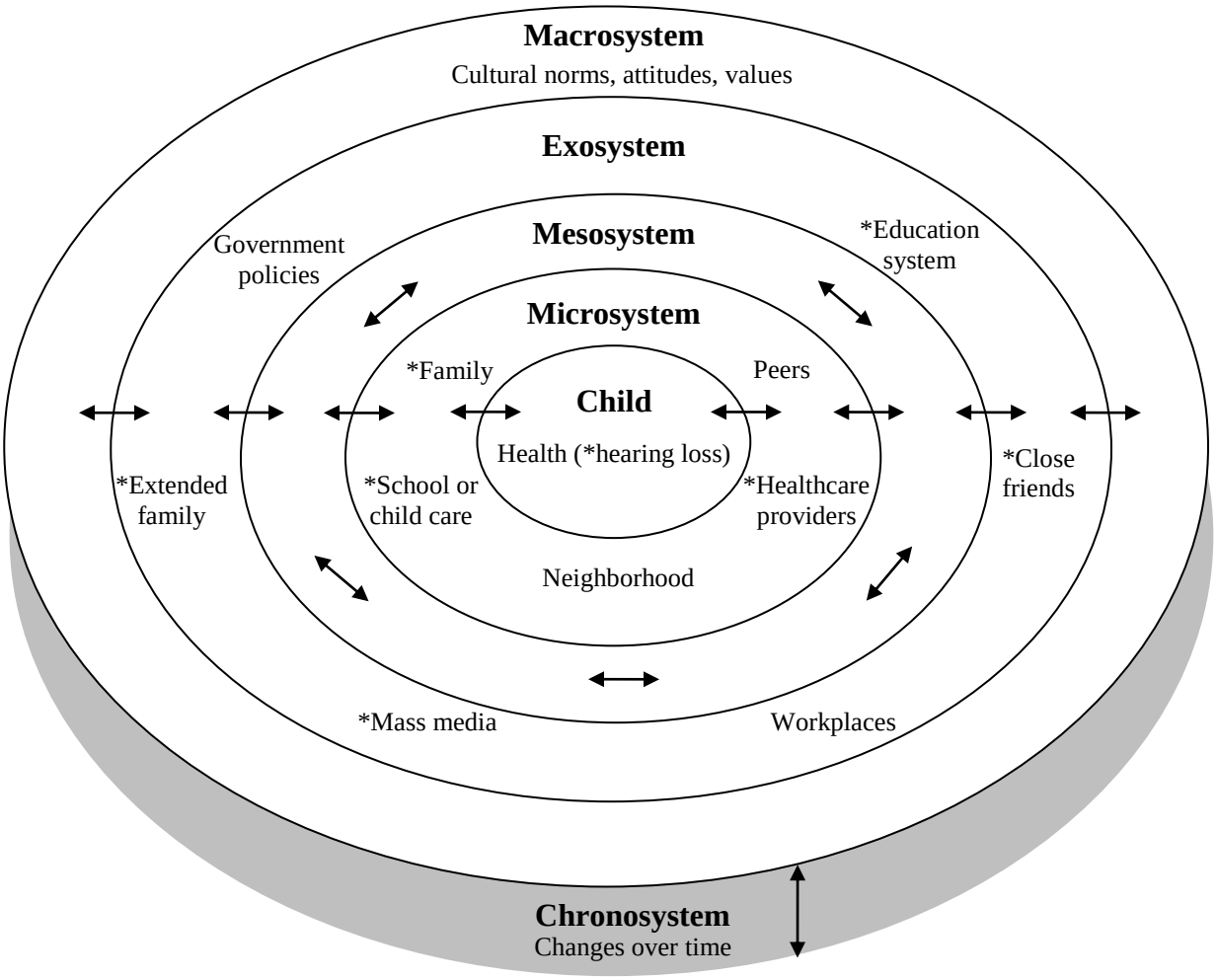

Figure 1.1. Asterisks represent the aspects of the ecological system of a child who is deaf or hard of hearing that will represent a variable or an aspect of a variable as part of the current study.

Similar to ecological systems theory, the theory of social constructionism claims that an individual's development is influenced by the relationships between individuals or groups, which are significantly influenced by social interaction (Gergen, 1985; Lock & Strong, 2010). Social constructionism posits that social interchange is the basis of our knowledge of the world and how we construct meaning. This knowledge and meaning does not come from the physical or biological world, but instead, through the frequent interactions between people over time, specifically through the use of language (Gergen, 1985). These interactions sometimes lead to

shared agreements which are then regarded as "truth" or "fact" even though they do not stem from an objective view of the world, but from the constant interaction between individuals (Burr, 1995; Lock & Strong, 2010). Therefore, the way in which an individual makes meaning of the world does not necessarily come from their own attempts at understanding, but from their interactions with others (Lock & Strong, 2010). Furthermore, the knowledge and meaning that individuals gain from social interaction often determines the way in which they choose to act (Burr, 1995).

This study bridges foundational aspects of ecological systems theory and social constructionism to examine the link between the system in which a child who is deaf or hard of hearing develops and the ways in which parents' communication choices for the child are influenced. While maintaining focus on an individual characteristic, the child's hearing loss, other aspects of the child's ecological system are examined. In particular, the child's mesosystem is studied by focusing on the relationship between the child's parents and the individuals from which they may seek advice. These social interactions in the child's mesosystem are then linked to tenets of social constructionism in order to understand if parents' choices differ based on where they sought advice and what advice they view as influential. By gathering information about the type of individuals from whom parents sought advice, as well as those that they felt were influential to their communication decision, parents' actions (i.e. the communication choice they make for their child) can be better understood. This information will also contribute to understanding how parents' actions were influenced by their social interactions with particular sources of information. Furthermore, a component of both the child's and the parents' exosystem, the mass media, will also be considered as a source of influence. Mass media is a form of social interchange that could be influencing parents' beliefs. Therefore, an exploratory

aim of this study is to examine if the way in which parents see the media's portrayal children who are deaf or hard of hearing influences parents' values regarding their child's place in society.

CHAPTER 2: REVIEW OF THE LITERATURE

Introduction

Parents' choices related to their child's communication are important to promoting healthy development, but in order to understand how parents are being influenced to make certain choices, other aspects related to children with hearing loss should first be discussed. Below I will describe information related to hearing, as well as hearing loss and how it is defined, then I will discuss the population of children with hearing loss and how hearing loss is identified. Next, I will provide information about parents' communication options for their child, as well as the complications and influential factors associated with making such choices. Finally, I will discuss the areas in which future research is needed and list research questions to be addressed in the current study in order to further this research topic and support parents' decision processes.

Hearing and Hearing Loss

When a child is identified with hearing loss his or her parents are immediately faced with a multifaceted issue that they may need help understanding. Therefore, it is important that individuals working with the family of a child with hearing loss understand that each child's hearing loss is unique and can take on many different forms. The range of hearing possibilities as well as the processes involved in being able to perceive sound make hearing loss a complex condition.

The ability to hear is one the five basic human senses; this sense depends on the proper functioning of three parts of the ear, as well as the nerves that carry signals and the portion of the brain that interprets the signals. The ear is has three parts: the outer, middle, and inner ear (see Figure 2.1). The outer ear includes the pinna, which is made of cartilage and is on the side of the

head, and the ear canal (American Speech-Language-Hearing Association (ASHA), 2009a). Sound waves enter the pinna and travel through the ear canal to the eardrum, which is where the middle ear begins. These sound waves cause vibration in the eardrum and, subsequently, vibrations in bones within the middle ear (KidsHealth, 2009). These vibrations are next transferred to inner ear, which is responsible for both hearing and balance (ASHA, 2009a). The portion of the inner ear that relates to hearing is called the cochlea. Once vibrations reach the cochlea, the fluid that is contained there creates movement in thousands of nerve endings, or hair cells (KidsHealth, 2009). The movement of these nerve endings sends electrical impulses through the auditory nerve to the brain. Once these impulses are received by the brain they are interpreted as sound (ASHA, 2009a).

Figure 2.1. *Diagram of the ear*

(ASHA, 2009a).

The ability to hear involves the complex functioning of multiple parts of the ear, as well as certain nerves and portions of the brain. Therefore, hearing loss can take on many forms and can affect individuals at any time in their life for a variety of reasons. The U.S. National Library of Medicine and the National Institutes of Health define hearing loss as "the total or partial inability to hear sound in one or both ears" (MedlinePlus, 2008). Hearing loss can be described

by its type, degree, symmetry, and configuration, which will be described in more detail below (Praeger, 2008; ASHA, 2009b). There are a number of reasons why hearing loss occurs, many of which can arise early in a child's life. The rest of this section will focus on hearing loss as it pertains to children. Hearing loss is most often explained in regards to the aspect of the auditory system that is not functioning properly, which defines the type of hearing loss a child has (ASHA, 2009b). The three main types of hearing loss include: conductive, sensorineural, and mixed.

Conductive hearing loss occurs when sound waves are not fully transmitted through either the outer or middle ear. This type of hearing loss rarely leads to complete hearing loss, but instead leads to quieter sounds being transferred either temporarily or permanently (Palo Alto Medical Foundation (PAMF), 2009). Conductive hearing loss can occur because of an absence or abnormality in the outer or middle ear, or because of trauma to those areas (Hearing, Speech & Deafness Center (HSDC), n.d.; ASHA, 2009b). It can also occur because of problems in the middle ear such as fluid buildup, growths, or infections. This type of hearing loss is especially common among children, and most can receive medication or surgery in order to correct the problem (Dalebout, 2008).

The second type of hearing loss, sensorineural, occurs when there is damage to the nerve endings in the inner ear or the auditory nerves that allow impulses to be sent to the brain (HSDC, n.d.; PAMF, 2009). Children who have sensorineural hearing loss are usually not able to hear faint sounds, and when they are able to hear sounds they are usually not clear and are hard to understand (ASHA, 2009b). This type of hearing loss can occur before or after birth due to infections, medications that damage aspects of the auditory system, or trauma. It can also occur because of genetic condition inherited from a child's parents (HSDC, n.d.). Sensorineural

hearing loss is permanent and often cannot be treated with medication or surgery (HSDC, n.d.). However, children may be able to regain some degree of hearing by using hearing aids if they are generally able to hear clearly or from a cochlear implant, which will be discussed later (MedlinePlus, 2008).

Lastly, mixed hearing loss occurs when both conductive and sensorineural hearing loss are present. If there is damage to both the outer or middle ear and to the inner ear or auditory nerve, then the condition is referred to as mixed hearing loss. Therefore, a child with mixed hearing loss has abnormal conductive and sensorineural hearing abilities which can be caused by the various reasons listed above (Dalebout, 2008).

Other than determining the type of hearing loss a child has, the degree or severity of a child's hearing loss can also be verified. There are multiple ways that the degree of hearing loss can be categorized, which usually range from normal to profound (Clark, 1981 as cited in ASHA, 2009b). A common way to describe the degree of hearing loss is shown in Table 2.1 (Clark, 1981 as cited in ASHA, 2009b; Centers for Disease Control and Prevention (CDC), 2006), which is based on how it is measured by American Speech-Language-Hearing Association (ASHA).

Table 2.1. *Degrees of Hearing Loss*

Range of Hearing Loss (in decibels)	*Category of Hearing Loss*	*Characteristics of Hearing Category*
-10 to 15 dB	Normal	All speech sounds can be heard
16 to 25 dB	Slight Hearing Loss	Vowel sounds will be clear, but consonant sounds can be missed
26 to 40 dB	Mild Hearing Loss	Only some speech sounds can be heard
41-55 dB	Moderate Hearing Loss	Hardly any speech sounds can be heard
56 to 70 dB	Moderate/ Severe Hearing Loss	No speech sounds can be heard
70 to 90 dB	Severe Hearing Loss	No speech sounds and hardly any other sounds can be heard
91 or more dB	Profound Hearing Loss	No speech or other sounds can be heard

A third way to describe hearing loss is by its symmetry. The symmetry of hearing loss is determined by comparing the hearing ability of the child's left ear with that of the hearing ability in their right ear (ASHA, 2009b). If a child has hearing loss in only one ear, they have a unilateral hearing loss. If hearing loss occurs in both ears, a child has a type of bilateral hearing loss. Hearing loss that is similar in both ears is considered bilaterally symmetrical; hearing loss that is different in each ear is considered bilaterally asymmetrical (Dalebout, 2008).

Lastly, hearing loss can also be described based on its configuration. Hearing abilities differ at each frequency (i.e. the number of vibrations for a sound wave each second). When a child's hearing loss at each frequency is charted, a shape that describes hearing loss can be seen. Hearing loss configurations can show that children have similarities or differences between hearing loss related to high or low frequencies (ASHA, 2009; Dalebout, 2008).

The ability to hear is an intricate process that involves many parts of the body. Similarly, the way in which hearing loss is defined also has many parts. Individuals can have conductive, sensorineural, or mixed hearing loss for a number of reasons. Hearing loss can also vary in the

ranges and frequencies in which an individual is able to hear, as well as how each ear is affected. The complexity of hearing loss means that children and their families can be affected in a variety of ways. In particular, the child's biological characteristic of hearing loss will influence aspects of their microsystem, particularly the adults with whom the child interacts and on whom the child depends for care. A child's hearing loss will influence his/her parents in many ways, one of which includes the fact that the parent will be faced with a complex, challenging situation when they discover that their child has been identified with hearing loss and they must begin making decisions.

Early Identification and Intervention

In the last decade there has been a significant increase in the number of infants screened for hearing loss. In the United States, extensive infant hearing screenings were first suggested in March of 1993 when the National Institutes of Health (NIH) published a consensus statement regarding childhood hearing screenings. The NIH recommended that all infants should be screened for hearing loss, with anticipation that this would occur before newborns are discharged from the hospital (NIH, 1993). Beyond the District of Columbia and Puerto Rico, there are currently 42 states that have laws related to screening infants for hearing loss. These mandated screenings are often now referred to as Universal Newborn Hearing Screening (UNHS) programs. Each state that has adopted UNHS programs as a part of law determines the particular percentage of infants that are to be screened each year; usually this range falls between 85 and 100 percent of infants (NCHAM, 2009).

The justification for the NIH recommendation for widespread UNHS programs is related to the age at which children were typically being identified with hearing loss (NIH 1993, Yoshinaga-Itano, 2003). Before widespread infant hearing screenings were in place, children

would commonly be identified with hearing loss between two and three years of age. Such late identification of hearing loss is extremely problematic because, as stated by the NIH (1993), "The most important period for language and speech development is generally regarded as the first 3 years of life." As stated previously, children with hearing loss are already at risk of becoming communicatively isolated, and they are also prone to having lower levels of IQ and academic achievement. Therefore, identification of hearing loss at age two or three was not early enough because in order for language to develop effectively and offset vulnerabilities of these children, hearing loss needed to be determined much earlier in a child's life. Fortunately, due to recommendations of the NIH and the subsequent success of UNHS programs, some areas of the country now identify children with hearing loss at an average of two months of age (Yoshinaga-Itano, 2003).

The benefits of early hearing loss detection have been consistently demonstrated by research. In particular, one study found that the language comprehension and expressive language skills of children who are identified with hearing loss before the age of six months was significantly better than those children who were identified after six months of age (Yoshinaga-Itano, Sedey, Coulter, & Mehl, 1998). It has also been determined that the earlier a child is identified with hearing loss the better his/her language skills will be later in life (White & White, 1987; Apuzzo & Yoshinaga-Itano, 1995; Robinshaw, 1997). Furthermore, it was found that children who began receiving intervention services before the age of 11 months had similar language abilities at five years of age when compared to children with typical hearing (Moeller, 2000). Recently, researchers have demonstrated that intervention before the age of three months is even more effective in supporting language as measured by how many words children are able

to produce and understand, as well as their gesture use between 12 and 16 months of age (Vohr et al., 2008a).

Although the early identification of hearing loss is extremely important, it is just the first step. Children with hearing loss and their families also need appropriate support and intervention. In 2001, Early Hearing Detection and Intervention (EHDI) programs were established in each state. These programs align with the standards first set by UNHS programs, but have additional and more rigorous standard for early identification and ensuing intervention (White, 2003). The standards of EHDI programs include that infants should be screened for hearing loss before leaving the hospital or before the age of one month, infants who do not pass the first hearing screening should be tested again no later than the age of three months, and for those infants that are diagnosed with hearing loss, intervention services should begin as soon as possible but at least before the age of six months (Joint Committee on Infant Hearing (JCIH), 2007). Another component of EHDI standards is based the concept of the child's 'medical home' (White, 2003; Vohr, 2003). Successful EHDI programs create a 'medical home' when the professionals providing intervention services, such as those in the medical, educational, and audiological fields, partner with the child's family members to create a team. This 'home' is not a real place, but instead, "an approach to health care that is accessible, family-centered, continuous, comprehensive, coordinated, compassionate, and culturally competent" (Vohr, 2003, p. 63). Overall, EHDI programs extend beyond identification by providing the child and his or her family with the support that is necessary in order for intervention services to begin early in the child's development.

Early identification and intervention are important to the healthy development of children with hearing loss, but just as the EHDI standards specify, family involvement in the process of

children's language intervention is crucial to their success. One study determined that the more parents participate in intervention, the better vocabulary skills their children have (Moeller, 2000). Several studies have demonstrated that the degree of a child's hearing loss is not significantly related to their language abilities later in life if early intervention is combined with family participation in intervention services (Moeller, 2000; Yoshinaga-Itano, Sedey, Coulter & Mehl, 1998; Calderon, 2000). These studies demonstrate that early identification and intervention are clearly beneficial to children's language development, but that family involvement is also a crucial factor in determining language outcomes of children with hearing loss. Even though family involvement is critical to the development of children with hearing loss, the extent and type of each family's participation varies. Family involvement is typically defined by a number of participation factors that include meeting and attending sessions with service providers, becoming involved with the child's schooling and educational plans, and serving as language models for their child by communicating with their child frequently in his/her primary method of communication (Moeller, 2000; Yoshinaga-Itano, Sedey, Coulter & Mehl, 1998; Calderon, 2000). However, studies have yet to determine if parents' knowledge of certain factors (i.e. their child's language development or the benefits of their participation in early intervention) or attitudes (i.e. their own confidence in their ability to learn a signed language, or how much they value their child fitting in with typically developing peers) leads to better family involvement overall.

Number and Characteristics of Children with Hearing Loss

There are a number of conditions for which infants are routinely screened, one of which is hearing loss. Even though it is known that hearing loss occurs at higher rates than other conditions present at birth (March of Dimes, 2009), reported rates of hearing loss in children

vary across studies for a number of reasons. Aside from methodological differences between studies such as the sample size and population characteristics, reported rates of hearing loss also differ because of differences in the way that hearing loss is defined, and how and when it is identified (National Center for Hearing Assessment & Management (NCHAM), 2008). However, based on a number of studies completed worldwide, it is estimated that permanent congenital hearing loss (PCHL) affects one to three children per thousand born (NCHAM, 2008; Nelson, Bougatsos, & Nygren, 2008; National Institute on Deafness and Other Communication Disorders (NIDCD), 2008). Moreover, information from universal newborn hearing screening (UNHS) programs shows that PCHL occurs in as many as three to four children per thousand (NCHAM, 2008). Therefore, despite differences regarding the exact number of children who are identified with PCHL, children who have hearing loss are part of a low-incidence population.

Based on estimates of live births in 2009 (Central Intelligence Agency, 2009) and the rate of children identified with PCHL, which varies between 1 and 4 per 1,000 births (NCHAM, 2008; Nelson, Bougatsos, & Nygren, 2008; NIDCD, 2008), we can estimate the approximate number of children born with PCHL in the United States in 2009 to be between 4,200 and 17,000. Even though children who experience hearing loss are part of a low-incidence population, these estimates show that there are thousands of children in the United States alone who are affected by hearing loss each year. Therefore, it is important that the characteristics of this population are well understood so that the individuals working with these children or their families can be aware of its uniqueness. In particular, children with hearing loss are likely to have family members and peers that have typical hearing abilities. Researchers at Gallaudet University's Research Institute (GRI) have concluded that 83-95% of children who have hearing loss have two parents with typical hearing abilities (GRI, 2007; Mitchell & Karchmer, 2004,

2005). GRI researchers also found that 77% of children who have hearing loss do not have any siblings with hearing loss (GRI, 2007). Furthermore, 55% of children with hearing loss are likely to be educated in a general education classroom with peers that have typical hearing abilities (GRI, 2007). Therefore, because of the hearing status of their family and peers, children with hearing loss are at risk of becoming communicatively isolated.

The risk for becoming communicatively isolated is exacerbated due to the fact that language development begins very early in a child's life, even as soon as days after birth (NIDCD, 2000). The lack of a common method of communication between a child and other influential individuals in their life can not only be detrimental to the child's development of language, but also to his/her relationships. In particular, when the relationship between a parent and a child with hearing loss lacks typical interaction and communication this can negatively affect a child's social and emotional development, including attachment and later relationships with peers and family members (Vaccari & Marschark, 1997). The use of sign language is one option that parents could pursue in an attempt communicate more effectively with their infant early in his/her life (Schwartz, 2007). Although this option would encourage early interaction and communication between parents and children, it is common that parents with typical hearing abilities have a hard time mastering sign language and often feel uncomfortable using it (Vaccari & Marschark, 1997). Overall, the risk of communicative isolation is an important concern related to children's development even though very little research has been completed regarding this topic. In particular, it is unclear if parents are aware of the risks associated with not sharing a common method of communication, and oftentimes subsequent disruptions to interaction, or if they know enough about communication development to understand how important it is or how early it begins.

Beyond frequent hearing status and communication method differences between children and their parents, siblings, and peers, there are other characteristics associated with children that have hearing loss that are worth mentioning. The National Institutes of Health (1994) found that children with hearing loss were more likely to come from low-income homes and minority families than from higher-income families (as cited in Belzner & Seal, 2009). Childhood poverty is associated with a plethora of negative outcomes, some of which include lower levels of IQ and academic achievement, as well as decreased reading and verbal abilities (Brooks-Gunn & Duncan, 1997; Duncan & Brooks-Gunn, 1997). In addition, studies have found that children who need additional health care, including those with hearing loss, and who are from low-income families often do not receive health services that they need (Van Dyck, Kogan, McPherson, Weissman, & Newacheck, 2004). Not only is this important because some children who have hearing loss need specific medical attention in order to use hearing aids or a cochlear implant, but it is also significant due to the fact that over 50% of children with hearing loss have at least one additional disability (GRI, 2007).

Another characteristic of the population of children with hearing loss is their vulnerability to abuse and neglect. Children with hearing loss are estimated to be 1.4 to 4 times more likely to experience maltreatment as compared to children without a disability (Sullivan & Knutson, 2000). Neglect is the most common type of maltreatment that children with hearing loss endure; more than 68% of children with a communication disorder who are maltreated, including those with hearing loss, experience neglect (Sullivan & Knutson, 1998a). Similar to children without disabilities, children with hearing loss are likely to be maltreated in their home by a primary caretaker, usually by his/her mother (Sullivan & Knutson, 1998a and 1998b; Crosse, 1992).

In summary, children with hearing loss are at risk to become communicatively isolated because of their likelihood to be surrounded by family members and peers with typical hearing abilities. Furthermore, demographics related to poverty, health care, and maltreatment, are important to understanding the risks faced by children with hearing loss. Children with hearing loss, who are already vulnerable for a number of reasons, should not be put at further risk due to a lack of an appropriate method to communicate. Therefore, it is important that children with hearing loss are identified early in life and that their parents have consistent, positive relationships with others, such as health care providers or informational sources that could help them understand their options. It is also important that these relationships involve communication that leads to parents receiving adequate, useful information so that they would be better prepared to make communication choices that best fit the needs of their child.

Complications Related to Intervention and Communication Options

Based on the stated benefits of early hearing loss identification and coinciding intervention, parents are being encouraged to make decisions about their child's method of communication very early in their child's life. EHDI programs provide intervention that is intended to begin as early as possible in an infant's life, and that primarily focuses on the development of communication skills. The most important aspects of this intervention are based on the method of communication that the child will use (Centers for Disease Control (CDC), 2009). There are a number of communication methods that parents can choose from, including a spoken or visual language, an alternate form of a spoken or visual language, or a combination of both a spoken and visual language (Marschark, 2007; Gravel & O'Gara, 2003). These communication choices are most beneficial when they are made early in the child's life; however, these choices are often complex, overwhelming, and controversial.

In order to be most beneficial, intervention services should begin as soon as possible or at least before the age of six months (JCIH, 2007). Therefore, parents' decisions related to their child's method of communication need to be made quickly. Due to the short window of time between hearing loss identification and the ideal time to enroll an infant in intervention services, parents often feel unprepared to make a decision about their child's method of communication, especially since they often do not have the time to fully understand the implications of the different communication options (Young et al., 2006). There is evidence that these decisions are also difficult because parents whose children are identified with hearing loss early are likely to initially feel stress, anxiety, or grief (Young & Tattersall, 2007; White, 2003; Kurtzer-White & Luterman, 2003; Russ et. al, 2004). Furthermore, this decision may also be overwhelming because, as stated above, 83-95% of children with hearing loss are born to two parents with typical hearing abilities (GRI, 2007; Mitchell & Karchmer, 2004, 2005) who must make choices about their child's method of communication without any experience related to hearing loss or individuals with hearing loss on which to base their decisions (Kurtzer-White & Luterman, 2003). This decision is further complicated by the fact that they have a number of communication options to choose from, some of which have become increasingly controversial.

Choosing a method of communication for a child can be controversial because different methods are commonly associated with different lifestyles or views of hearing loss. Above, hearing loss was described in terms of the type, degree, symmetry, and configuration; however, hearing loss is also commonly defined by labels such as Deaf, deaf, and hard of hearing. The term "hard of hearing" is a way to describe individuals who have slight forms of hearing loss, but these individuals commonly do not categorize themselves as either "Deaf" or "deaf" (Senghas & Monaghan, 2002). These terms, "Deaf" and "deaf", stem from the distinct ways in which

deafness is commonly viewed—through a sociocultural or an audiological model (Senghas & Monaghan, 2002). Individuals who believe that hearing loss can become a part of the individual's culture are likely to adhere to a sociocultural model of deafness. In the United States, individuals with hearing loss that have this view of deafness and take part in the cultural aspects related to deafness (i.e. the use of American Sign Language), are referred to as "Deaf" with a capital D (Senghas & Monaghan, 2002, p. 71). On the other hand, those that support the use of a spoken method of communication and subsequent attempts for individuals with hearing loss to fit in with mainstream society are said to have an audiological view of deafness. Individuals with hearing loss that adhere to this model do not see deafness as a cultural aspect of life, but rather, only as a loss of hearing; they are considered "deaf" (Senghas & Monaghan, 2002, p. 72). The audiological perspective of deafness is sometimes referred to as a medical model of deafness because individuals who adhere to this way of thinking usually advocate for the use of cochlear implants (CIs) (Senghas & Monaghan, 2002). A CI is an invasive, controversial medical procedure that is most effective when completed early in a child's life; these surgically implanted devices allow individuals with certain types of hearing loss to hear more adequately (Marschark, 2007; Schwartz, 2007). Controversies regarding CIs are often related to the fact that children are typically young when this procedure is completed, so it impedes their right to decide their identity and whether they want surgery (Marschark, 2007; Senghas & Monaghan, 2002). Also, some individuals feel that the use of a CIs portrays the idea that deafness is bad, and will lead to confusion between Deaf and Hearing identities for children who receive them (Marschark, 2007). Beyond the controversy of these devices, CIs are not available to everyone; it is an expensive procedure that requires a great deal of therapy in order to be beneficial (NIDCD, 2009). In sum, there are differences in the way that this procedure is

viewed, as well as differing perspectives of hearing loss that commonly fall within one of the models of deafness.

Overall, these two models of deafness commonly dominate the way in which individuals view hearing loss. There is a scarcity of research related to hearing parents' knowledge of and alignment with these views of deafness, and whether these views influence parents' decisions regarding their children's method of communication. In particular, it is unclear if parents are consciously aware of their perceptions of hearing loss and their subsequent desires for their child to "fit" one model (and subsequent lifestyle) or another. Furthermore, there is also a need to understand where these views originate so that parents can eventually be provided with knowledge and support in a way that gives them useful and appropriate information on which to base their decision.

Due to early hearing loss identification and the need for early intervention, parents make communication choices for their children within a short amount of time. These choices are often overwhelming and complex for parents who may experience stress or anxiety related to the discovery of their child's hearing loss, especially since most parents have little or no experience related to hearing loss. These choices are further complicated because of differing views of deafness. Based on the difficulties related to parental choices for their child's method of communication, it is important to understand influential factors related to the choices that parents make so that efforts can be made to help parents receive comprehensive information so that they can feel better prepared to make these difficult, but very important decisions.

Influential Factors Related to Parents' Communication Choices

There are very few studies regarding parents' communication choices for their child with hearing loss; none of which are based on representative samples. Despite this paucity of research,

these studies do share some common characteristics regarding major influential factors that relate to parents' communication choices. The factor most often cited to influence parents' decisions is medical or education personnel and the information or advice that they received from those individuals (Li, Bain, & Steinberg, 2003; Eleweke & Rodda, 2000; Kluwin & Stewart, 2000). Cost and/or availability of services corresponding with different communication methods are also noted as influential factors (Eleweke & Rodda, 2000; Kluwin & Stewart, 2000; Li, Bain, & Steinberg, 2003). There are a number of other influences related to parents' decisions that are noted less often, they include: parents' perceptions of assistive listening devices (Eleweke & Rodda, 2000), the attitudes of education and service professionals (Eleweke & Rodda, 2000), suggestions made by a friend (Li, Bain, & Steinberg, 2003), and the hope to have a child who is able to communicate in a way similar to that of an individual with typical hearing (Kluwin & Stewart, 2000).

Since information and guidance that parents receive from medical or educational personnel was the most often cited influential factor related to parents' decisions about their child's method of communication, this guidance must be examined more closely. In regards to the two models of deafness mentioned above, it is common that one model of deafness dominates the way a professional views hearing loss, even though these views actually lay on a continuum (Marschark, 2007; Young et. al, 2006). Such views – whether conscious or unconscious – could easily lead professionals to provide parents with biased or conflicting information regarding different methods of communication. It is common that after parents have made a decision about a method of communication they realize that they were are not provided with adequate information at the time their choice was made because of biases present in the professional(s) they had solicited for advice (Young et al., 2006). Furthermore, it is also common

that parents feel that they could not make a fully informed decision because professionals encouraged certain methods of communication more than others, and that many of these professionals held such strong biases toward certain methods of communication that they were not able to provide parents with information related to all the possibilities (Young, 2002; Young et al., 2006).

Different views of deafness, as well as the common result of professional biases, play an important role in the information that parents receive about methods of communication and their subsequent decisions. However, there have been debates spanning the last two centuries regarding the benefits of one communication method over another (Senghas & Monaghan, 2002). Research on the effectiveness or benefits of different communication methods is inconclusive; although certain methods of communication may be beneficial to children in a particular way or circumstance, there is not a single approach to communication that is better than all others (Marschark, 2001; Gravel & O'Gara, 2003). Since the limited studies to date have concluded that parents' communication choices for their child are commonly influenced by professionals, in conjunction with findings that these professionals often provide biased information despite the fact that no method of communication has been found to be better than another, this leads us to question where parents receive information and how this relates to the communication method they choose for their child.

Another aspect of this decision process that should be taken into consideration is the attitudes about deafness and communication methods that parents themselves have. Li, Bain, and Steinberg (2003) studied parental beliefs and attitudes because "in the absence of conclusive medical evidence [about the best method of communication], parents may rely instead on their beliefs, values, and goals, which are often polarized among people who take opposite stances"

(p. 163). Li and colleagues found that the attitudes of parents that influenced their decision regarding a method of communication for their child was similar to an audiological or medical model of deafness, including that deafness is something to be fixed and that children with hearing loss should be able to communicate using speech (Li, Bain, & Steinberg, 2003). Since some of the findings of this study only relate to parents who chose an oral method of communication for their child, its generalizability should be kept in mind and attempts to further investigate aspects related to parents' attitudes regarding hearing loss should also be considered.

To extend the limited research on parental attitudes and beliefs that influence their communication, research should focus on parents' views about their relationship with their child, as well as their desires regarding their child's place in society that relate to the different views of deafness (i.e. their desires related to their child being part of the 'majority' vs. a 'minority'). Also, because of the likelihood of their hearing status and experiences, studies should also focus on how parental decisions may relate to their beliefs about their own abilities related to knowing or learning sign language, as well as why many parents feel uncomfortable using the language once they have learned it. Lastly, not only are attitudes and views important to study, but parents' knowledge of communication development, as it relates to communication, could also prove to be insightful as they may relate to different communication options for children.

Given that that parents' decisions regarding their child's method of communication are greatly influenced by professionals' views of hearing loss, as well as their own attitudes related to hearing loss, it is clear that the two models of deafness affect the way in which parent make decisions. However, the source(s) of these views has not been examined. Based on anecdotal information, it has been proposed that the way that the way in which deafness is portrayed in media (i.e. usually from an audiological/medical model of deafness) will influence not only

parents' views of hearing loss, but also professionals', which in turn could greatly affect parents' communication decisions for their child (Decker, 2009). The proposition of media's influence on parents is supported by research that found that the media was the second most influential source from which parents received information (Kluwin & Stewart, 2000). However, this study was specific to children who had received a cochlear implant. Greater research attempts should also be made to better understand media's influence on views of deafness held by parents, professionals, and society in general, as well as how this influence affects decisions made by parents and how it relates to their communication choice for their child.

Based on the few studies to date, parents' communication choices for their child with hearing loss are based on a number of factors—the most important being the information that they receive from professionals. Because of their hearing status, most parents do not have adequate information regarding hearing loss, yet they are likely to receive biased information from professionals regarding communication methods even though none of these methods are proven to be better for children with hearing loss. Therefore, further investigation is needed regarding the influential professionals from which parents seek and receive advice, parents' beliefs and views regarding a number of topics, and whether or not media has an effect on parents' and professionals' views of hearing loss and consequent decisions related to those views.

CHAPTER 3: CURRENT STUDY

Further Research Needed

Based on this review of the literature, further research is needed to better understand the complex issue of parental decisions regarding their child's method of communication. It is now necessary to better understand how parents make communication decisions for their children and the major influences on those decisions. Specifically, particular information received from professionals, parents' desires for and views about their child, views of their own skills, and their knowledge related to communication development should be studied in more depth. Furthermore, media portrayal of children who are deaf or hard of hearing may also influence parents' beliefs but have not yet been fully investigated. Findings from this study will contribute to our understanding of the factors affecting parents' decisions, and ultimately assist in the design and delivery of more complete, accurate, and impartial information to aid parents in their decision process and, therefore, promote healthy communication for children with hearing loss and their families.

Research Questions

The proposed study addresses gaps in the current literature by surveying parents of children who are deaf and hard of hearing regarding the communication choices they have made, the information they received regarding their choices, their own views of deafness and the influences on those views, their knowledge of child development, and their priorities for their children. Specifically, this study addresses the following questions:

1. From whom are parents seeking information about communication options for their child who has hearing loss, and who do they feel was most influential to their decision of a communication method?

a. Who do parents first seek out for advice about their child's method of communication?
b. Who do parents feel primarily affected their communication decision for their child?
c. Are there differences in sources of information and sources of influence on communication decisions between those whose children use an oral or signed method of communication?

2. Do parents' attitudes and beliefs influence the method of communication they choose for their child who is deaf or hard of hearing?
    a. Do parents' desires regarding their child's place in society (i.e. being part of the 'majority' vs. a 'minority') relate to their choice for their child to use an oral or signed method of communication?
    b. Do parents' views of their skill or ability to learn or use sign language relate to their choice to have their child use an oral or signed method of communication?
    c. Does parental knowledge of communication development relate to the communication method they have chosen for their child?
3. From the experience of parents, how do the media portray children who are deaf or hard of hearing?
    a. Are parents' experiences of positive or negative media portrayal of their children who are deaf or hard of hearing related to their desire regarding their child's place in society?

Research Hypotheses

This study aimed to test the following hypotheses:

Hypothesis 1: Sources of information and influence differ for those who chose an oral versus signed method of communication

It is hypothesized that parents would have sought information regarding their child's method of communication from medical professionals, including community agency professionals and audiologist or speech pathologists, as well as teachers and school personnel. Furthermore, it is also expected that parents' subsequent decisions about their child's method of communication would also be primarily influenced by these same medical and educational professionals. Lastly, there is reason to believe that there will be significant relationships between parents' sources of information and influence and the method of communication that their child uses. In particular, based on differences in the way that deafness can be viewed by individuals and the fact that informative and influential professionals may hold a medical model or audiological view of deafness, it is hypothesized that parents who chose an oral method of communication for their child will have been influenced primarily by medical professionals, community agency professionals or education personnel, or audiologists and speech pathologists. For the same reason stated above, it is hypothesized that parents who chose a method of communication that includes signing will not include medical professionals, community agency professionals or personnel, or audiologists and speech pathologists as influential sources of information.

Hypothesis 2: Parental values, beliefs, and knowledge differ for those who chose an oral versus signed method of communication

A review of the literature revealed that there are distinct ways in which deafness can be viewed which commonly lead to professional biases, yet there is no evidence that a certain method of communication is always a better option for children. Therefore, it is important that current research also focus on parental characteristics to determine other possible influential factors in the process of choosing a method of communication for a child. Parental values and beliefs regarding their child's place in society (i.e. for their child being part of the 'majority' vs. a 'minority') and views of their own skills or abilities related to learning sign language, as well as their general knowledge of communication development, could all be influential factors related to the method of communication parents choose for their child.

Regarding parents' values, it is hypothesized that parents whose children use an oral method of communication will be those who place higher value on their child's ability to fit in or be part of the 'majority', while those whose children use signs or a combination of spoken language and signs will be those who place higher value on their child's uniqueness or ability to fit in with others who have hearing loss. Parental beliefs are also hypothesized to be influential, particularly in relation to their beliefs about their sign language skills or abilities to learn the language. It is hypothesized that parents who hold positive views of their ability to learn or use sign language will be more likely to choose a method of communication for their child that includes signs and those who hold negative views of their skills or abilities will be more likely to choose an oral method of communication for their child. Lastly, parental knowledge of communication development is also expected to influence the decision parents make about their child's method of communication. Since a general knowledge of communication development

could help parents understand how early communication development begins and the risks associated with delaying that development, it is hypothesized that parents who have a better understanding of communication development will be more likely to use signs or a combination of signs and spoken language with their child.

Hypothesis 3: Parents' desires for their child's place in society are associated with their views of media portrayal of children who are deaf or hard of hearing

In addition to parental characteristics and influential individuals, the media's portrayal of children who are deaf or hard of hearing will also be explored. A review of the literature demonstrated that there is limited information related to the way in which the media portrays children who are deaf or hard of hearing and how this portrayal could influence parents. An exploratory hypothesis is that parents who feel that the media portrays children who are deaf or hard of hearing more positively will place higher value on their child's uniqueness or ability to fit in with others who have hearing loss, and those who feel that media portrayal is more negative will place higher value on their child's ability to fit in with typically developing children.

CHAPTER 4: METHODS

Design and Procedure

Parents or guardians of children with hearing loss who were under 7 years of age were asked to participate in a survey. Information about the survey was distributed through Hands & Voices, a non-profit organization that provides non-biased emotional and communication-based support for families of children with hearing loss. Participants learned about the survey via Hands & Voices listservs and an advertisement in a quarterly newsletter which led them to an online survey hosted on the secure Survey Monkey site. After giving their consent to participate in research by checking a series of buttons indicating that they knew their rights as participants, participants completed the online survey. There were two main versions of the survey — one for those whose children currently used signs or planned for their child to use signs in the future, and one for those whose children did not currently use signs or did not plan for their child to use signs in the future. The two versions of the survey were parallel with the exception that parents were asked some additional questions if they reported that their child currently used signs or that it was planned for their child to use signs in the future. Participants received a $15 gift certificate for completing the survey.

Participants could have also been included in this study if they indicated that they had a child with hearing loss while they participated in a parallel version of the survey that was targeted towards parents or guardians with typically developing children. Participants learned about this survey through a variety of websites that were aimed towards parents of young children. If parents indicated that they had a child who is deaf or hard of hearing, they then were given a series of questions that matched the survey described above.

Participants

A total of 36 participants who had a child who is deaf or hard of hearing participated in this survey. Only one participant failed to complete the survey in its entirety; this participant did not provide any demographic information. All participants who completed the demographic information for this study were Caucasian (n = 35). The survey was completed by the parents of children who were deaf or hard of hearing (33 mothers, 2 fathers). Their mean household income for 2008 was $54,403 (*SD* = $32,828; range = $0-$100,000). The average age of parents was 37.65 years (*SD* = 5.15 years; range = 23.38-46.53). Parents had a range of educational backgrounds, including 2 with professional degrees, 9 with Master's degrees, 2 with post-bachelor education, 10 with Bachelor's degrees, 4 with Associate's degrees, 7 had some college training, and 1 had a high school diploma or GED (n = 35). Information about the parents' hearing status, and the cultural identity and method of communication for parents who identified themselves as having a hearing loss, can be found in Table 4.1.

Participants recruited for this survey had children who were 4.44 years of age on average (*SD* = 2.18 years; range = .32 - 9.29). The children (16 male, 19 female) had various degrees of hearing loss. Information about the child's hearing status, method of communication, and use of hearing devices can be found in Table 4.1. A total of 29 participants stated that they had medical insurance or benefits that would have covered the cost of cochlear implantation for their child, 6 did not have insurance or benefits that would have covered the procedure.

Table 4.1. *Additional demographic information related to hearing status, identity, communication method, and use of hearing devices*

Variable	*Frequency*	*Valid Percent*
Parental hearing status (N = 36)		
Hearing	30	83.3
Deaf or Hard of Hearing	6	16.7
Parental primary cultural identity for those who are deaf or hard or hard of hearing (n = 6)		
Deaf culture	2	33.3
Deaf and Hearing culture	2	33.3
Hearing culture	2	33.3
Parents' primary method of communication for those who are deaf or hard of hearing (n = 6)		
A spoken language	2	33.3
A signed language	1	16.7
Both spoken and signed language	3	50.0
Child hearing status (n = 35)		
Mild (26 to 40 dB hearing loss)	2	5.7
Moderate (41 to 55 dB hearing loss)	4	11.4
Moderately Severe (56 to 70 dB hearing loss)	6	17.1
Severe (71 to 90 dB hearing loss)	5	14.3
Profound (90+ dB hearing loss)	18	51.4
Child's method of communication with parent (n = 35)		
Speak	20	57.1
Sign	3	8.6
Speak and sign	12	34.3
Child's method of communication with others (n = 35)		
Speak	18	51.4
Sign	3	8.6
Speak and sign	12	34.3
I don't know yet	2	5.7
Child's use of hearing devices (n = 35)*		
Hearing aid in one ear	6	17.1
Hearing aid in both ears	13	36.1
Cochlear implant	17	47.2
Other	1	2.8
None	4	11.4

*Since participants were allowed to mark more than one choice, the percentage column equals more than 100%.

Measures

A single survey was used to gather information on all concepts used in this study. Participants answered questions regarding their knowledge and beliefs about communication development in children, where they received information regarding choices for their child's method of communication and who/what influenced their subsequent decision, and portrayal of individuals with hearing loss in the media. The survey also addressed basic demographic questions, as well as those regarding the parent's/guardian's and child's hearing status, how they defined themselves culturally (in terms of hearing status), and their primary method of communication. Demographic questions regarding the child included his/her degree of hearing loss and the communication method that is used with the participant and others. Participants were then asked if they had ever received information about using signs with their child, and if so, where and when they received that information. Participants were also asked whether their child currently used signs or if it was planned for the child to use signs in the future. All participants then were asked about their views concerning their skills of learning or using a type of sign language. Lastly, all participants were asked additional demographic questions about themselves.

Variables

Several variables were created based on the original survey responses. The variables for each major concept are described below. Descriptive statistics for each variable are provided in Table 4.4.

Child Communication Method

First, a dummy variable called Child Communication Method was created to specify whether a child used an oral method of communication only or a method of communication that

included signing. This dummy variable allows for the sample to be divided into two groups based on parents' choice of communication method for their child. The question from which this dummy variable was created can be found in Appendix A. A value of 0 was assigned to those participants who indicated that their child primarily speaks when communicating with others. A value of 1 was assigned to those whose child either primarily signs or who speak and sign when communicating with others. Participants who indicated that they did not yet know how their child would communicate with others were coded as missing data for this variable and were excluded from analyses that included this variable.

Sources of Information

A series of dummy variables, called Sources of Information, were created using participants' responses to a question that asked them to report whether or not they had sought information from 13 specified sources regarding their decision for their child's method of communication (see Appendix A). A dummy variable was used to specify whether a parent sought advice from a particular source; a value of 0 meant that they had not sought information from that source, and a value of 1 meant that they had sought information from that source.

Sources of Influence

Another series of dummy variables, called Sources of Influence, were created using participants' responses to a question that asked them to report who they felt had primarily affected their communication decision for their child. There were 14 specified influences that participants could indicate as influential in their decision process; they were asked only to mark those that had been most influential (see Appendix A). A dummy variable was used to specify whether a parent reported that a particular source was influential; a value of 0 meant that they

had not reported that source as influential, and a value of 1 meant that they had reported being influenced by that source.

Parental Values

Next, a Parental Values scale was created based on five forced-choice questions that parents answered related to their child's communication and place in society (see Appendix A). Responses from this section were assigned a value of -1 or 1 (see Table 4.2); scores were summed to create a composite score that could range from -5 to 5. A score of -5 indicates that the parent places high value on their child's likelihood of communicating and fitting in with typically developing children, and a score of 5 indicates that the parent places high value on their child's likelihood of communicating with the parent as early as possible and fitting in with those who also have hearing loss.

Table 4.2. *Items used to create Parental Values scale*

	Score Assigned
A. When my child is of school age it is most important that my child is able to fit in with his/her peers.	-1
B. When my child is of school age, it is most important that I have a good relationship with my child.	1
A. It is important to me that my child lives a normal life, a life like everyone else.	-1
B. It is important to me that my child lives the kind of life that is right for him/her.	1
A. It is important to me that my child has all of the opportunities and experiences that other children have.	-1
B. It is important to me that my child has opportunities that fit his/her own unique talents and limitations.	1
A. The language that my child learns early in life should prepare him/her to more easily fit in with his/her peers when they are older.	-1
B. The language that my child learns early in life should help him/her and I communicate earlier in his/her life.	1
A. When my child is of school age it will be very important for him/her to fit in with their hearing peers and communicate effectively with those peers.	-1
B. When my child is of school age it will be very important for him/her to fit in with their deaf peers and communicate effectively with those peers.	1
Total	-5 to 5

Parental Beliefs about Sign Language

A Parental Beliefs about Sign Language scale was also created to measure participants' feelings about their ability to learn sign language and their skills related to using sign language (see Appendix A). There were 11 separate items included in this section; participants rated each item between 1 (strongly disagree) and 7 (strongly agree). A Cronbach's Alpha was used to determine if the items in this scale were measuring a single concept; the result from this analysis estimated the internal consistency of this scale to be .72, which means that the items in this scale are fairly consistent at measuring a single concept. To create a single scale score, the items that expressed negativity towards learning or using sign language were reverse scored. All of the

items were then summed to create a composite total for all 11 items. A lower score on this scale indicates that a parent feels more negatively about their sign language skills or abilities, while a higher score indicates that a parent feels more positively.

Knowledge of Communication Development

Based on a subset of questions taken from the Knowledge of Infant Development Inventory (KIDI; MacPhee, 1983), a Knowledge of Communication Development scale was created. The KIDI is a survey that was created to evaluate an individual's knowledge about parenting practices, as well as infant development and typical behavior. The items on the KIDI are grouped into four categories; questions for the Knowledge of Communication Development scale were taken from three of the four KIDI categories (see Table 4.3 for the questions used, the categories they were part of, and the correct responses). Participants could answer each question by choosing "agree", "disagree", or "not sure." For the purpose of creating a single score from these items, correct responses to a question were assigned a value of 1, incorrect responses were assigned a value of 0, and "not sure" responses were considered missing data. A single score was created for the Knowledge of Communication Development scale by summing the participants' correct responses and dividing it by the total number of questions they answered as either "agree" or "disagree."

Table 4.3. *Knowledge of Communication Development scale items*

Question	*KIDI category*	*Correct response*
Children often will keep using the wrong word for awhile, even when they are told the right way to say it (like "feet" not "footses").	Principle-Language	Agree
Babies understand only words they can say.	Principle-Language	Disagree
A child is using rules of speech even when he/she says words and sentences in an unusual or different way (like "I goed to town" or "What the dolly have?").	Principle-Language	Agree
Children learn all of their language by copying what they have heard adults say.	Principle-Language	Disagree
The more you comfort your crying baby by holding and talking to it, the more you spoil him/her.	Parenting	Disagree
The parent just needs to feed, clean and clothe the baby for it to turn out fine.	Parenting	Disagree
Talking to the baby about things he/she is doing helps the baby's development and later competence.	Parenting	Agree
The two-year-old who says "no" to everything and tries to boss you around means it is just trying to get you upset.	Parenting	Disagree
Babies do some things just to make trouble for the parent (like crying a long time or soiling their diapers).	Norm-Cognition	Disagree

Positive Media Portrayal

The last variable that was created was the Positive Media Portrayal scale that captured parents' views of how the media portrays young children who are deaf or hard of hearing. Parents who indicated that they had seen children who are deaf or hard of hearing portrayed in the media were given a list of 22 descriptive words and were asked to rate how often the media portrays young children who are deaf or hard of hearing in that way. Descriptive words included both positive and negative concepts, such as smart and ignorant, vulnerable and competent (for complete list, see Appendix A). The rating scale ranged from 1 to 7, with 1 representing "never/not at all", 4 representing "sometimes", and 7 representing "all the time/completely". Those items that had a negative connotation were reverse scored, and then all items were summed and then divided by the total number of items that the participant answered in order to

create an average score. A higher average score indicates that parents feel that the media portrays children who are deaf or hard of hearing more often in positive ways and less often in negative ways.

Table 4.4. *Descriptive statistics for variables*

Variable	*n*	*Mean or % (SD)*	*Minimum-Maximum*
Child Communication Method (Sign = 1)	33	0.4545% (0.5057)	0.00 - 1.00
Sources of Information (Received info from source = 1)	35	0.4143%	0.00 - 0.71
Sources of Influence (Decision influenced by source = 1)	35	0.1857%	0.00 – 0.86
Parental Values	35	0.7714 (2.4142)	-3.00 - 5.00
Parental Beliefs about Sign Language	33	-0.0056 (0.5357)	-1.34 - 0.75
Knowledge of Communication Development	36	0.92389 (0.1340)	0.29 - 1.00
Positive Media Portrayal	14	4.0124 (0.3805)	3.09 - 4.64

Analysis Strategy

Seven separate analyses were conducted, all of which were performed using the Statistical Package for the Social Science (SPSS) version 18 analytical software.

To determine the frequencies with which the total sample endorsed a particular response, and significant differences in those frequencies, a One-Sample t-Test was used to test the Sources of Information (research question 1a) and Sources of Influence (research question 1b) variables. Based on the Sources of Information and Sources of Influence variables noted above and the Child Communication Method variable, a two-tailed Independent Samples t-Test was completed to determine whether there were differences between the sources of information that

parents sought out, as well as those that they felt were most influential, based on the method of communication their child used (research question 1c).

Two-tailed Independent Samples t-Tests were also used for outcomes that were measured with a continuous variable – including Parental Values, Parental Beliefs about Sign Language, and Knowledge of Communication Development (research questions 2a-c) – to determine whether there were differences between those who use an oral method of communication only and those who use signs or a combination of spoken language and signs. Z-scores were created for each of the items and the composite score for the Parental Beliefs about Sign Language scale before analysis was completed.

A Bivariate Correlation (two-tailed, Kendall's tau-b) was used with the continuous variables Positive Media Portrayal and Parental Values to determine if parents' views of the media portrayal of children who are deaf or hard of hearing are associated with their desires related to their child's place in society (research question 3a). Kendall's tau-b was used for this analysis, rather than a Pearson correlation, because the data on Positive Media Portrayal were not normally distributed. Due to a technical error in the online data collection, two participants' responses were invalid and not included in analysis.

CHAPTER 5: RESULTS

Results for All Research Questions

The results from all analyses are presented below. Each individual research question and sub-questions are presented separately.

Results from Research Question 1a

As seen in Figure 5.1, the most common sources of information for parents included medical professionals, audiologists or speech pathologists, and the internet; 71% of the participants sought information from medical professionals and audiologists or speech pathologists, and 62% sought information from the internet. The next most common sources of information were teachers or school personnel, schools or educational programs for the Deaf, and books or magazines; each of these were cited as sources by around 40% of parents.

On average, each information source was selected by 14 participants (41%); however, there were significant differences between sources in the frequency of participants' responses. According to a One-Sample t-Test (2-tailed), families sought or received information about communication options for their child from medical professionals, audiologists/speech pathologists, and the internet significantly more than other sources (see Table 5.1). On the other hand, as seen in Table 5.1, family members or close friends, other parents, and people who are deaf or hard of hearing or have a child who is deaf or hard of hearing were not sources of information that parents commonly used.

Figure 5.1. *Frequencies of sources of information that parents sought out*

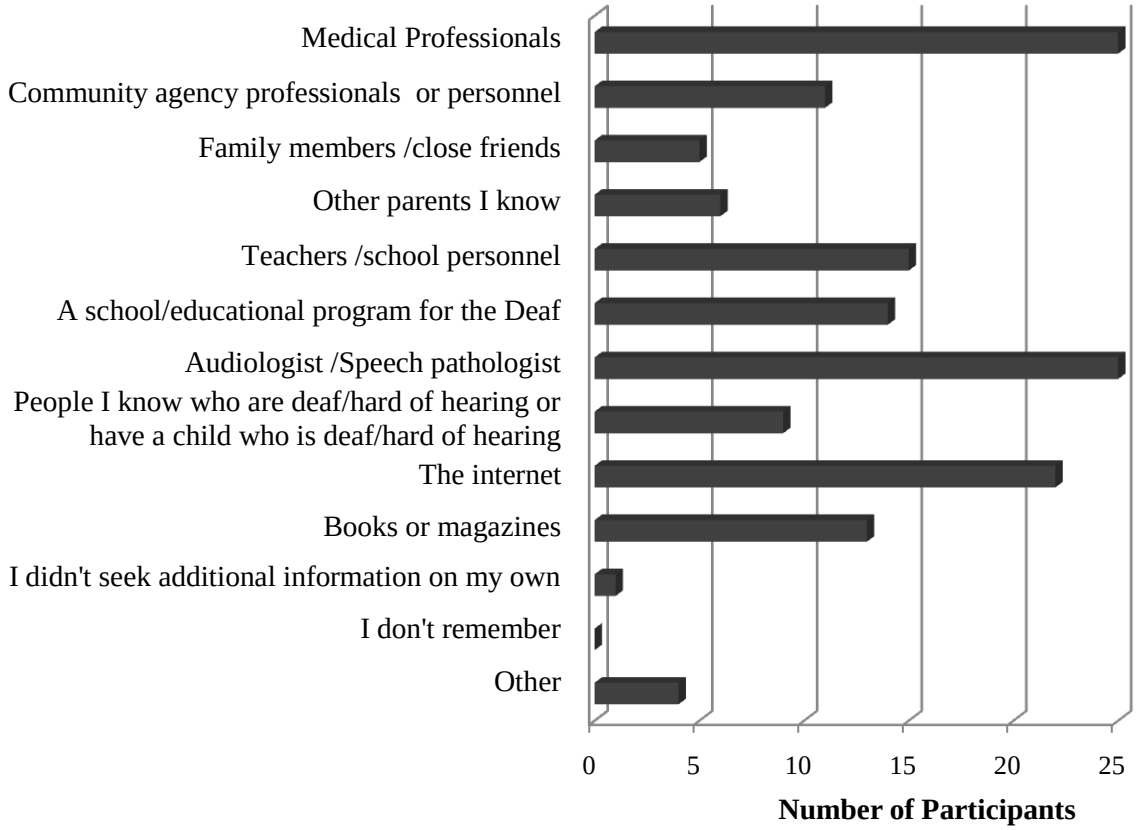

Table 5.1. *Sources of information that parents sought out for information about communication options (n = 35)*

	Mean	*t-value (2-tailed)*
Medical Professionals	.7143	3.872**
Community agency professionals or personnel	.3143	-1.256
Family members/close friends	.1429	-4.523**
Other parents I know	.1714	-3.757**
Teachers/school personnel	.4286	0.168
A school/educational program for the Deaf	.4000	-0.170
Audiologist/Speech pathologist	.7143	3.872**
People I know who are deaf/hard of hearing or have a child who is deaf/hard of hearing	.2571	-2.096*
The internet	.6286	2.586*
Books or magazines	.3714	-0.517
Average percent of families endorsing each item	.4143	

* p<.05; **p< 0.01

Results from Research Question 1b

Figure 5.2 shows that parents indicated that their own judgment was the most common factor that influenced the method of communication they chose to use with their child, with 85% of parents' responses including this factor. The child's other parent or the participants' spouse or partner were the next most common influential source, which was cited by 40% of parents.

Each influential source was selected by an average of 6 participants (18%). A One-Sample t-Test (2-tailed) showed that the influential sources that were chosen significantly more often than others were parents' own judgment and the child's other parent or the parent's spouse or partner (see Table 5.2). Table 5.2 also shows that factors that were not influential in this decision were other parents and books or magazines.

Figure 5.2. *Frequencies of sources of information that parents viewed as influential*

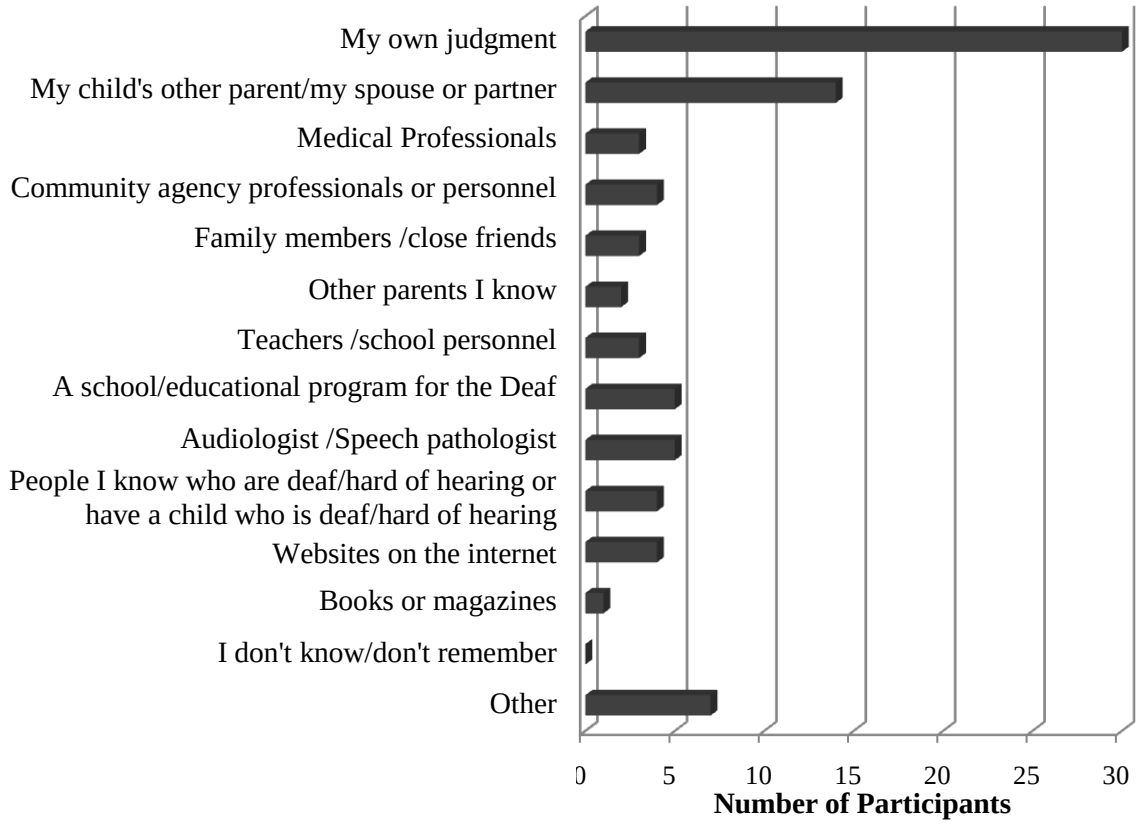

Table 5.2. *Sources of information that parents reported to have affected their communication decision for their child (n=35)*

	Mean	Results of t-test 2-tailed sig. *T-value*
My own judgment	.8571	11.392***
The child's other parent/my spouse or partner	.4000	2.696*
Medical professionals or personnel	.0857	-1.828
Community agency professionals or personnel	.1143	-1.085
Family members/close friends	.0857	-1.828
Other parents I know	.0571	-2.922**
Teachers/school personnel	.0857	-1.828
A school/educational program for the Deaf	.1429	-0.510
Audiologists /Speech pathologists	.1429	-0.510
People I know who are deaf or have a child who is deaf	.1143	-1.085
Websites on the Internet	.1143	-1.085
Books or magazines	.0286	-5.071***
Average percent of families endorsing each item	.1857	

* p<.05; **p< 0.01; ***p< 0.001

Results from Research Question 1c

Findings from an Independent Samples t-Test (2-tailed) indicate that participants whose children use an oral method of communication more often sought out information about communication options from teachers or school personnel, and audiologists or speech pathologists (see Table 5.3). The Independent Samples t-Test (2-tailed) also indicated that there were no significant differences between parents whose children use an oral method of communication or a signed/signed and oral method of communication in terms of sources that parents' viewed as influential when they were deciding what method of communication their child would use (see Table 5.4).

Table 5.3. *Sources of information that parents sought out for information in relation to their child's method of communication (n = 33)*

	Oral method of communication	Signed method of communication		
	Mean (SD)	*Mean (SD)*	*Mean difference*	*t-value (2-tailed)*
Medical professionals	.7222 (.4609)	.6667 (.4880)	-.0556	-0.336
Community agency professionals or personnel	.2778 (.4609)	.4000 (.5071)	.1222	0.725
Family members/close friends	.1111 (.3233)	.2000 (.4140)	.0889	0.693
Other parents I know	.2222 (.4278)	.1333 (.2222)	-.0889	-0.643
Teachers/school personnel	.6111 (.5016)	.2667 (.4577)	-.3444	-2.04~
A school/educational program for the Deaf	.3889 (.5016)	.4000 (.5071)	.0111	0.063
Audiologist/Speech pathologist	.8889 (.3234)	.5333 (.5164)	-.3556	-2.315*
People I know who are deaf/hard of hearing or have a child who is deaf/hard of hearing	.2778 (.4609)	.2000 (.4140)	-.0778	-0.505
The internet	.6667 (.4851)	.5333 (.5164)	-.1333	-0.764
Books or magazines	.3889 (.50163)	.3333 (.4880)	-.0556	-0.321

~ p = .05, * p<.05

Table 5.4. *Difference in sources of information that parents reported to have affected their communication decision for their child in relation to their child's method of communication (n = 33)*

	Oral method of communication	Signed method of communication		
	Mean (SD)	*Mean (SD)*	*Mean difference*	*t-value (2-tailed)*
My own judgment	.8333 (.3835)	.8667 (.3519)	.0333	0.258
The child's other parent/my spouse or partner	.3889 (.5016)	.4000 (.5071)	.0111	0.063
Medical professionals or personnel	.0556 (.2357)	.0667 (.2582)	.0111	0.129
Community agency professionals or personnel	.1111 (.3234)	.1333 (.3519)	.0222	0.189
Family members/close friends	.1111 (.3234)	.0667 (.2582)	-.0444	-0.430
Other parents I know	.0556 (.2357)	.0000 (.0000)	-.0556	-0.910
Teachers/school personnel	.1667 (.3835)	.0000 (.0000)	-.1667	-1.84
A school/educational program for the Deaf	.1111 (.3234)	.1333 (.3519)	.0222	0.189
Audiologists /Speech pathologists	.2222 (.4278)	.0667 (.2582)	-.1556	-1.287
People I know who are deaf or have a child who is deaf	.0000 (.0000)	.2000 (.4140)	.2000	1.871
Websites on the Internet	.0556 (.2357)	.1333 (.3519)	.0778	0.757
Books or magazines	.0000 (.0000)	.0000 (.0000)	.0333	0.240

Results from Research Question 2a

In an Independent Samples t-Test (2-tailed), there was a statistically significant difference in the scores on the Parental Values scale between parents of children who sign and those who speak ($t = -4.999$, $df = 31$, $p < .001$). Parents whose children use an oral method of communication had lower scores on average on the Parental Values scale ($M = -0.7778$, $SD = 1.8005$), which indicated that they placed higher value on their child being able to fit in with the 'majority' or typically developing children. Those whose children sign or sign and use an oral method of communication were more likely to have higher scores ($M = 2.4667$, $SD = 1.9223$), which indicated that they placed higher value on their child's uniqueness or him/her being able to fit in with those that have hearing loss.

Results from Research Question 2b

Results from an Independent Samples t-Test (2-tailed) showed that the difference between parents' average scores on the Parental Beliefs about Sign Language scale was statistically significant ($t = -2.100$, $df = 29$, $p < .05$). Parents whose children use an oral method of communication had lower scores on average on the Parental Beliefs about Sign Language scale ($M = -0.1914$, $SD = 0.48386$) than those whose children sign or sign and use an oral method of communication ($M = 0.2049$, $SD = 0.5640$). The difference in these means indicates that, on average, parents whose children use an oral method of communication feel more negatively about their own skills or abilities to learn or use a signed method of communication, while those whose children sign or use an oral method of communication and sign feel more positively about their skills or abilities.

Results from Research Question 2c

Findings from an Independent Samples t-Test (2-tailed) indicate that participants whose children use an oral method of communication and those whose children use a signed or signed and oral method of communication did not have significantly different scores on the Knowledge of Communication Development scale ($t = 0.314$, p = n.s., $df = 31$). This finding indicates that each group of parents had similar knowledge about infants' communication development.

Results from Research Question 3a

Results from a Bivariate Correlation (two-tailed, Kendall's tau-b) indicate that there is no significant relationship between the Positive Media Portrayal scale and the Parental Values scale (tau-b =.222, p = .n.s, $n = 14$). This means that parents' views of how the media portrays children who are deaf or hard of hearing are not significantly related to their values related to their child's place in society.

CHAPTER 6: DISCUSSION

Discussion of Hypotheses and Results

Discussion of Research Question 1

Findings from the current study indicate that sources of information based in the child's mesosystem, medical professionals and audiologists or speech pathologists in particular, were two of the most common sources that parent sought out for information regarding their child's method of communication. This finding is consistent with previous research that parents commonly receive information from medical professionals (Eleweke & Rodda, 2000; Kluwin & Stewart, 2000; Li, Bain, & Steinberg, 2003). The internet was the third most common source of information that parents specified. Even though the use of the internet as a source of information for parents making this decision has not been studied before, this finding is reasonable considering that the majority of the participants had access to the internet since they took the survey online, and because of their higher income range.

Sources of information that were not commonly used by parents included their family members or close friends, other parents, and people who are deaf or hard of hearing or have a child who is deaf or hard of hearing. These findings could be related to the fact that the majority of children who are deaf or hard of hearing are born to parents with typical hearing (GRI, 2007; Mitchell & Karchmer, 2004, 2005). Therefore, for the majority of parents, it would not necessarily be helpful to seek information from individuals they are close with, since they too would most likely have typical hearing abilities and little experience related to hearing loss. In the same way, the chances of a parent with typical hearing abilities knowing a person who is deaf or hard of hearing, or who has a child who is deaf or hard of hearing, are also less likely.

Results from this study show that there are differences in the sources of information that parents sought out based on the communication method they chose for their child. Although audiologists or speech pathologists were a common source of information for all parents, those who chose an oral method of communication for their child were significantly more likely to specify that they had sought information from these individuals. Furthermore, these parents were also more likely to seek information from teachers or school personnel. These findings are related to previous research that found that parents commonly received advice or information from professionals (Eleweke & Rodda, 2000; Kluwin & Stewart, 2000; Li, Bain, & Steinberg, 2003). However, the results from the current study indicate that only those parents who chose an oral method of communication were significantly more like to have received information from professional sources. Considering that previous research found that parents felt like they were not provided with complete information about the options for their child's method of communication due to professional biases (Young, 2002; Young et al., 2006), it is possible that these professionals, audiologists or speech pathologists and teachers or educational personnel in particular, are the informational sources that commonly have biases that favor an oral method of communication.

There were differences in the sources of information that parents sought out and those that they indicated were influential to their decision. Although parents reported seeking information from an average of four sources, they only reported an average of two sources of information that were influential. Interestingly, the two most common sources of information that were cited as influential included the parents' judgment and the child's other parent or the parents' spouse or partner. Even though medical professionals and audiologists or speech pathologists were the most common sources of information, they were cited as influential to a

much smaller percentage of parents; the sources of information were cited by 71% of parents, but only as influential for 9% to 14% of parents. These findings appear to contradict previous research that not only did parents receive information or advice from professionals, but that their decision was influenced by the opinions of these individuals (Eleweke & Rodda, 2000; Kluwin & Stewart, 2000; Li, Bain, & Steinberg, 2003). Overall, there were no significant differences between the parents who chose oral method of communication or a signed method in regards to the sources of information they indicated as being influential.

The theory of social constructionism can provide a frame for understanding why parents are not commonly indicating outside sources of information as influential, even though they had sought information from a number of sources. From the perspective of social constructionism, which states that individuals' knowledge and meaning they ascribe to given words or labels is a product of their interaction with other individuals (Gergen, 1985), the findings of the current study can be seen in another light. While there are clear differences in sources of information sought by parents who chose an oral versus signed method of communication, both groups of parents reported that they relied on their own opinions and those of the child's other parent. This may indicate that they have internalized the information they receive from sources of information within their child's mesosystem and have accepted it as their own beliefs. In particular, parents who chose an oral method of communication were significantly more likely to have sought information from audiologists or speech pathologists and teachers or school personnel, yet there was no difference in sources that were cited as influential between this group of parents and those who had chose a signed method of communication. These findings are consistent with a social constructionist interpretation of the way that decisions are made — the knowledge that individuals gain from interacting with others influences their actions (Burr,

1995). If parents internalized the views of these professionals, they would then feel that their own judgment was the most influential factor related to the decision they made rather than some outside source. It is also possible that if the child's other parent or the parent's partner or spouse also sought information from the same sources, that they too internalized that information. This would account for the reason that these individuals were second most commonly cited as influential sources of information for parents. Therefore, if parents had internalized the views of audiologists or speech pathologists and teachers or school personnel, professionals that may have biases toward the use of an oral method of communication, then it is understandable that those parents then chose to use an oral method of communication but felt that the choice came from their own opinion.

An alternative explanation for these results is that parents who already had a bias toward one communication method differentially sought information from these sources. However, since most parents were hearing, and most hearing adults have little experience of deafness, we cannot assume that they had already adopted a bias toward or against using a signed method of communication.

Discussion of Research Question 2

Parents who chose an oral method of communication for their child had lower scores on the Parental Values scale on average, indicating that these parents placed high value on their child's ability to use speech and fit in with typically developing children. This finding is consistent with previous research (Li, Bain, & Steinberg, 2003; Kluwin & Stewart, 2000), since a lower score indicated that their views were in line with an audiological view of deafness. Parents who had chose a signed method of communication had significantly higher scores on average, indicating that parents placed higher value on their child's uniqueness and his/her ability to

communicate more easily with the parent, their family, or children who also had hearing loss. These higher score indicated that their views were in line with a sociocultural view of deafness.

Hypotheses regarding parents' views of their ability to learn or use sign language were also confirmed. On average, parents who chose an oral method of communication for their child had significantly lower scores on the Parental Beliefs about Sign Language scale, while those who chose a signed method of communication had higher scores. This finding indicates that, as expected, parents who chose an oral method of communication had more negative views of their ability to learn or use sign language, while those who chose a signed method of communication had more positive views.

It was hypothesized that higher scores on the Knowledge of Communication scale would be higher for parents who chose a signed method of communication since a greater knowledge of communication would mean that parents would understand that communication development begins very early in a child's life and that delaying that development would be detrimental. However, data from the current study did not show significant differences between parents who chose an oral or signed method of communication even though there was variance in parents' scores (ranging from 29%-100% correct). The lack of differences between parents who chose an oral or signed method of communication may mean that their decisions are not based on differences in knowledge but on other influential factors already discussed above.

Overall, certain parental characteristics are influential in the decision that parents make. Based on the results from the current study, these influential factors include parents' values regarding their child's place in society and parental views of their skill or ability to use or learn sign language. On the other hand, the parental characteristic of knowledge of communication

development did not prove to be significantly related to the method of communication that they chose for their child.

Discussion of Research Question 3

A review of the literature exposed a dearth of information related to the way in which children who are deaf or hard of hearing are portrayed in the media. The media is not only an important part of both the parents' and the child's exosystem, but also a form of social interchange that could influence parental beliefs. Therefore, it was hypothesized that there would be a positive association between parental scores on the Positive Media Portrayal scale and the Parental Values scale—meaning that parents who felt that the media portrayed children who are deaf or hard of hearing in positive ways more often would also place higher value on their child's uniqueness. However, there was no significant relationship between the two scales. This preliminary finding indicates that parents' views of the media are not related to their values regarding their child's place in society, but it should be noted that the lack of a relationship between these scales could be due to a low number of participants who were included in this analysis (n = 14).

Summary

Findings of the present study indicate that, based on the method of communication that the parent chose, there were differences in the sources of information that parents sought out when making a decision about their child's method of communication. In particular, when compared to parents who chose a signed method of communication for their child, parents who chose an oral method more commonly sought information from audiologists or speech pathologists and teachers or school personnel. Overall, many parents sought information from medical professionals, audiologists or speech pathologists, and the internet. However, there were

no significant differences in the sources of information that parents cited as being most influential to their decision. Instead, there is one common source of information that parents cite as being influential—their own judgment, followed by the influence of their child's other parent or their spouse/partner.

It is possible that parents who chose an oral method of communication internalized the views and opinions of the professionals that they had sought information from significantly more often, and then accepted these views as their own. This acceptance could have led them to believe that their judgment, as well as the judgment of their child's other parent or their partner or spouse, was actually the most influential to their decision rather than the individuals from which it originally came. The idea that parents may be internalizing the information they receive from outside sources of information is also warranted given that there were no differences in parents' knowledge of communication development. Therefore, based on the results of this study, variation in parental knowledge is not responsible for the different choices that parents make about their child's method of communication. However, parental values for their child's place in society, as well as their beliefs about their skills or abilities to learn or use sign language, were found to be related to the communication method parents' chose for their child.

Strengths and Limitations

Strengths of the current study include the recruitment of participants from a non-biased organization in an attempt to include diversity within the sources of information and influence for parents, and variance in parental beliefs, values, and knowledge, as well as different methods of communication that were used by their children. Although the recruitment strategy was intended to include a number of diverse participants, the study has limited generalizability due to the fact that all participants were Caucasian and had relatively high income levels on average.

Furthermore, the size of the sample limited the analyses that could be done with these data. This is particularly true for questions about the media which were not answered by all participants because not all participants had seen children who are deaf or hard of hearing portrayed in the media.

Future Directions

Due to the many factors related to childhood hearing loss and the complications that parents face when trying to make a communication decision for their child, future research on this topic should prioritize the inclusion of more diverse participants. Additional questions related to the usefulness of parents' sources of information and the involvement of their child's other parent or their spouse or partner would also be beneficial to understanding how their decisions were influenced. The influence of the media on parents' decisions is still not understood—additional research could prove to be useful in understanding how the media portrays children who are deaf or hard of hearing and how this may lead to parents' values and beliefs.

Conclusion

Although parents indicated that their decisions were primarily influenced by their own judgment, it is clear that they are still seeking advice and being influenced by outside sources of information. These findings have implications for the informational sources from which parents seek advice — it is of utmost importance that these sources of information provide parents with accurate information so they can make a well-informed decision about their child's communication.

APPENDIX

APPENDIX

Survey Questions Used in Analysis

Child Communication Method

1. When your child communicates with others does he/she primarily:
    a. Speak
    b. Sign
    c. Speak and sign
    d. I don't know yet
    e. He/she does not communicate

Sources of Information

1. When your child was first identified with hearing loss, where did you go for information about communication options? (Check all that apply)
    a. Medical professionals
    b. Community agency professionals or personnel
    c. Family members /close friends
    d. Other parents I know
    e. Teachers /school personnel
    f. A school/educational program for the Deaf
    g. Audiologist /Speech pathologist
    h. People I know who are deaf/hard of hearing or have a child who is deaf/hard of hearing
    i. The internet
    j. Books or magazines
    k. I didn't seek additional information on my own
    l. I don't remember
    m. Other (please specify)

Sources of Influence

1. The method of communication I chose to use with my child was primarily influenced by the opinions of… (Check only the options that were most influential)
    a. My own judgment
    b. The child's other parent /my spouse or partner
    c. Medical professionals or personnel
    d. Community agency professionals or personnel
    e. Family members/close friends
    f. Other parents I know
    g. Teachers/school personnel
    h. A school/educational program for the Deaf
    i. Audiologists /Speech pathologists
    j. People I know who are deaf or have a child who is deaf

k. Websites on the Internet
l. Books or magazines
m. I don't know/don't remember
n. Other (please specify)

Parental Values

Directions: Listed below are pairs of statements that focus on language development of young children. Whether or not you are familiar with or are using signs or sign language with your child, we would like to know how you feel about these items. For each pair, determine which statement you agree with MOST, and select the circle in front of that statement.

1. Question pair #1
    a. When my child is of school age, it is most important that I have a good relationship with my child.
    b. When my child is of school age it is most important that my child is able to fit in with his/her peers.
2. Question pair #2
    a. It is important to me that my child lives a normal life, a life like everyone else.
    b. It is important to me that my child lives the kind of life that is right for him/her.
3. Question pair #3
    a. It is important to me that my child has all of the opportunities and experiences that other children have.
    b. It is important to me that my child has opportunities that fit his/her own unique talents and limitations.
4. Question pair #4
    a. The language that my child learns early in life should prepare him/her to more easily fit in with his/her peers when they are older.
    b. The language that my child learns early in life should help him/her and I communicate earlier in his/her life.
5. Question pair #5
    a. When my child is of school age it will be very important for him/her to fit in with their hearing peers and communicate effectively with those peers.
    b. When my child is of school age it will be very important for him/her to fit in with their deaf peers and communicate effectively with those peers.

Parental Beliefs about Sign Language

Directions: Please read each item and mark the number which most closely applies to your opinion. Mark 1 if you strongly disagree with the statement and 7 if you strongly agree with the statement.	1	2	3	4	5	6	7
1. I am not/would not be good enough at signing to use it effectively with my child.							
2. Learning to sign can be costly because of the time that it takes.							
3. Attempting to learn any amount of signs at my age is overwhelming and probably not worth the effort.							
4. I am/would be able to learn enough signing to communicate with my child.							
5. I would not be able to sign with my child because of practical reasons (i.e. transportation or childcare).							
6. Attempting to learn any amount of signs at my age is challenging but probably worth the effort.							
7. I feel overwhelmed by the idea of learning to sign.							
8. I am up to the challenge of learning to sign.							
9. Learning to sign is worth the effort to communicate more easily with my child.							
10. Learning to sign can be costly because of the money that it takes.							
11. Learning to sign is a big responsibility; one that I am not sure is worth the effort.							

Knowledge of Communication Development

1. The parent just needs to feed, clean and clothe the baby for it to turn out fine.
    a. Agree
    b. Disagree
    c. Not sure
2. Children often will keep using the wrong word for awhile, even when they are told the right way to say it (like "feet" not "footses").
    a. Agree
    b. Disagree
    c. Not sure
3. Babies do some things just to make trouble for the parent (like crying a long time or soiling their diapers).
    a. Agree
    b. Disagree
    c. Not sure

4. Babies understand only words they can say.
    a. Agree
    b. Disagree
    c. Not sure
5. Talking to the baby about things he/she is doing helps the baby's development and later competence.
    a. Agree
    b. Disagree
    c. Not sure
6. The two-year-old who says "no" to everything and tries to boss you around means it is just trying to get you upset.
    a. Agree
    b. Disagree
    c. Not sure
7. A child is using rules of speech even when he/she says words and sentences in an unusual or different way (like "I goed to town" or "What the dolly have?").
    a. Agree
    b. Disagree
    c. Not sure
8. Children learn all of their language by copying what they have heard adults say.
    a. Agree
    b. Disagree
    c. Not sure
9. The more you comfort your crying baby by holding and talking to it, the more you spoil him/her.
    a. Agree
    b. Disagree
    c. Not sure

Positive Media Portrayal

Directions: For each of the following words or phrases, tell us how much the media portrays young children who are deaf or hard of hearing that way. Options from 1-7: #1. Never/Not at all, #4. Sometimes, and #7. All the time/Completely.	1	2	3	4	5	6	7
Weak							
Likeable							
Ignorant							
Lonely							
Impatient							

Directions: For each of the following words or phrases, tell us how much the media portrays young children who are deaf or hard of hearing that way. Options from 1-7: #1. Never/Not at all, #4. Sometimes, and #7. All the time/Completely.	1	2	3	4	5	6	7
Helpless							
Unhappy							
Dumb							
Strong							
Needy							
Content							
Competent							
Smart							
Rude							
Patient							
Resilient							
Vulnerable							
Intelligent							
Friendly							
Polite							
Self-reliant							

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