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Predictors Of Parental Discipline In Families Raising Youth With Hearing And Communication Disorders

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PREDICTORS OF PARENTAL DISCIPLINE IN FAMILIES RAISING YOUTH WITH HEARING AND COMMUNICATION DIFFICULTIES

by

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ABSTRACT

Children with disabilities are at high risk for several forms of maltreatment, including abuse and neglect (Ammerman, Hersen, Van Hasselt, Lubetsky, & Sieck, 1994; Sullivan & Knutson, 1998b), and children with hearing and communication disorders comprise a substantial portion of children at risk (e.g., Sullivan & Knutson, 2000). For example, some literature investigating the parenting practices of parents raising children and adolescents with hearing and communication disorders suggests that these parents have a tendency to use physically harsh discipline practices (Knutson, Johnson, & Sullivan, 2004; Sullivan & Knutson, 1998b). Further, high prevalence rates of emotional and behavioral problems are documented in these youth (e.g., Greenberg & Kusché, 1989; Hindley, 1997; Prizant, Audet, Burke, & Hummel, 1990). Despite these findings, a limited amount of research focuses on understanding factors related to these undesired outcomes. Therefore, this study investigates the relationships among dimensions of parents' psychological functioning and parent-child interactive processes in a culturally diverse, national sample of families raising children and adolescents with hearing and communication disorders. Results suggest that parents' stress, depression, and anxiety as well as parent-child communication and involvement are important correlates of discipline practices and subsequent child behavior in families raising children and adolescents with hearing and communication disorders. Additionally, psychological aggression and parents' depression are highly predictive factors in the use of corporal punishment. Also, psychological aggression and parenting stress are highly predictive of reported youth behavior problems. The information gained from this investigation may provide direction for assessment and therapeutic intervention with parents of children and adolescents who have hearing and communication disorders.

I dedicate this work to my loving family: Mom (Maria), Dad (Jerry), brothers (Ben and Randy) and sister-in-law (Susie). You have always supported me unconditionally and helped me gain perspective through many tough times, and I thank you for that. I also dedicate this work to my amazing husband, Ognjen, who has always seen the best in me and has pushed me forward at times when I could not do it alone. And to Kia and Rachel, you are my sisters, and I am grateful for knowing you. I love you all so much.

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CHAPTER ONE: INTRODUCTION

The need to investigate the unique characteristics of families belonging to minority populations, particularly families raising children and adolescents with special needs, is growing rapidly. Children and adolescents who are Deaf, hard-of-hearing (HOH), and/or exhibiting communication disorders are one such group that is understudied thus far. According to statistics compiled by the National Institute on Deafness and Other Communication Disorders (NIDCD; www.nidcd.nih.gov/health/statistics/quick.htm), approximately 17% (36 million) of American adults experience some hearing loss or impairment, and approximately 2 to 3 of every 1,000 children in the United States are born Deaf or HOH. The Gallaudet Research Institute (2001) provides commonly accepted categorizations of the degree of hearing impairment or loss experienced by individuals in accordance with the American National Standards Institute. These categories are as follows: Normal Hearing (<27 dB), Mild Loss (27-40 dB), Moderate Loss (41-55 dB), Moderate-Severe Loss (56-70 dB), Severe Loss (71-90 dB), and Profound Loss (91 dB and above). By these standards, anyone experiencing hearing loss beyond 27 dB may be considered HOH; however, unlike with visual impairment, no 'legally Deaf' designation exists currently.

The NIDCD also reports statistical information regarding incidence and prevalence rates of communication disorders in the United States (www.nidcd.nih.gov/health/statistics/vsl.asp). They indicate that approximately 7.5 million Americans have difficulties with voice production. By the time children reach the first grade, approximately 5% demonstrate a speech disorder of some kind. The NIDCD also reports that roughly 3 million Americans stutter, a difficulty that occurs most commonly in children who range in age from 2- to 6-years during their language

development period, and that fewer than 1% of individuals continue to stutter into adulthood. Additionally, as many as 8 million Americans experience some form of expressive and/or receptive language disorder (e.g., apraxia, aphasia, dysarthria).

With these considerable incidence rates of Deafness, hearing impairment/loss, and communication disorders, it is important to recognize that these individuals comprise a substantial portion of the American population; therefore, characteristics of their families should be evaluated for areas of relative strength and difficulty. As a result, this study addresses a current need in the research literature by examining specifically the relationships among several dimensions of parents' functioning, parent-child relationship interactions, discipline practices, and child behavior in families raising children with special needs related to hearing and communication.

CHAPTER TWO: LITERATURE REVIEW

Given the number of individuals who are affected by hearing and communication difficulties, it is important to further understand these disorders. Understanding the potential underlying etiologies of such disorders may be helpful in understanding a families' experience overall when they are raising children with hearing and communication disorders. There are several known etiologies of Deafness, hearing impairments, and other communication disorders, including genetic or hereditary factors and diseases (e.g., Usher's syndrome, which also causes blindness later in life; Vernon, 1974). Pregnancy-related causes of Deafness and other hearing impairments include in utero exposure to illnesses (e.g., rubella and congenital cytomegalovirus), maternal drug or alcohol abuse, effects of medications taken by the mother during pregnancy, premature birth, trauma occurring during the birthing process, and other complications that might arise during pregnancy (Gallaudet Research Institute, 2001). Exposure to illnesses also may relate to the development of concurrent conditions with hearing impairment components. For example, in addition to hearing problems, cytomegalovirus is associated with microcephaly and mental retardation (Eichhorn, 1982). Other known causes of Deafness and hearing impairments include post-birth illnesses (e.g., meningitis, otitis media), adverse reactions to medications taken by children, and accidents or trauma (e.g., exposure to loud sounds/noises). For a great many individuals, the cause of hearing loss is unknown (Gallaudet Research Institute, 2001). A search for causes of hearing disorders can be especially puzzling, as at least 90% of children who are born Deaf have parents who are able to hear (e.g., Gallaudet Research Institute, 2001; Moores, 1987; Vostanis, Hayes, De Feu, & Warren, 1997; Yoshinaga-Itano, 1998).

Similarly, according to NIDCD (2009), a majority of communication disorders also have unknown etiologies; however, many known causal factors are noted. Some possible causes of speech/vocalization problems, receptive and expressive language disorders, and other communication difficulties include, but are not limited to, impaired brain function related to head trauma from falling or violent shaking (typically during infancy) and vehicle accidents (predominately in adolescents and adults) as well as medical conditions (e.g., stroke, seizures, brain tumors). Also, communication problems may be caused by a variety of congenital disorders, such as Landau-Kleffner Syndrome (i.e., a childhood disorder characterized by loss of the ability to use and understand spoken language), Deafness and hearing loss or impairment, and developmental disabilities (e.g., Autism-spectrum disorders and cognitive impairments). Despite these known etiologies, studies continue to investigate possible causes for many types of communication difficulties.

Although the search to identify a wider range of specific causes of hearing and communication disorders continues, the usage of communication aids for this population of individuals is widespread. For example, in the United States, approximately 15,500 children (and 23,000 adults) have cochlear implants that aid in their perception of sounds (NICDC, 2009). Implantation alone may not resolve hearing impairment completely, however, and a great portion of children with hearing difficulties do not receive implants. Communication problems are common in this group as well, with specific difficulties revolving around early communication with other family members, learning in the school environment, and social relationship development (Wood-Jackson, Traub, & Turnbull, 2008). To address some of these issues, children who have hearing and communication disorders and their parents often learn alternative

forms of communication, such as American Sign Language (ASL), English Sign Language (ESL), Auditory-Verbal Unisensory Communication (i.e., communication with an emphasis on auditory skills only with the aid of hearing devices), Oral-Auditory-Oral Communication (i.e., communication that focuses on aided auditory skills with speech reading to aid communication), Cued Speech (i.e., communication that focuses on speech reading with the concurrent use of eight hand-shape cues to help differentiate lip movements), and Total Communication (i.e., communication that uses all available techniques and strategies).

In addition, there are many educational options for children with hearing and communication disorders. These options may include matriculation in the public school system, which can offer varying types of instruction (e.g., self-contained classrooms with specially-trained teachers, mainstream inclusion using in-classroom sign interpreters, mainstream inclusion with "pull-out" classes offering individualized instruction), and other private institutions offering varied intervention services (e.g., specialized school orientation for children with hearing and communication disorders, residential treatment with educational services included; Wenkus, Rittenhouse, & Dancer, 1999). Although many communication and education alternatives are available to these children and adolescents, the life experiences of children and adolescents with hearing and communication disorders remain unique relative to their peers who have normal hearing. The compilation of their specific characteristics and specialized needs may predispose these children and adolescents to experience problems throughout their lifetime. Although research evaluating this population remains limited, certain patterns regarding the behaviors that are exhibited commonly by these children and adolescents are becoming evident.

Behavior Problems in Children with Hearing and Communication Disorders

With regard to patterns of behaviors, children and adolescents who are Deaf and HOH (Greenberg & Kusché, 1989; Schnittjer & Hirshoren, 1981; Tavormina, Boll, Dunn, Luscomb, & Taylor, 1981; van Gent, Goedhart, Hindley, & Treffers, 2007) and those with significant communication problems (Baker & Cantwell, 1982; Carson, Klee, Perry, Muskina, & Donaghy, 1998; Nelson, Benner, & Cheney, 2005; Prizant et al., 1990; Sigafoos, 2000; Snowling, Bishop, Stothard, Chipchase, & Kaplan, 2006; Tervo, 2007; Willinger et al., 2003) are at a particularly high risk for developing behavior problems, both internalizing and externalizing in nature. Estimated prevalence rates of behavior problems and psychiatric symptoms in children and adolescents who are Deaf or HOH range between 9% and 54% (Fundudis, Kolvin, & Garside 1979; Greenberg, & Kusché, 1989; Hindley, 1997; Schnittjer & Hiroshoren, 1981; Vostanis et al., 1997) and, for youth with communication disorders, prevalence rates range between 29% and as high as 95% depending upon the type of communication difficulty experienced (Baker & Cantwell, 1982; Baker & Cantwell, 1987). In some studies, however, the range of different types of psychiatric symptoms experienced by children and adolescents who are Deaf or HOH are similar to those of children who have normal hearing (Hindley, 1997).

Given such discrepancies, other studies attempt to clarify the actual prevalence rates of behavior problems in children and adolescents who have hearing and communication disorders. For example, using a sample of 84 parents, Vostanis and colleagues (1997) investigate the ratings of children's behavior on the Child Behavior Checklist (CBCL) and the Parent's Checklist (PCL), a measure developed by Hindley, Hill, McGuigan, and Kitson (1994) to assess behavior problems in families raising children and adolescents with hearing impairments. All of

the children in this sample are Deaf and attending nursery, primary, or secondary school. Results indicate that approximately 40% of these children fall within the clinical range for emotional and behavioral problems on the CBCL and that approximately 77% of these same children exhibit clinically significant behavioral difficulties when the PCL is used. It must be noted that the authors suggest that the clinical cutoff scores of the PCL should continue to be examined. Even if a lowered cutoff score is used in this study, however, a large portion of the children likely still would be rated as having highly problematic scores (i.e., the percentage may appear more similar to that of the CBCL). Additionally, according to CBCL ratings, a majority of this sample (82%) exhibits clinically significant problems with social competence, particularly due to high levels of socially isolative behavior. These findings add support to other studies suggesting that there are high rates of social, emotional, and behavioral problems in children who have hearing and communication disorders, even when using measures that are developed specifically for this unique population.

Cross-culturally, high rates of behavior problems also are documented for children who have hearing and communication disorders. Van Eldik, Treffers, Veerman, and Verhulst (2004) examine parents' reports of the emotional and behavioral problems (as rated on the Child Behavior Checklist) of 238 Dutch children who are Deaf. Results indicate that 41% of the children's scores on the Total Problems scale of the CBCL fall within the borderline and clinical ranges of severity. The authors further note that Total Problems scores are higher for those children who are Deaf and who reportedly have poor communication with their parents (Van Eldik et al., 2004). They note, however, that the measure of communication used in this study is limited. In particular, this measure is based on parents' endorsements of the frequency of their

daily contact and their perception of mutual understanding with their children, but it does not assess for the mode of communication that is used by parents and their children. When these children's scores are compared to a Dutch normative sample of children (Verhulst, Van der Ende, & Koot, 1996), reported rates of the emotional and behavioral problems of the children who are Deaf are significantly higher across all narrow-band CBCL scales (e.g., aggressive behavior, delinquent behavior, attention problems, thought problems, social problems, anxious-depressed, withdrawn) with the exception of somatic complaints (Van Eldik et al., 2004).

Additionally, children with hearing and/or communication problems often are described as being impulsive, distractible, and unable to sustain attention. To investigate these often anecdotal claims, Mitchell and Quittner (1996) examine visual attention and behavior problems in a nonclinical sample of 39 children who are severely to profoundly Deaf (i.e., greater than 70dB hearing loss in their "better" ear) and 25 children without hearing impairments. All of the children are between the ages of 6- and 14-years. As part of the study, the children complete three non-auditory Continuous Performance Tests (CPT) of attention (i.e., Delay, Vigilance, and Distractibility) to examine impulsivity, sustained attention, and selective attention, and their parents and teachers rate their internalizing and externalizing behavior problems using informant-specific versions of the Child Behavior Checklist (CBCL). In comparison to standardized norms on all three tasks of attention, the children who have hearing impairments display a substantially higher proportion (i.e., 71%) of scores within the "Borderline or Abnormal" range as compared to scores of children who have normal hearing (i.e., 9%). Additionally, clinically elevated levels of behavior problems in the home setting, particularly for impulsivity and inattention, are reported by approximately half of the parents of children who

have hearing impairments. Teachers' ratings are similar, in that 35% of the sample of children who have hearing impairments has clinically significant scores for total behavior problems in the school setting. Thus, it appears that, in samples that are not clinic-referred, the children who have hearing impairments exhibit empirically supported (i.e., rather than observer reported) deficits in attentional performance as compared to children who have normal hearing. Also, the findings of this study show that behavioral problems in children who have hearing impairments are consistent across settings, suggesting that these difficulties may impact negatively these children's experiences both at home and at school.

Further, Mathos and Broussard (2005) suggest that the etiology of children's hearing loss may be an important indicator of their risk for the development of psychiatric disorders. For example, studies find links between maternal rubella during pregnancy and certain child psychiatric disturbances, such as attention deficit disorders (Brown et al., 2001) and psychotic disorders (Chess & Fernandez, 1980). Vernon (2005) notes that the etiologies of hearing impairments (e.g., exposure to illnesses in utero) affect differentially cognition and other psychological characteristics. Further, a particular etiology or condition, such as maternal rubella or purulent meningitis, may be concurrently responsible for hearing impairments and cognitive deficits, such as mental retardation. Additionally, other factors (e.g., socioeconomic status, economic hardship) also demonstrate a relationship with the cognitive and behavioral development of children and adolescents (e.g., Duncan, Brooks-Gunn, & Klebanov, 1994; Szapocznik, Scopetta, Kurtines, & Aranalde, 1978) and, therefore, should be examined with regard to children and adolescents who have hearing and communication disorders.

In an attempt to understand the development of behavior problems in children and adolescents who have hearing and communication disorders, research now examines the link between parenting practices and the occurrence of behavior problems in these children and adolescents. For example, Quittner, Glueckauf, and Jackson (1990) investigate parents' perceptions of child behavior, parenting stress, and personal psychological functioning in a group of 96 mothers of children who range in age from 2- to 5-years and who have a hearing impairment. This study also includes a matched comparison group of 118 mothers of children who have normal hearing. Findings of this study suggest that parents of children who are Deaf or HOH rate their children as having significantly higher rates of hyperactivity, demandingness, and moodiness, as well as less adaptability (as rated on the Parenting Stress Index), relative to the ratings of comparison mothers (Quittner et al., 1990). Additionally, the overall ratings of the intensity of child behavior problems (as measured by the Eyberg Child Behavior Inventory) are significantly higher for the group of mothers raising children who have hearing impairments. Given findings such as these, further examination of the relationships among parenting practices and outcomes for children and adolescents who have hearing and communication disorders is warranted.

Parenting Children Who Have Hearing and Communication Disorders

Risk for Maltreatment.

Given the high rates of behavior problems in children who have hearing and communication disorders, one area of study that is vitally important is an examination of discipline practices and child abuse. Children with disabilities are at greater risk for maltreatment than their peers who do not have disabilities (e.g., Ammerman et al., 1994;

Sullivan & Knutson, 1998a, 1998b, 2000). For example, an epidemiological study by Sullivan and Knutson (1998a) investigates the incidence of maltreatment from a record review of a sample of 39,352 children who are either living in a residential treatment center and/or receiving medical services from a hospital. The overall prevalence rate of maltreatment for this sample is 15%. Of the subset of 3,001 children who have experienced abuse, approximately 64% are identified as having at least one disability (e.g., mental retardation, hearing impairments, speech and language problems, learning disabilities, health impairments). Of the maltreated children who have disabilities, 6.1% are Deaf or HOH, and 8.7% have speech and language problems. Overall, children who have disabilities are approximately 1.8 times more likely to be neglected, 1.6 times more likely to endure physical abuse, and 2.2 times more likely to be victims of sexual abuse than children without disabilities (Sullivan & Knutson, 1998a).

For the children who are identified as experiencing abuse in the Sullivan and Knutson (1998a) sample (i.e., including children from both "residential" and "hospital" groups), the experience of multiple forms of maltreatment (i.e., emotional, physical, and sexual abuse as well as neglect) is more prevalent than the experience of only one type of maltreatment alone. Of the types of maltreatment that are examined, neglect is the most common form of maltreatment documented (Sullivan & Knutson, 1998a). In cases where more than one type of abuse is documented, physical abuse is the second most prevalent form of maltreatment, whereas sexual abuse is the third most prevalent form of maltreatment. Unfortunately, immediate family members, particularly parents, often are the primary perpetrators of all the types of abuse experienced by children and adolescents in this sample (Sullivan & Knutson, 1998a).

When further comparisons are made among the different groupings of children in this sample (i.e., children who have behavior disorders, children who are disabled but do not have behavior disorders, and children who are not disabled), results indicate that children who have disabilities experience maltreatment that is longer in duration but that is not greater in severity relative to children who do not have disabilities but who also are experiencing abuse (Sullivan & Knutson, 1998a). To determine whether the type of disability is related to maltreatment, the researchers also use a specific disability classification strategy that compares children who have a hearing and/or communication disorder (i.e., having a hearing impaired, speech and language disorder, or learning disability) to a group of children who are not disabled, all from the maltreated sample. Results indicate that having a hearing or communication disorder diagnosis is associated significantly with a longer duration of neglect and a higher incidence of sexual abuse as compared to maltreated children who are not disabled (Sullivan & Knutson, 1998a). Although this study provides support for a hypothesized link between disabilities and maltreatment, it still is not certain whether having a disability increases the risk of maltreatment or whether maltreatment exacerbates the disability. Additionally, given that the sample of this study is hospital-based, the generalizability of these findings to a larger population is questionable (Sullivan & Knutson, 1998a).

Using the same database studied in the analyses described above (i.e., Sullivan & Knutson, 1998a), Sullivan and Knutson (1998b) examine specifically the maltreatment and behavioral characteristics of children who are Deaf and HOH. In this investigation, children who are Deaf or HOH experience significantly higher percentages of neglect, physical abuse, and multiple forms of abuse as compared to their peers who are not disabled but who have been

maltreated. Also, in the group of children who have been maltreated, the children who are Deaf and HOH are significantly more likely to be abused sexually by family members (although there are no significant differences with regard to the prevalence of sexual abuse when children who are Deaf and HOH are compared to those who are not disabled). Additionally, children who are Deaf and HOH are significantly more likely to be abused physically than children who have other disabilities (i.e., learning disabilities, speech and language problems) and those who do not have disabilities (Sullivan & Knutson, 1998b). Similar to the previously discussed study, the primary perpetrators of neglect and physical abuse for this group are parents. Overall, in this hospital-based sample, children who are Deaf and HOH specifically experience a greater risk for maltreatment than their peers who do not have disabilities (Sullivan & Knutson, 1998b).

As a population-based replication and expansion of the Sullivan and Knutson (1998a) study, Sullivan and Knutson (2000) investigate the prevalence of maltreatment against children who have disabilities by examining case files from 50,278 children enrolled in public school. In this sample, the overall prevalence rate of maltreatment is approximately 9%. In contrast, for children who have disabilities that are 'educationally relevant' (e.g., autism, behavior disorder, Deaf-blindness, hearing/communication impairment, visual impairment, health problems, mental retardation, traumatic brain injury, multiple disabilities), the prevalence rate of at least one type of abuse is 31%. These statistics reveal that children who have a disability are approximately 3.4 times more likely to become victims of some type of abuse than children who do not have a disability (Sullivan & Knutson, 2000). Similar to the Sullivan and Knutson (1998a) study, neglect is the most common form of abuse (i.e., with physical, emotional, and sexual abuse following closely behind and often documented in combination with other types of

maltreatment), and immediate family members comprise a majority of the identified perpetrators. Further, the children who have disabilities experience maltreatment at younger ages, with preschool aged children experiencing significantly higher rates of neglect, physical abuse, emotional abuse, and sexual abuse relative to older children who are disabled (Sullivan & Knutson, 2000).

Sullivan and Knutson (2000) also report that some specific disabilities (i.e., communication disorders and health/orthopedic problems) are viewed as early risk factors for maltreatment, whereas other disabilities (i.e., behavior disorders and mental retardation) are possibly both risk factors and consequences of maltreatment at later ages. Moreover, children and adolescents who have multiple disabilities (e.g., pervasive developmental problems, mental retardation, comorbid psychiatric disorders requiring hospitalization) also experience lifetime prevalence rates of maltreatment as high as 61%, with physical abuse being more common than neglect (Ammerman et al., 1994). With mounting evidence to suggest an alarming link between children and adolescents having at least one disability and experiencing several forms of maltreatment, it is important that research be conducted to evaluate the disorder-specific or disability-related characteristics that may play a role in this relationship and promote problematic outcomes for children and adolescents.

Child Maltreatment and Children's Behavior Problems.

As noted, children who have hearing and communication disorders compose one group that is at particular risk for several types of child maltreatment (e.g., Knutson & Sullivan, 1993; Sullivan & Knutson, 1998b, 2000). Given this association, it is conceivable that high rates of behavior problems in children who have hearing and communication disorders may be related, at

least partially, to high rates of victimization. For example, Sullivan and Knutson (1998b) investigate the incidence of behavior problems in a study examining parents' ratings of 312 children and adolescents ranging in age from 4- to 18-years and having had "significant sensorineural hearing loss which qualified them for special education services" (Sullivan & Knutson, 1998a, p. 310). These children and adolescents all experience some type of maltreatment and are categorized into one of five groups: 1) victims of abuse 'only' (n = 123), 2) victims of abuse who are also perpetrators (n = 58), 3) victims of abuse who are also substance abusers (n = 7), 4) victims of abuse who are also perpetrators and substance abusers (n = 23), and 5) those who are not abused and are serving as a control group (n = 101; Sullivan & Knutson, 1998b).

Results of parents' ratings regarding the behavior of those in the abused only, abused/perpetrator, and abused/perpetrator/drug groups reveal significantly higher composite scores (i.e., internalizing, externalizing, and total behavior problem scores) and subscale scores (i.e., withdrawn, anxious/depressed, social problems, thought problems, attention problems, aggressive behavior, and PTSD symptom scores) relative to the control group. In general, children and adolescents who are Deaf or HOH and who experienced abuse are rated as having more severe behavior problems in several areas as compared to children and adolescent who are not Deaf or HOH and who do not have a history of maltreatment (Sullivan & Knutson, 1998b). The authors hypothesize that higher rates of behavior problems in this group may be related to the experience of abuse; however, causality cannot be determined (Sullivan & Knutson, 1998b). Clearly, based on the information available regarding the relatively high rates of behavior problems and the prevalence of maltreatment in children and adolescents who are Deaf and

HOH, substantially more research must be conducted to understand potential precursors to child maltreatment experiences.

Child Maltreatment in Conjunction with Parent and Child Characteristics.

In the context of understanding the developmental course of maltreatment, several parenting factors are postulated to contribute to the high risk of maltreatment in children and adolescents who have multiple disabilities. These factors may include parent-child attachment disruption, stress related to the healthcare needs of children who have disabilities, and vulnerability related to communication problems and/or cognitive limitations (Ammerman, Lubetsky, Hersen, & Van Hasselt, 1988). These components of parenting inherently involve the fit between parent and child characteristics as well as the assessment and management of stable and changing demands on parents and children that may complicate an already stressful environment. Successful resolution of these issues requires flexibility, patience, and a willingness to adjust parenting approaches to difficult child behavior. In contrast, high levels of perceived stress in combination with elevated levels of problematic parent and child emotional and/or behavioral problems likely set the stage for maladaptive or harmful interactions between parents and their children who have hearing and communication disorders.

Some empirical studies investigate factors that may influence the occurrence of child maltreatment. For example, Ammerman and Patz (1996) investigate the contribution of certain unique parent- and child-related factors in the potential for abuse (using the Child Abuse Potential Inventory) in a group of 132 mothers of young children ranging in age from 2- to 8-years who either have or do not have disabilities (e.g., blindness, developmental delays, cerebral palsy, multiple disabilities). Results including the entire sample suggest that, after controlling for

socioeconomic status, intelligence, and maternal age, parents' psychiatric symptomatology and perceived social support account significantly for the highest variance in abuse potential. Perceived parenting stress due to child characteristics (as measured by the Child Domain of the Parenting Stress Inventory) also adds a significant amount of variance in the prediction of abuse potential. Essentially, variables related both to parents' symptoms and parent-child interactions are implicated in predicting the likelihood of abusive parenting (Ammerman & Patz, 1996).

Similarly, Ammerman and colleagues (1994) find that maternal characteristics (e.g., high reported anger responsivity, social isolation) and child characteristics (e.g., mild functional impairment) both are associated with parents' use of harsh discipline in families of children who are disabled. Given such findings, it appears that parents' personal characteristics do not explain fully their tendency to use harsh discipline practices with their children who are disabled. Instead, a combination of parent factors in conjunction with parent-child interaction characteristics may better explain the use of harsh discipline practices in these families. More specifically, results of this study suggest that, in families raising children who have hearing and communication disorders, the interplay between parent and parent-child factors may create an environment in which these parents may resort more readily to the use of extreme or harsh punishment. Parents may become especially likely to use such punishments after their repeated attempts of usual parenting strategies are perceived to be ineffective over time (e.g., Greenwald, Bank, Reid, & Knutson, 1997). More information about the discipline practices of parents raising children and adolescents who have hearing and communication disorders is needed.

Use of Discipline Practices.

Though limited in scope, there is some information on the utilization of physical discipline by parents raising children who are Deaf or HOH (Knutson, Johnson, & Sullivan, 2004; Sullivan & Knutson, 1998b). For example, Brubaker and Szakowski (2000) examine parents' practices (as reported on the Alabama Parenting Questionnaire) and reports of child behavior (as measured by the Eyberg Child Behavior Inventory [ECBI]) for the parents of 39 children who are Deaf and 37 children who have normal hearing. All the children range in age from 3- to 8-years. Ratings of children who are Deaf on the Intensity Scale of the ECBI are significantly higher than those of children who have normal hearing, indicating higher frequencies of conduct problem behaviors. Interestingly, there are no significant differences between matched and unmatched parent-child communication modes (e.g., a match between the child's preferred communication method and the parent's actual communication method) in reported child behaviors for the children who are Deaf. The researchers note a relationship between parents' ratings on the ECBI Problem Scale and the APQ Corporal Punishment scale for children who are Deaf, however. This finding indicates that parents' subjective perception of their children's behavior as severe, rather than frequent, is related to their endorsement of corporal punishment. In contrast, ratings from parents of children who have normal hearing indicate that there is a significant association between the APQ Inconsistent Parenting scale and the ECBI Intensity Scale. This relationship suggests that inconsistency is related to the frequency of problematic child behavior in this group. Results also reveal that, compared to parents raising children who have normal hearing, parents of children who are Deaf are just as

likely to endorse positive parenting strategies, consistent discipline, and good supervision and to use corporal punishment (Brubaker & Szakowski, 2000).

In another study, Knutson, Johnson, and Sullivan (2004) investigate the discipline choices of three samples of mothers: 57 mothers raising children who are prelingually Deaf and who were evaluated for cochlear implants, 22 mothers of children who are prelingually or perilingually Deaf and who volunteered independently for participation, and 27 mothers raising children who have normal hearing. In this study, the mothers are presented with an Analog Parenting Task, in which they are shown slides depicting children engaging in either developmentally appropriate activities or inappropriate behaviors (e.g., destructive, dangerous, and rule-violating acts). Mothers are asked to consider themselves in the role of caretaker for the child depicted and rate several dimensions of their perceptions, including their emotional reaction, their classification of the child's behavior, and their most likely choice of discipline to address the behavior depicted. Results show that, across all conditions, the two groups of mothers raising children who are Deaf do not differ significantly in their ratings of physical discipline. In contrast, these two groups endorse significantly higher rates of physical discipline than the mothers of children who have normal hearing. Additionally, the mothers of children who are Deaf are more likely to escalate their disciplinary response (i.e., shifting from nonphysical to physical punishment) in response to dangerous and destructive scenes relative to mothers raising children who have normal hearing (Knutson, DeGarmo, & Reid, 2004).

Overall, the findings of this study support the *discipline-mediated model* of physical discipline proposed by Greenwald and colleagues (1997). This model suggests that harsh or extreme physical discipline practices should be conceptualized as an escalation of normative

physical discipline to an injurious level. Greenwald and colleagues (1997) suggest that injurious physical discipline and normative discipline may not differ qualitatively for these parents but that the level of discipline escalation may vary depending upon several parent and parent-child characteristics. As Greenwald and colleagues (1997) suggest, injurious parent-child interactions are a "long-term outcome of chronic and escalated coercive exchanges" (Greenwald et al., 1997, p. 260), a parent-child interaction effect that is documented previously by other researchers (e.g., Knutson & Bower, 1994; Reid, 1986).

In an effort to examine potential mechanisms for problematic parenting, Greenwald and colleagues (1997) investigate whether parents' discipline mediates the relationships between several predictors (i.e., parent irritability, stress, and child coerciveness) and punitive parenting (based on combined subjective and objective reports). These predictors are included in this study based on previous research identifying them as strong correlates of physical child abuse. Two hundred six high-risk parents serve as participants in this study, including 44 parents who are identified as engaging in punitive parenting and 162 who are using nonpunitive parenting. Punitive parenting is measured by home observations (using the Family Process Code system) and self-reports (completed in-person or through telephone interviews), with high ratings on two composite scores (i.e., Harsh Discipline and Observed Aggression) being required to be categorized in this group. Spanking is excluded from the composite of punitive parenting because the researchers consider this practice to be normative, as a high percentage of American parents report spanking their children regularly (for a review, see Flynn, 1996).

The structural equation modeling approach that Greenwald and colleagues (1997) use reveals that the hypothesized discipline-mediated model of punitive parenting is supported and

accounts for 28% of the variance. Parent irritability is the only path that does not demonstrate significance in its relationship to punitive parenting, but family stress and child coerciveness both exhibit significant paths to punitive parenting. Based on the results of this study, the direct effects of parents' perceived family stress and child coerciveness on punitive parenting are mediated by parents' use of ineffective discipline strategies. The fit of the hypothesized model to the data suggests that harsh parenting practices are used after parents' other discipline practices prove inadequate or ineffective. That is, direct paths from parental factors to punitive parenting are best described within the context of the mediation effect of discipline. In general, Greenwald and colleagues (1997) provide empirical support for a model of the emergence of punitive parenting that implicates the direct effects of individual parent characteristics and the interactional components of the parent-child relationship. In other words, ineffective parenting strategies serve as the mediating factor between perceived stress and child coerciveness and parents' use of punitive parenting strategies.

The discipline-mediated model of harsh punishment first discussed by Greenwald and colleagues (1997) may be a particularly good fit with the experiences of parents raising children who have hearing and communication disorders (e.g., Knutson, Johnson, & Sullivan, 2004). This model may be related to the increased parenting stress associated with caring for a child who is disabled as well as the potentially negative effects of disrupted parent-child relationship characteristics (e.g., communication difficulties and problematic parent involvement; these characteristics will be discussed later). Since parents' irritability does not demonstrate a significant relationship with punitive parenting in the study by Greenwald and colleagues (1997), it seems logical to examine a similar model incorporating parent variables that demonstrate

clearly significant relationships with discipline choices and behavior outcomes for children and adolescents (e.g., parents' psychological symptomatology; Fergusson, Lynskey, & Harwood, 1993; Renk et al., 2007a). Such parent variables serve as a replacement for irritability in the model. Also, parents' use of other discipline tactics should be investigated to reveal more information about the range of parenting and discipline strategies used commonly with children and adolescents who have hearing and communication disorders.

Examining a range of parenting and discipline strategies may be particularly important, as parents vary in their strategies of negotiation and control over their children's behavior. Further, parents' resolution of control issues may be central to the maintenance of a successful parent-child relationship (Donovan, Leavitt, & Walsh, 2000). When communication problems do exist, the resolution of parent-child control exchanges likely becomes increasingly frustrating. Based on previous work, the likelihood of these parents escalating their discipline toward physical punishment, particularly in response to perceived child conduct problem behaviors, is high (Knutson, Johnson, & Sullivan, 2004). Such findings support the notion that characteristics unique to children who have disabilities require parents to implement parenting techniques and discipline strategies that respond specifically to the needs of their children (Gregory, 1995). Since there is a lack of sufficient research explaining clearly the factors that contribute to harsh discipline practices with children and adolescents who have disabilities, investigation of these relationships will be a central focus of this study. This information likely will serve as a basis for future interventions that may help these parents tailor their discipline strategies to suit the needs of their children and adolescents who have special needs.

Discipline and Behavior Problems.

Although the research literature documents relationships among hearing and communication disorders, the experience of abuse, and the occurrence of behavior problems, there is a clear paucity of research investigating parenting factors relevant to children who have hearing and communication disorders. Therefore, more research is needed to examine the prevalence of psychological symptomatology in children and adolescents who have hearing and communication disorders. Further, the relationship of parent and family characteristics (Van Eldik et al., 2004), such as parenting practices (Maccoby & Martin, 1983), and the difficulties of these children must be investigated as well. In families raising children who do not have disabilities, however, parents' discipline generally demonstrates a clear link to the development of emotional and behavioral problems in children and adolescents. As a result, this literature may be informative for understanding the relationships among these variables in families raising children and adolescents who have hearing and communication disorders.

In general, parenting strategies utilizing inductive reasoning, the expression or conveyance of warmth, open communication, age-appropriate levels of involvement, and consistent implementation of realistic guidelines predict more positive emotional and behavioral outcomes for children and adolescents (e.g., Kochanska, 1993; Kuczynski, Kochanska, Radke-Yarrow, & Girnius-Brown, 1987; Pettit, Dodge, & Brown, 1988; Stormshak, Bierman, McMahon, & Lengua, 2000). In contrast, parenting practices that are physically aggressive or abusive are correlated with more behavior problems in children and adolescents (e.g., Aucoin, Frick, & Bodin, 2006; Knutson & Schartz, 1997; Stormshak et al., 2000). Given that children who have special needs are at a higher risk of being maltreated (e.g., Ammerman et al., 1994;

Sullivan & Knutson, 1998a, 1998b, 2000), it is increasingly important to identify the discipline practices that are used commonly by the parents of these children and adolescents, to discern which strategies are proving to be ineffective over time, and to investigate how these experiences contribute to the escalation of harsh discipline. Equally important, an evaluation of the contributions of parents' characteristics to the behavioral management of children and adolescents who have hearing and communication disorders would provide useful information for tailoring parenting interventions that may be used with this population.

Parent Characteristics in the Context of Parenting Children and Adolescents Who Have Hearing and Communication Disorders

Parenting Stress and Discipline.

All families endure a wide variety of acute and chronic stressors that may affect differentially each member of the family system. For parents, the unique responsibilities, concerns, and strains related to the caregiver role may contribute to parenting stress. In particular, the demands that are inherent to the parenting role potentially may lead to high levels of perceived stress (Abidin, 1995; Koeske & Koeske, 1990), with even low levels of stress being related to ineffective parenting behaviors (Abidin, 1992) and undesired outcomes for children. These outcomes may include internalizing and externalizing behavior problems and low social competence (e.g., Gutermuth-Anthony et al., 2005). Given these findings, it is likely that parents of children who have hearing and communication disorders likely will experience elevated levels of parenting stress (e.g., Feher-Prout, 1996). Thus, parenting stress may be particularly relevant to the discipline strategies that are used by parents and the behavioral outcomes of children and adolescents.

In fact, Abidin (1992) describes a model regarding the determinants of parenting behaviors that may apply to families in general but that also is relevant to families raising children who have hearing and communication disorders. In this model, parenting stress is suggested to result from the combination of parents' perceptions of threat and available supports in their environments. Thus, parents' motivational efforts to seek support would determine, at least in part, the success of parenting in this model (Abidin, 1992). Further, a review by Webster-Stratton (1990) regarding the impact of parenting stress on dimensions of parenting behaviors demonstrates an association between parenting stress and parents' use of harsh and coercive discipline practices. Additionally, parenting stress is linked to parents' reports of dissatisfaction and psychological symptomatology (e.g., Koeske & Koeske, 1990). Thus, parenting stress appears to be a critical component for understanding parents' use of discipline strategies in most families and particularly in families raising children who have hearing and communication disorders.

For parents raising children and adolescents who have hearing and communication disorders, the parenting role often is perceived as more demanding and as causing increased subjective feelings of stress related to parenting activities and family routines, particularly when compared to parents raising children and adolescents who have normal hearing (Quittner et al., 1990). In an examination of a similarly challenged population, Patterson and McCubbin (1983) discuss the multilevel impact that stress related to children's chronic illnesses may have on the family system. The authors note that the primary feature distinguishing a chronic illness from an acute problem is the central role of the family in managing the care and the ongoing needs of children resulting from their illnesses (Patterson & McCubbin, 1983). The authors summarize a

list of challenging issues often experienced by families raising children who have chronic illnesses.

Such difficulties may include strained family relationships. Such strain may be observed as parents' overprotectiveness impeding children's development of independence, coalitions between primary caregivers and children who are ill (often leaving out other family members), blaming (explicitly or implicitly) children or parents for being responsible (i.e., genetically) for the illness, rejection of children, worry about increased family responsibilities, sibling competition for attention/time and comparisons, and increased tension and conflict in the household (Patterson & McCubbin, 1983). Other issues may include adjustments in family routines and activities (i.e., less flexibility, fewer opportunities for leisure activities, and worries about how activities will affect children who are ill), the time consumed by tasks related to the illness (e.g., doctor's visits, acquisition and maintenance of equipment), the financial strain placed on the family (e.g., due to specialist consultations, equipment needs, therapy), and the social isolation of the family due to negative or distant responses from friends or family or fear regarding the impact of exposure to outside situations on children who are ill (Patterson & McCubbin, 1983). Many, if not all, of these stressors affect families raising children who have hearing and communication disorders.

These circumstantial demands may put parents at risk for higher rates of depression, physical illness, social isolation, and marital problems relative to parents of children who do not have disabilities (e.g., Bouma & Schweizer, 1990; Quittner et al., 1990). Brubaker and Szakowski (2000) also describe several sources of stress that are unique to families raising children who are Deaf or HOH, including initial and developmental adjustments to their

diagnosis, factors related to the choice and implementation of communication modes between parents and children, the financial impact and usage of technological support devices (e.g., hearing aids), and ongoing interactions with support professionals (e.g., audiologists, speech/language pathologists, teachers, physicians). Therefore, the compounded effects of multiple, chronic stressors present in families raising children who have hearing and communication disorders may relate to increased levels of psychological symptoms in both parents and their children. These symptoms may, in turn, be related to the disciplinary interactions of parents and children. For parents of children who have special needs, parents' heightened stress level also may impact their psychological well-being, increasing their feelings of sadness, guilt, and anger. Specifically, this heightened level of stress may relate to the reportedly higher rates of depression, interpersonal sensitivity, anxiety, and hostility experienced by mothers of children who are Deaf or HOH as compared to mothers of children who have normal hearing (Quittner et al., 1990). These feelings, in turn, may affect their choice of and effectiveness in using certain discipline practices (Quittner et al., 1990).

One recent study by Joshi and Gutierrez (2006) investigates the relationships among parenting stress, parent-adolescent relationship quality, and communication as reported by 62 Hispanic mothers and 62 Hispanic fathers. In this group of Hispanic parents of adolescents who do not have disabilities, lower endorsements of parenting stress (as rated on the Stress Index for Parents of Adolescents) correlate with positive parent-adolescent relationship characteristics, such as better communication, closeness, and mutual support (as rated on the Parent-Adolescent Communication Scale). In general, this study supports the notion that, in families raising children and adolescents who do not have disabilities, higher rates of perceived parenting stress

are associated with disruptions in several dimensions of the parent-child relationship. Thus, in families raising children and adolescents who have hearing and communication disorders, perceived stress levels experienced by parents likely will be related to the quality of their relationships with their children and adolescents in the same manner. In other words, higher reported experiences of stress will be related negatively to parent-child closeness, communication, and supportive involvement.

Parents' Psychopathology, Ratings of Child Behavior, and Discipline.

Beyond parenting stress, parents' psychopathology is described as a primary risk factor in the development of behavior problems in children (Renk, Phares, & Epps, 1999; Sameroff & Seifer, 1983) and is linked to the long-term adjustment of adolescents (Pilowsky, Wickramarante, Nomura, & Weissman, 2006). Specific dimensions of parents' psychopathology, such as depressive and anxious symptomatology, demonstrate unique, direct relationships with parents' ratings of behavior and outcomes in children and adolescents (Fergusson et al., 1993; Najman et al., 2000; Renk et al., 2007a). For example, the association between parents' depression and ratings of emotional and behavioral problems in children and adolescents is established (e.g., Fergusson et al., 1993; Najman et al., 2000); however, the explanations of this association vary. Some suggest that the experience of depression may bias parents' ratings of the behavior exhibited by their children and adolescents (e.g., Fergusson et al., 1993; Renk et al., 2007a), whereas others suggest that parents who are depressed may rate the behavior of their children and adolescents more accurately (i.e., as a result of depressive realism; Boyle & Pickles, 1997; Richters & Pellegrini, 1989).

Investigations of the impact of parents' anxiety on child outcomes produce varying results as well. For example, some research refutes a link between parents' anxiety and higher rates of reported symptomatology in children (e.g., Ginsburg, Grover, & Lalongo, 2004), whereas other results suggest that parents who experience heightened levels of anxiety are more likely to rate their children as experiencing internalizing behavior problems (Beidel & Turner, 1997; McClure, Brennan, Hammen, & LeBrocque, 2001; Turner, Beidel, & Costello, 1987). In either case, the perceptions held by parents who are depressed and/or anxious likely will be related to the interactions that parents and their children and adolescents experience. Research in this area, however, remains limited, particularly with regard to children and adolescents who have hearing and communication disorders.

Thus, parents' psychopathology also is related to parenting behaviors, with parents' depression, anxiety, disruptive behavior, personality difficulties, and substance use disorders each correlating significantly with parents' use of harsh punishment (Johnson, Cohen, Kasen, & Brook, 2006). Several other factors may mediate this relationship, however (e.g., comorbid disorders, age, education, income, intelligence, child characteristics). For example, higher levels of parents' depression are related significantly to more inconsistent parenting, lesser expressions of affection, and more verbal abuse toward children (Johnson et al., 2006). Other direct relationships are noted between higher rates of parents' anxiety and poorer communication with children, more inconsistent rule enforcement, lower amounts of time spent with children, and lesser expressions of affection toward children (Johnson et al., 2006). Overall, clear relationships between parents' psychopathology and subsequent parenting behaviors are established.

In some cases, parents may experience higher sensitivity (Quittner et al., 1990) and perceived distress (Turner, Biedel, Roberson-Nay, & Tervo, 2003) in response to their children's behavioral transgressions as a result of their own psychopathology. Therefore, if these parents are more sensitive and perceive their children to have highly significant or severe behavior problems, these perceptions will likely guide the types and the extent of discipline used with children and adolescents (Brubaker & Szakowski, 2000). This relationship may be particularly noteworthy if frequent coercive exchanges increase parenting stress and if parents feel less effective using normative practices as a result (Greenwald et al., 1997). That is, the use of perceptually ineffective practices may result in these parents resorting to the use of more physical strategies aimed at eliciting desired behaviors or ceasing undesirable behaviors. Although more research exists examining these relationships in families raising children and adolescents who do not have disabilities, few studies examine these relationships in families raising children and adolescents who have hearing and communication disorders. As a result, these relationships as well as other potential precursors to harsh discipline, such as characteristics of the parent-child relationship, are examined in this study.

The Parent-Child Relationship

Communication.

Sroufe (1996) suggests that children's experiences during the first few years of life, particularly related to interactions with their primary caregivers, set the groundwork for the development of patterns and synchronicity between children's actions and their environments. As children develop, caregivers' roles also must adapt to the changing physical, cognitive, and emotional needs of their children. Attachment theory (Ainsworth, Blehar, Waters, & Wall, 1978;

Ainsworth & Wittig, 1969) suggests that the attachment bond formed early on within the parent-child relationship is related to the efficacy with which children are able to securely and effectively achieve their goals. According to this theory and based upon empirical investigations using the Strange Situation Procedure (e.g., Ainsworth & Wittig, 1969), children who develop a secure attachment style (i.e., as compared to an insecure-avoidant, insecure-resistant, or disorganized/disoriented attachment; Main & Solomon, 1990) will likely become more emotionally independent and able to navigate successfully and autonomously within varying contexts (Sroufe, 1996). In contrast, a disrupted parent-child bond is thought to inhibit the development of autonomy, feelings of self-efficacy, and competence (Sroufe, 1996).

With regard to attachment and bonding between parents and their children who have hearing and communication disorders, Mathos and Broussard (2005) suggest that the parent-infant attachment process may be disrupted early on. This disruption is sometimes due to a delay in the diagnosis of hearing impairments in these children. Unfortunately, such delays occur relatively often (Yoshinaga-Itano, 1998) and may cause parents who have normal hearing to have subsequent difficulty in reading and responding appropriately to the cues of their infants who are Deaf or HOH. Parents of infants who have normal hearing recognize their infants' signals and respond by providing sensitive, cooperative interactions using acts of stimulation (e.g., gentle voice tones, pausing during verbal communication, head nodding, changing facial expressions). Many of these natural and instinctual parenting responses may not be received in the same manner by children who have hearing and communication disorders, as they require responses that are not related to auditory processes. For example, the sound of a mother's voice may not be as soothing of an experience for a child who is HOH relative to a child who has

normal hearing. Subsequently, children who are Deaf or HOH may require other methods of communication and reassurance (e.g., physical touch) to receive the same effect. Thus, the parent-child bond may be affected negatively by a lack of mutuality in identifying and responding to each other's communication cues early on in the lives of children who have hearing and communication disorders.

In addition to the effects that a delay in diagnosis may have on parent-child communication, the use of hearing aids and cochlear implants is another factor that affects communication between parents and their children and adolescents who have hearing and communication disorders. The use of such devices may increase an individual's ability to hear; however, these devices cannot correct all hearing impairments (i.e., as glasses or contact lenses may do for those who are impaired visually). Unfortunately, the complex interaction between the brain and a normally hearing ear cannot be completely replaced artificially (Gallaudet Research Institute, 2001). For example, extraneous noises (e.g., ceiling fans, many voices) often interfere and are difficult to filter out when using these devices. The decision to use hearing aids or cochlear implants often is complicated for parents of children who have hearing and communication disorders. Eligibility and professional recommendations influence parents' decision regarding selection of implantation for their children who are Deaf (e.g., Li, Bein, & Steinberg, 2004); however, beyond the influence of these factors, parents' decisions also are based upon their personal beliefs, values, and practical considerations (Li et al., 2004). Even if parents choose to provide their children with cochlear implants, researchers note that, although implantation of cochlear implants improves the ability to detect sound, these children may not necessarily function equally as well as children who have normal hearing (Li et al., 2004).

Therefore, the communication between parents and children, even when the children use hearing aid devices, may remain disrupted or difficult.

As noted previously (e.g., Ammerman & Patz, 1996), parent-child interactions and relationship characteristics (e.g., communication) may be related closely to parenting behavior. For example, given that parents raising children who are Deaf often overestimate their children's ability to hear (English, 2002), it may be that these parents also have a distorted perception of their children's ability to understand the information conveyed and, in turn, to comply with parents' directions. This pivotal error in communication may explain partially these parents' tendency to use harsh discipline practices. It may be that their initial attempts to elicit compliance from their children and adolescents via parenting strategies that depend upon verbal communication may prove ineffective. This ineffectiveness subsequently may increase parents' frustration and lead to more severe practices in an effort to elicit desired behaviors from children and adolescents. Thus, in general, parents who engage in harsh discipline may have, over time, developed faulty interpretations of the misbehavior of their children and adolescents due to their limited understanding or consideration of the communication gap between themselves and their children and adolescents. These faulty interpretations may be present during many, if not all, disciplinary interactions.

In support of this notion, previous research shows that parents tend to display more negative responses to children's behavior if that behavior is viewed as intentionally malicious (e.g., Dix & Lochman, 1990). Similarly, Bugental, Blue, and Cruzcosa (1989) report that the cognitions held by parents, particularly regarding their perceived control in parent-child interactions, are an important factor in predicting their propensity toward maltreatment of

children and adolescents. In their study, these researchers investigate a "perceived balance of control over failure" (PCF) composite score (generated from the Parent Attribution Test; Bugental et al., 1989, p. 536). Higher PCF composite scores indicate low perceived control by the caregivers themselves combined with high perceived child control over caregiving failure. Results indicate that parents who are physically abusive report feeling that they lack power in their relationship with their children significantly more than parents who are not abusive. This finding suggests that parents who are abusive perceive their children as being in control during disciplinary interactions. Further, PCF composite scores (i.e., low control by the parent and high control by the child) predict significantly abusive behaviors and nonabusive coercive parenting (Bugental et al., 1989).

Given these findings, it may be that, during disciplinary exchanges between parents and their children who have hearing and communication disorders, parents may perceive their children's noncompliance as intentional and attribute high control over those situations to their children. Over time, parents who develop these schemas of their children may experience an increased likelihood of using harsh discipline practices, particularly after other normative parenting practices are used without producing the desired effect. These parents likely fail to consider a multitude of other viable reasons why their children who have hearing and communication disorders may not comply immediately. Such reasons may include a problematic basic communication of information, leading to the children's inability to identify and/or understand the components of the instruction, the reasoning for a particular command/request, or the existence of reinforcements (e.g., parents' verbal confirmation, parents' facial expressions). Additionally, disrupted parent-child communication also may relate to the

level and the quality of involvement between parents and their children who have hearing and communication disorders. This involvement then may be related differentially to parents' disciplinary choices.

Parent-Child Involvement.

Surprisingly, limited research exists examining the relationship between parents' involvement and the emotional and behavioral outcomes of children and adolescents. One study (Simons, Johnson, & Conger, 1994), however, investigates longitudinally parent-child involvement (i.e., defined as warmth/affection, consistency, monitoring/supervision, and inductive reasoning strategies) and harsh discipline in 404 families raising adolescents. Results of this investigation indicate that the quality of parents' involvement predicts significantly adolescents' aggressiveness, delinquency, and psychological outcomes (Simons et al., 1994), whereas harsh discipline does not demonstrate significant correlations with adolescent symptoms (Simons et al., 1994). Given that parents' involvement is a strong predictor of adolescent outcomes in these families raising adolescents who have normal hearing, it seems reasonable to infer that parents' involvement will be equally, if not more, important for the emotional and behavioral outcomes of children and adolescents who have hearing and communication disorders.

In an effort to examine differences between families raising children who have normal hearing and those raising children who have hearing and communication disorders, one comparison study shows that parents raising children who have normal hearing report a significantly higher degree of involvement with their children when compared to parents raising children who are Deaf (Brubaker & Szakowski, 2000). This lower level of involvement of

parents raising children who are Deaf may relate to various factors, including potential difficulties in establishing mutually reinforcing communication strategies or the influence of parents' psychopathology, as noted above. In contrast, parents raising children and adolescents who have disabilities at times may become overly involved or enmeshed in the lives of their children and adolescents. Such enmeshment may result from the demanding caretaking role that parents assume in managing the specialized needs of their children and adolescents (Patterson & McCubbin, 1983). Therefore, it appears that extreme levels of involvement may relate to the outcomes of these children and adolescents. In general, the relationships among the degree of parent-child involvement, disciplinary choices, and child behavior outcomes, however, are not investigated clearly, and no evaluations (i.e., aside from Brubaker & Szakowski, 2000) of these relationships with regard to families raising children who have hearing or communication disorders are noted. As a result, the current study augments the literature in this area with a specialized population of parents raising children and adolescents who have hearing and communication disorders.

The Current Study

The NIDCD "Strategic Plan" for 2006-2008 (see NIDCD, 2006) identifies several areas in need of research pertinent to communities of individuals who have hearing and communication disorders. Early identification and intervention for language and communication development is deemed integral in minimizing the potentially negative developmental impact of Deafness, hearing impairments, and other communication problems. The Strategic Plan, however, neglects to identify parent-specific characteristics or parent-child relationship factors that potentially may impact the psychological health of both parents and their children and

adolescents who have hearing and communication disorders. It is likely that enhancing abilities in communication, language, and learning alone may not protect these children and adolescents from psychological problems if several other family factors may be identified that contribute to the development, maintenance, and/or exacerbation of problem behaviors. This study is an investigation of possible parent characteristics and behaviors that partially may explain the use of harsh physical discipline with children who have hearing and communication disorders. By identifying predictors of corporal punishment in this population, interventions targeted at alleviating the negative effects of such variables may lessen the likelihood that these parents will engage in such potentially harmful parenting practices.

Hypotheses

Hypothesis 1.

The use of ineffective discipline practices will mediate the relationship between parents' functioning and their endorsement of corporal punishment (see Figure 1). It is hypothesized that parents raising children who have hearing and communication disorders and who are sampled in this study will experience heightened psychological distress associated with their parenting responsibilities and stress. Further, their parenting or discipline choices are hypothesized to reflect a tendency toward harsh practices. In essence, it is likely that parents raising children who have hearing and communication disorders will perceive the behavior of their children and adolescents to be more problematic, prompting these parents to perceive their parenting strategies to be ineffective and prompting them to use more coercion of their children and adolescents to resolve issues. Thus, physical discipline and other coercive discipline strategies

will be employed as the main resolution strategy (Greenwald et al., 1997; Knutson, Johnson, & Sullivan, 2004).

Hypothesis 2.

Problematic characteristics of the parent-child relationship will moderate the relationship between parents' functioning and their endorsement of corporal punishment (see Figure 2). It is hypothesized that parents' psychopathology and stress will predict independently their discipline choices; however, disruptions in parent-child communication and involvement are hypothesized to interact with these parent characteristics in their prediction of corporal punishment (Gutermuth-Anthony et al., 2005; Johnson et al., 2006). In essence, the degree to which individual parent characteristics are related to parents' use of corporal punishment will depend on the degree of disruption in communication and involvement that exists between the parents and their children and adolescents who have hearing and communication disorders.

Hypothesis 3.

Ineffective discipline practices and problematic parent-child relationship dimensions together will account for a significant portion of the variance in parents' endorsement of corporal punishment (see Figure 3). It is hypothesized that ineffective discipline practices in combination with potentially disrupted parent-child communication and involvement will predict parents' use of corporal punishment, thereby partially explaining some of the reasons why parents may elect to engage in corporal punishment strategies.

General Contributions of the Study.

In general, this study will help to illuminate the unique contributions of specific parent functioning and parent-child relationship characteristics in parents' use of corporal punishment

and other discipline practices as well as in the development of behavior problems in this special population. Generally, the potential disruption in the relationship quality between parents and their children and adolescents who have hearing and communication disorders is thought to be a pivotal factor in the use of harsh discipline practices. Such discipline practices, in turn, may relate to higher rates of internalizing and externalizing behavior problems in these children and adolescents. Specifically, the discipline-mediated model of physical discipline is the theoretical basis for explaining the relationship between parents' psychopathology and harsh discipline by identifying attempts to use specific discipline techniques that are perceived to be ineffective and that are hypothesized to mediate this relationship. Since parent-child reciprocity is such an important issue in infancy, other dimensions of the parent-child relationship that exist later in childhood and adolescence likely may relate to the development, maintenance, and/or exacerbation of internalizing and/or externalizing behavior problems in children and adolescents who have hearing and communication disorders.

Additionally, if a combination of specific parent and parent-child characteristics together can be shown to account for a significant portion of the variance in parents' use of corporal punishment and the development of behavior problems in children and adolescents, these predictors may be identified as the most effective points of therapeutic intervention for families raising children and adolescents who have hearing and communication disorders. Many current interventions focus on enhancing the language and communication abilities of children and adolescents who have hearing and communication disorders, but less focus has been placed on the identification and treatment of psychological symptoms in these children and their families. Potentially, therapeutic treatments focused on enhancing parents' effective use of appropriate

discipline practices and building certain parent-child relationship characteristics may further increase the effectiveness of communication and enhance the competencies (e.g., social skills) of children and adolescents who have hearing and communication disorders.

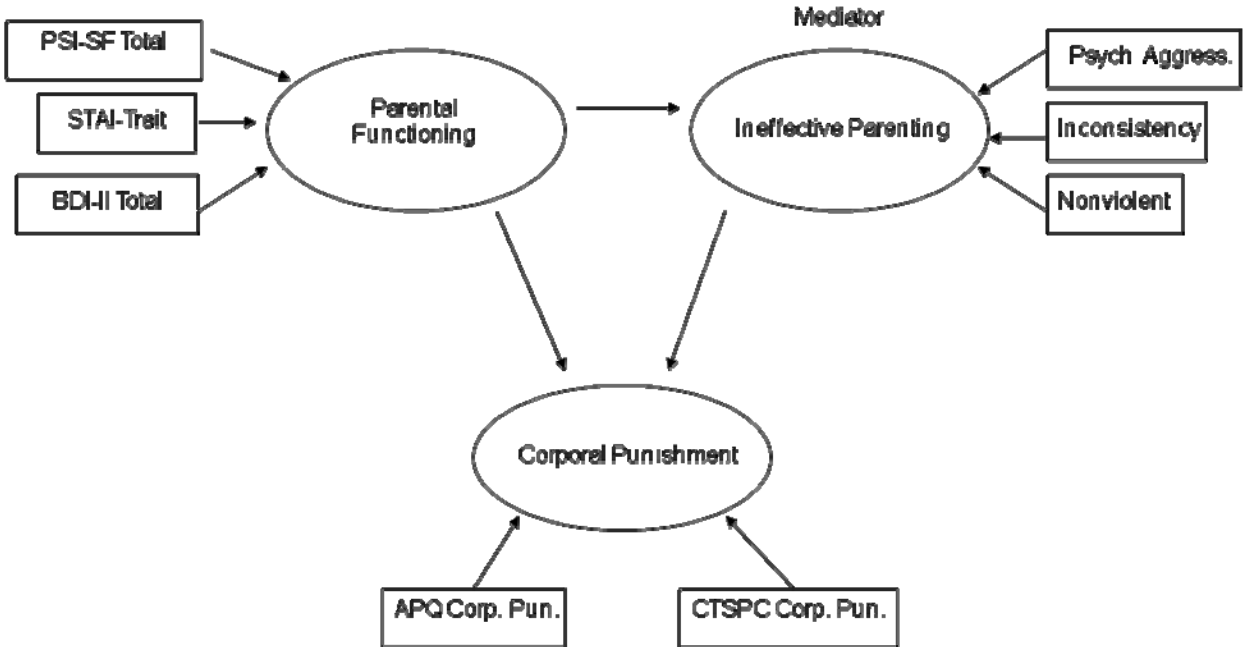

Figure 1. *Hypothesized Model 1*

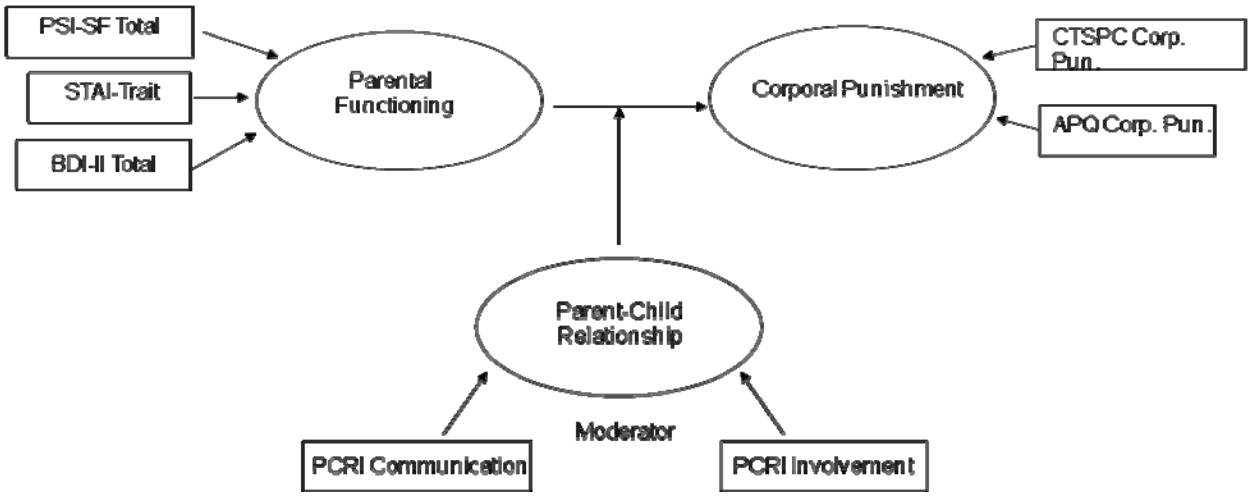

Figure 2. *Hypothesized Model 2*

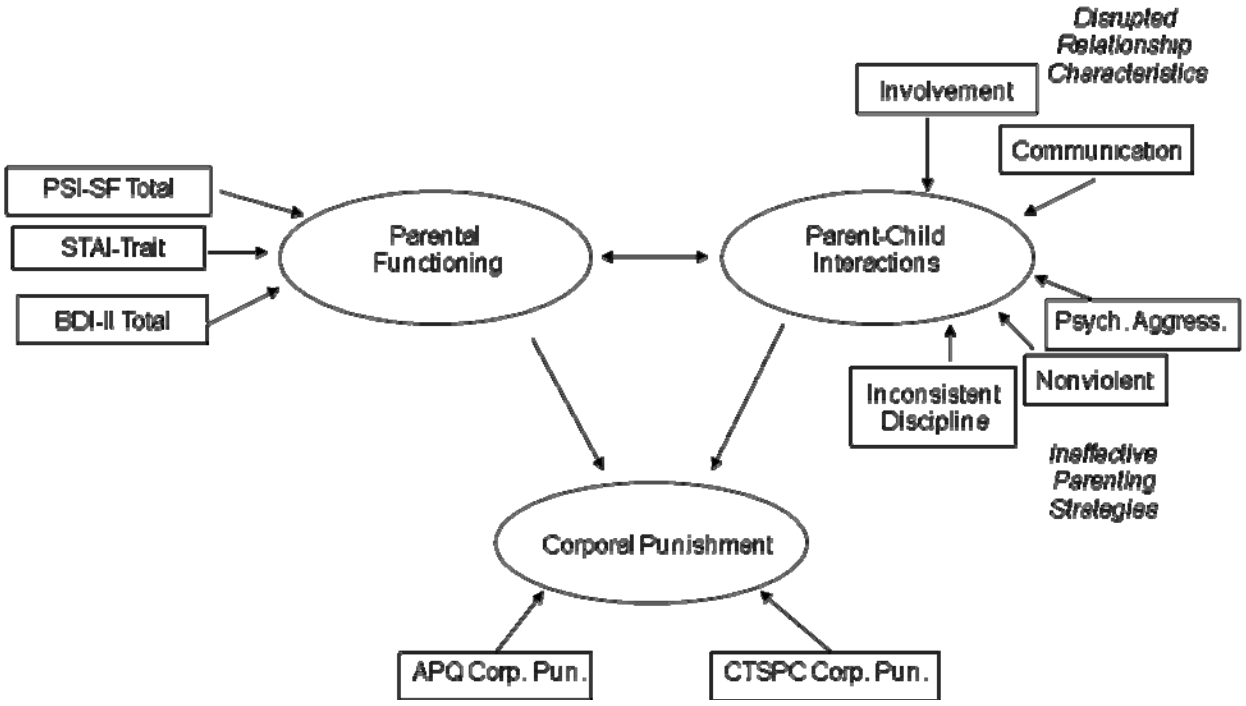

Figure 3. *Hypothesized Model 3*

CHAPTER THREE: METHODOLOGY

Participants

Between November 2006 and April 2009, 76 primary caretakers (71 women and 5 men) who are 18-years of age or older (*M* = 38.44, *SD* = 8.00, range = 23- to 66-years) participated in this study. As described in the *Procedure* section, participants were recruited from a variety of geographic locations and types of sites/settings. Of the hundreds of survey packets that were distributed to parents in seven states across the United States, 35.5% (n = 27) of the total respondent group were located in Arizona, 1.3% (n = 1) were in Arkansas, 60.5% (n = 46) were from various locations across the state of Florida, 1.3% (n = 1) was in Massachusetts, and 1.3% (n = 1) were located in North Carolina. The sites/settings from which participants were recruited also varied, with 6.6% (n = 5) coming from independent clinical/private practices in the community, 32.9% (n = 25) coming from clinical hearing/speech clinics associated with a university, 40.8% (n = 31) coming from schools for children and adolescents who are Deaf and HOH, 13.2% (n = 10) coming from parent support groups, and 6.6% (n = 5) coming from a summer camp for children and adolescents who are Deaf and HOH. All participants were the self-declared primary caregivers for one child or adolescent (34 girls and 42 boys) who ranged in age from infancy to 17-years (*M* = 7.67-years, *SD* = 3.93-years) and who experienced some measure of hearing impairment/loss and/or significant communication difficulties. [Please note that for the purposes of this study, the terms "identified child," "child/adolescent," "referenced child," and "youth" will be used interchangeably and will apply to the child or adolescent who is experiencing Deafness, hearing loss, and/or communication difficulties and who is referenced in the completion of this study.]

The participants in this sample included 65 biological parents (85.5%), 8 adoptive parents (10.5%), 1 foster parent (1.3%), 1 grandparent (1.3%), and 1 non-biological parent who did not report specific descriptive information regarding their caregiver-child relationship (1.3%). [Please note that the terms "primary caregiver," "caregiver," "parent," and "participant" will be used interchangeably and will apply to all participants, regardless of the specific nature of their relationship with the children and adolescents rated in this study, as indicated above.] Seventy-three caregivers (96.1%) reported that their home was the primary residence of the child referenced in this study, whereas one grandmother (1.3%) indicated that she considered herself to be a primary caregiver although she did not live with the child whom she rated. Two mothers (2.6%) did not report whether or not their homes were primary residences of the children whom they rated. The participants in this sample are from a diverse range of racial/cultural backgrounds. A majority of participants (75.0%; n = 57) report that their race/ethnicity is Caucasian (Non Hispanic), 3.9% (n = 3) are African American, 1.3% (n = 1) are Asian American, 17.1% (n = 13) are Hispanic, and 2.6% (n = 2) are from some Other race/ethnicity (i.e., their self-descriptions are Lebanese and Middle Eastern/Arab-American). Participants also varied in their marital status, with 6.6% (n = 5) reporting that they are single, 78.9% (n = 60) reporting that they are married, 9.2% (n = 7) reporting that they are divorced, 3.9% (n = 3) reported that they are living with a partner, and 1.3% (n = 1) not reporting this information. None of the participants reported personally experiencing hearing impairment/loss, as the majority (98.7%; n = 75) of the participants have normal hearing and one (1.3%) of the participants did not report this information.

Characteristics of the home environment also vary, with 81.6% (n = 62) of families having more than one child and/or adolescent living in the home at the time of study completion and the remainder of the families (18.4%; n = 14) having only the child who has the hearing or communication difficulty in the home. With regard to participants' employment status, 35.5% (n = 27) of participants report that they are not employed, 35.5% (n = 27) work full-time, 25.0% (n = 19) work part-time, 2.6% (n = 2) are students, and 1.3% (n = 1) do not report occupation information. Participants' educational backgrounds also vary, with 1.3% (n =1) having completed some high school, 11.8% (n = 9) having a high school diploma, 32.9% (n = 25) completing some college, 28.9% (n = 22) having a Bachelor's degree, 6.6% (n = 5) having some graduate school experience, 17.1% (n = 13) having a graduate level degree, and 1.3% (n = 1) not reporting this information. Additionally, estimates of caregivers' household income also varies, with 3.9% (n = 3) families earning an overall yearly income of $9,999 or less, 6.6% (n = 5) earning between $10,000 and $19,999, 1.3% (n = 1) earning between $20,000 and $29,999, 10.5% (n = 8) earning between $30,000 and $39,999, 5.3% (n = 4) earning between $40,000 and $49,999, 11.8% (n = 9) earning between $50,000 and $59,999, 10.5% (n = 8) earning between $60,000 and $69,999, and 44.7% (n = 34) earning $70,000 or more per year. Four participants (5.3%) do not report income data.

Characteristics of the children and adolescents who are rated as part of this study vary similarly to those of their parents with regard to racial/cultural background. The majority (63.2%; n = 48) are identified as Caucasian (Non Hispanic), 3.9% (n = 3) are African American, 3.9% (n = 3) are Asian American, 23.7% (n = 18) are Hispanic, and 5.3% (n = 4) belong to some Other category of race/ethnicity. As reported by the participants in this study, the types of

educational environments in which their children and adolescents are matriculating vary as well. The majority (36.9%; n = 28) are mainstreamed completely in a public school, 9.2% (n = 7) are mainstreamed partially, 15.7% (n = 12) attend a self-contained and/or special education classroom, 14.5% (n = 11) attend a private school (not otherwise specified by another category), 9.2% (n = 7) are placed in a residential education setting, 3.9% (n = 3) are homeschooled, 9.2% (n = 7) attend another unspecified kind of educational setting, and 1.3% (n = 1) do not have this information reported for them. Fifty percent (n = 38) of participants report that their children and adolescents experience some degree of hearing impairment/loss *only* (i.e., without a communication disorder), whereas 30.3% (n = 23) of the children are reported to have significant communication problems *only* as evidenced by a diagnosed communication disorder (i.e., without hearing impairment/loss). Additionally, 18.4% (n = 14) of participants indicate that their children and adolescents experience *concurrent* hearing and communication problems (i.e., they experience both) at the time of study, and 1.3% (n = 1) do not have this information reported for them.

To better understand the characteristics of the children and adolescents who are rated in this study by the parent participants, the following is a summary of pertinent demographic information reported separately for children and adolescents who are Deaf or HOH and who have communication disorders. Responses from 18.4% (n = 14) of participants are included as part of both groups, as their children and adolescents belong to the *concurrent* category. Thus, the hearing impaired group consists of ratings from 68.4% (n = 52) of participants, and the communication disordered group consists of 48.7% (n = 37) of families.

Of the 52 children and adolescents who are Deaf or HOH, only 25.0% (n = 13) of participants reported the level of their children's hearing loss in dB, and 25.0% (n = 13) of parents indicated this level in percentage of loss. Of the participants who report this information, the average severity ratings for children and adolescents are 71 dB of hearing impairment/loss and a mean of 71% hearing impairment/loss. It should be noted that although the degree if hearing loss could not be assessed for the entire Deaf/HOH sample, this lack of complete information was not problematic in this study, as previous research has indicated that extent of hearing loss does not appear to relate with child behavior problems (Brubaker & Szakowski, 2000; Watson, Henggeler, & Whelan, 1990), thus this information was not included in analyses.

Next, the etiology of the hearing loss experienced by children and adolescents varies greatly, as 53.8% (n = 28) of participants report an identified genetic- or illness-related causes, 5.8% (n = 3) report maternal illness or drug use during pregnancy as the cause, and 38.5% (n = 20) of parents report an unknown or other unspecified etiology for hearing loss. One participant, or 1.9% of the Deaf or HOH group, does not report this information. Sixteen participants, or 30.8% of this group, report that their children and adolescents have received at least one cochlear implant. The mean age of first implantation for these children is approximately 2.47-years (*SD* = 1.19). The majority (69.2%; n = 36) of the children and adolescents who experience hearing loss have participated in some type of hearing-related intervention or treatment (e.g., medical, social, educational) in their lifetime. Two participants, or 4.0% of the group, do not provide this information.

The primary types of communication methods used by the children and adolescents who are Deaf or HOH, as reported by 50 parents, vary throughout the sample. In particular, 7.7% (n

= 4) use Sign Language exclusively, 59.6% (n = 31) use oral communication exclusively, and 28.8% (n = 15) use total communication (i.e., both signing and speaking). Participants also vary in the primary methods of their communication style with their children and adolescents who are Deaf or HOH, as 5.8% (n = 3) of parents report using Sign Language exclusively, 59.6% (n = 31) use oral communication exclusively, and 30.8% (n = 16) use total communication (i.e., both signing and speaking). Of these participants, 11.5% (n = 6) of parent-child dyads have "unmatched" (or different) primary communication styles, whereas 82.7% (n = 43) of parent-child dyads share the same, or have "matched," primary communication styles. Three participants, or 5.8% of the group, do not report communication method information for their parent-child dyad.

Similar to parents of children and adolescents who are Deaf or HOH, participants raising children and adolescents who experience significant communication problems (i.e., either related to or not related to hearing impairment or loss) report that their children and adolescents experience a range of communication difficulties. Based on the report of the 37 participants raising children and adolescents who have communication problems, 16.2% (n = 6) of children have an Expressive Language Disorder, 21.6% (n = 8) of children have a Mixed Receptive-Expressive Language Disorder, 10.8% (n = 4) children have a Phonological Disorder, 5.4% (n = 2) have a Stuttering diagnosis, 13.5% (n = 5) have a Communication Disorder Not Otherwise Specified diagnosis, 5.4% (n = 2) have an Autistic Disorder diagnosis, 8.1% (n = 3) have an Auditory Processing Disorder, 2.7% (n = 1) have a Speech Apraxia Disorder, 13.5% (n = 5) have some other unspecified type of communication disorder, and 2.7% (n = 1) do not have a diagnosis provided. The mean age of these children and adolescents at the time of their

diagnosis of their communication disorder is 4.38-years (*SD* = 2.70; based on the report of 32 participants). The majority of the children and adolescents who have significant communication difficulties, or 9.7% (n = 29), have participated in some type of communication-related intervention or treatment (e.g., medical, social, educational) in their lifetime. Two participants, or 5.4% of the group, do not report this information for their children and adolescents.

With regard to the entire sample (n = 76), 73.7% (n = 56) of the participants report having engaged in some form of intervention or treatment for one or more of the following reasons: child behavior management/parenting support, emotional difficulties (e.g., depression, anxiety, low self-esteem), stress management, adoption-related issues, genetic counseling, marriage/couple's counseling, and/or coping with the disability of a special needs child. Further, 32.9% (n = 25) of the participants report that their children and adolescents experience an additional disability that may or may not be related to their hearing and communication difficulties. Participants also reported that some of their children and adolescents experience comorbid disabilities, such as emotional and behavioral disorders (e.g., Attention-Deficit/Hyperactivity Disorder), cognitive problems, developmental delays, learning disorders, seizures, and motor difficulties.

Measures

The *Child Behavior Checklist* (CBCL; Achenbach & Rescorla, 2000, 2001; Appendix C) is used as a measure of parents' perceptions of the current emotional and behavioral functioning of their children and adolescents. The CBCL is a widely-used self-report measure that asks parents to rate the occurrence of 118 behavior problems on a 3-point scale ranging from 0 (*not true*) to 2 (*very true*). The CBCL yields *T* scores that are standardized for age and gender, and it

provides several scales reflecting different dimensions of child behavior, including broad-band scales (i.e., Internalizing, Externalizing, and Total Problems), narrow-band/clinical syndrome scales (i.e., Emotionally Reactive, Anxious/Depressed, Somatic Complaints, Withdrawn, Sleep Problems, Attention Problems, and Aggressive Behavior), and DSM-Oriented scales (i.e., Affective, Anxiety, Somatic, Attention/Hyperactive, Oppositional, and Conduct Problems). Adequate reliability and validity for this scale is documented, with the CBCL showing discriminant validity between clinic-referred and non-referred children (Achenbach & Rescorla, 2001). For the purposes of this study, the Internalizing, Externalizing, and Total Problems broad-band scales only are examined in the analyses.

The *Beck Depression Inventory-Second Edition* (BDI-II; Beck, Steer, & Brown 1996; Appendix E) is used as a measure of parents' current depressive symptomatology (i.e., higher scores indicate elevated symptom frequency and severity). The BDI-II is a 21-item self-report instrument designed to assess symptoms consistent with the depressive disorders listed in the *Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition-Text Revision* (American Psychiatric Association, 2000). In addition to higher scores being observed as increased levels of overall subjective depressive symptomatology, the BDI-II provides cutoff scores of clinical significance for use in clinical settings (i.e., 0-13: minimal depression; 14-19: mild depression; 20-28: moderate depression; and 29-63: severe depression). This measure has adequate reliability (a range of .92 to .93 for internal consistency, and a measure of .93 for test-retest) and validity in previous studies (Beck et al., 1996). In this study, the Cronbach's alpha internal consistency reliability coefficient for the overall depression score is high (α = .92).

The *State-Trait Anxiety Inventory* (STAI-Form Y; Spielberger, 1983; Spielberger, Gorsuch, & Lushene, 1970; Appendix F) is used as a measure of two types of anxiety, referred to as state (i.e., current) and trait (i.e., constant) anxiety. The state anxiety scale measures how participants feel at the particular moment in time when they are completing their ratings, whereas the trait anxiety scale provides a more stable and general account of anxious symptomatology. This measure has adequate reliability (i.e., alpha coefficients between .65 and .86 for trait anxiety and over .90 for state anxiety) and concurrent validity in previous studies (Spielberger, 1983; Spielberger, Ritterband, Sydeman, Reheiser, & Unger, 1995). The Cronbach's alpha internal consistency reliability coefficient for the subscale used in this study, trait anxiety, is high (α = .94).

The *Parenting Stress Index- Short Form* (PSI-SF; Abidin, 1995; Appendix D) is used as a measure of parents' current level of stress experienced in the context of parenting issues. The PSI-SF, based on the original Parenting Stress Inventory, is a 36-item self-report measure that evaluates parents' perceptions of stress in the parent-child system. This scale has three subscales (i.e., Parent Distress, Parent-Child Dysfunctional Interaction, and Difficult Child), each consisting of 12 items rated from 1 (*strongly disagree*) to 5 (*strongly agree*). The Parent Distress domain reflects parents' views of their own functioning in the parenting role, interparental conflict, social support, and stresses associated with role restrictions. The Parent-Child Dysfunctional Interaction subscale assesses parents' perceptions of whether parent-child interactions meet their expectations and whether those interactions are reinforcing. The Difficult Child subscale measures child temperament and the extent to which child characteristics (e.g., defiance, noncompliance, demandingness) are stressful to the parent. Finally, the total score on

the PSI-SF represents a parent's overall experience of stress related to the parenting role, and the 90th percentile of the total possible score represents the percentage at which scores may be considered clinically significant (i.e., clinical cutoff score of 162; Abidin, 1995). The reliability and validity of the domain scores and their sensitivity to reductions in stress following parent training are established previously (Abidin, 1995), and more recent two-factor structures have been identified (Haskett, Ahern, Ward, & Allaire, 2006). For the purposes of this study, the overall score (Cronbach's α = .94) is used as an indication of global parenting stress related to the three domains listed above, with higher scores suggesting more perceived parenting stress.

The *Parent-Child Relationship Inventory* (PCRI; Gerard, 1994; Appendix G) is used to assess the quality of the relationship between parents and their children and adolescents. The PCRI is a self-report inventory designed to assess parents' perceptions of their relationship with their children as well as other aspects of parenting. This scale has seven content scales (i.e., Parental Support, Satisfaction with Parenting, Involvement, Communication, Limit Setting, Autonomy, and Role Orientation) along with two validity scales (i.e., Social Desirability and Inconsistency). Alpha coefficients of internal consistency reliability for this measure range from .70 to .88 in one study (Gerard, 1994) and .68 to .87 in another longitudinal, cross-informant investigation (Coffman, Guerin, & Gottfried, 2006). Test-retest and construct validity are established in previous studies as well (Coffman et al., 2006; Gerard, 1994). In this examination, Cronbach's alpha internal consistency reliability coefficients for the subscales of interest are as follows: Communication (α = .61) and Involvement (α = .50).

The *Alabama Parenting Questionnaire* (APQ; Shelton, Frick, & Wootton, 1996; Appendix H) is used as a measure of a wide range of discipline and parenting behaviors. The

APQ consists of 42 items rated on a 5-point scale of frequency ranging from 1 (*never*) to 5 (*always*). The scale has six subscales of parenting behavior (i.e., Positive Parenting, Involvement, Poor Monitoring/Supervision, Inconsistent Discipline, Corporal Punishment, and Other Discipline Practices). In general, the APQ shows adequate criterion, convergent, and discriminant validity in a previous study (Locke & Prinz, 2002). Adequate internal consistency, validity, and test-retest reliability also is documented with reports of Australian youth (Dadds, Maujean, & Fraser, 2003). Additionally, five-factorial validity with a German translation of the measure is noted (Essau, Sasagawa, & Frick, 2006). The following is information regarding the psychometric properties of the three selected scales that are examined in this study. The Involvement subscale assesses supportive and generally positive interactions between parents and their children (e.g., assisting with homework, playing games, talking about issues, planning activities). The internal consistency of this subscale for use with parents is .80 in a previous study. The Corporal Punishment subscale assesses parents' reports of the frequency with which they use physical punishment (e.g., spanking, slapping, using objects for hitting their children). Although this subscale has a generally low internal consistency of .46 in a previous study, this low score may result from a small item composition (i.e., three), with each item identifying distinct physical punishment behaviors that may be somewhat unrelated. The utility of this subscale, however, is established by previous demonstration of its significant contribution in the discrimination of children who have conduct problems from those who do not have conduct problems (Shelton et al., 1996), and it has been used previously with parents of Deaf and HOH children (e.g., Brubaker & Szakowski, 2000). In this study, Cronbach's alpha internal consistency reliability coefficients for the selected subscales were as follows: Inconsistent

Discipline (α = .72) and Corporal Punishment (α = .42). These values are consistent with previous findings (e.g., Dadds et al., 2003; Shelton et al., 1996).

A modified version of the *Parent-Child Conflict Tactics Scales* (CTSPC; Straus, Hamby, Finkelhor, Moore, & Runyan, 1998; Appendix I) is used to assess a range of parent discipline practices in addition to the information provided by the APQ. This measure is an adaption of the original Conflict Tactics Scale (Straus, 1979), which is designed for evaluation of maltreatment between partners in marital, cohabitating, or dating relationships. In its original form, the Parent-Child version of the CTS is a 27-item scale that yields five subscales identifying different dimensions of parent discipline behaviors (i.e., Nonviolent Discipline, Psychological Aggression, Neglect, and two dimensions of Physical Assault: Corporal Punishment and Severe Physical Assault). All subscales except for the Severe Physical Assault subscale are used in this study. In other words, the frequency of Nonviolent Discipline (e.g., explaining why something was wrong, providing alternative behavior, response cost, "time out"), Psychological Aggression (e.g., shouting, threatening, swearing, calling names), and child-directed Corporal Punishment (e.g., shaking, hitting, slapping) are examined. Alpha coefficients of reliability in a previous study are .70 for the Nonviolent Discipline scale, .60 for Psychological Aggression scale, and .55 for the overall Physical Assault scale; however, no alpha coefficient is reported for the Corporal Punishment scale (Straus et al., 1998). The authors suggest that the reported low internal consistency reliability for the overall Physical Assault subscale may be due to the low reported frequency of severe or very extreme physical punishment practices. Therefore, the exclusion of these items in the version used for this study is justified, in that the remaining items correspond specifically to Corporal Punishment and are expected to yield an adequate alpha coefficient.

Construct validity also is established for the CTSPC in a previous study (Straus et al., 1998). In the current study, Cronbach's alpha internal consistency reliability coefficients for Nonviolent Discipline, Psychological Aggression, and Corporal Punishment subscales are .65, .52, and .55, respectively.

Additionally, participants completed a *Demographics Questionnaire* (Appendix J) that asks questions regarding sex, race, ethnic background, age, average household income, educational information, marital status, employment, current living arrangements, preferred parent and child modes of communication, and the auditory and communication treatment history of the children and adolescents being rated in the study.

Procedure

The Institutional Review Board (IRB) of the University of Central Florida approved this research protocol before data collection was conducted. In addition, four addenda were submitted and approved during implementation of the protocol in continued adherence with ethical standards (see Appendix M for the most recent IRB-approval letter). Three undergraduate research assistants (RAs) were recruited on a volunteer and/or independent study credit basis to help with data collection coordination, one of who demonstrated proficiency in American Sign Language (ASL). The primary investigator and all three RAs completed the Collaborative IRB Training Initiative web-based module for social/behavioral research investigators, and several individual data collection training sessions were spent with each RA individually and as a group until study administration competence was achieved. Specifically, adequate competence is operationalized as completion of one successful practice participant recruitment and at least one successful independent participant recruitment utilizing prewritten, IRB-approved scripts (see

Appendices N-P) in the presence of the principal investigator. All RAs kept ongoing logs of their potential participant contact (Appendix Q) and were monitored closely for ethical compliance and adherence to protocol integrity on an ongoing basis throughout the duration of data collection. Each RA engaged in direct participant recruitment in at least two locations and indirect participant recruitment via other tasks (e.g., monitored email correspondence, in-person and telephone contact).

With the assistance of the research team, a concerted effort was made to recruit a high number of participants through a multitude of locations and settings with the intent of securing a sufficient sample size for conducting the proposed analyses (see *Results*). Consistent with previous literature investigating characteristics of families raising children who have hearing and/or communication difficulties, many obstacles to data collection emerged over time and resulted in a somewhat lower than desired sample size. Some difficulties included, but were not limited to, refusals by institutions to participate (e.g., citing protection of families from feeling targeted by outside research), refusals to participate by parents (e.g., possibly due to the sensitive nature of the questions being asked), and refusals (or having partial information returned) due to the length of the survey packet itself.

To illustrate the relative difficulty in gaining parent participation with similar families, a review of the literature in this area reveals a range of sample sizes obtained in other studies, with several including under 50 participants (e.g., nine parents raising children who are Deaf in Wood-Jackson et al. [2008]; 28 parents raising children who are Deaf and who have cochlear implants in Zaidman-Zait [2007]; 31 parents raising children who are Deaf and who have cochlear implants in Zaidman-Zait [2008]; 35 parents raising children who are Deaf and HOH in

Asberg, Vogel, & Bowers [2007]; 43 parent-child dyads of mixed hearing abilities in Spencer & Meadow-Orlans [1996]; 70 parents raising children and adolescents who are Deaf in van Gent et al. [2007]; 79 parents raising children who are Deaf in Knutson, Johnson, and Sullivan [2004]; 84 parents raising children who are Deaf in Vostanis et al. [1997]; 101 parents raising children who are experiencing Deafness or hearing loss in Archbold, Sach, O'Neill, Lutman, & Gregory [2008]; and 116 families raising children who have hearing loss from multiple, coordinated sites in Barker et al. [2009]). Additionally, many studies have combined groups of families raising children and adolescents who are Deaf and HOH with families raising children and adolescents who have communication disorders (e.g., speech and language difficulties) for evaluation of factors related to maltreatment (Ammerman et al., 1994; Sullivan & Knutson, 2000). Therefore, our relatively moderate sample size examining a combined group of children who have hearing and/or communication difficulties should be viewed as consistent with methods implemented in extant previous research in this area.

As part of the data collection procedures used to recruit participants for this study, self-identified primary caretakers of children and adolescents who have hearing impairment, hearing loss, Deafness, and/or a diagnosed communication disorder were contacted for participation. No potential participants were excluded on the basis of age, racial/ethnic background, the communication ability type (e.g., verbotonal/oral communication, tactual speech/sign language, and/or total communication) of parents or their children and adolescents, the caretaker relationship of caregivers and their children and adolescents (i.e., biological, adoptive, foster, grand, or other types of parents), or any other demographic characteristic. Completion of

questionnaire packets took an average of approximately one hour and fifteen minutes; however, there was a range of completion times.

Survey packets included the following forms and questionnaires. An initial *Cover Letter* (Appendix A) provided a general introduction to the study, the methodology, and the research team. A *Consent Form* (Appendix B) outlined the general purpose of the study and informed the participating parents of their rights as research participants. This Consent Form indicated that each participant must be 18-years of age or older and must acknowledge consent to participate in the study. It also indicated clearly that participants may discontinue their participation at any time without penalty. All participants received the Cover Letter as the first page and the Consent Form as the second page of their survey packet. Upon signing the Consent Form, participants followed the instructions provided in their packet and completed independently the study questionnaires. All surveys appeared in their originally worded format, except for the Parent-Child Conflict Tactics Scales. This survey was included in the modified format noted previously (i.e., excluding questions requesting information regarding extreme physical discipline practices). A *Debriefing Sheet* (Appendix K) also was provided and contained further information concerning the purposes of the study and contact information. Finally, a *Contact Sheet* (Appendix L) was available for participants to complete if they desired a summary of the results of the research project upon its completion. All participants received the Debriefing Sheet just after the questionnaires in each packet as well as the Final Sheet as a last page. In all included cases, participants elected to complete and submit their packets on a volunteer basis and without penalty for discontinuation or refusal at any time.

Participants received their survey packets in one of the following ways: 1) the packet was administered directly by a research team member, 2) the packet was received via sealed, postal mail from the research team, 3) the packet was received from the teacher, group leader, or therapist of their children and adolescents, 4) the packet was received from an administrator or counselor at the school or school system being attended by their children and adolescents, or 5) the packet was received from a leader or coordinator of a group to which the parents belonged. In these cases, no names were disclosed to the research team until a participant provided permission for their information to be released, unless otherwise noted. For those participants who completed the packet in the presence of a research team member, an investigator was available to answer questions pertaining to the questionnaires throughout a data collection session that lasted for approximately one hour. The investigator did not answer questions pertaining to the purpose of the study until after the participants completed their packets. In other cases where packets were provided *remotely* by either a research team member or an advocate who had been informed of the details of the study, all participants posing questions or concerns were told to contact the primary investigator directly. That is, no one other than a research team member answered any specific questions regarding the study materials, procedure, or purpose. When a research team member was not present to retrieve completed survey packets, caregivers were provided with self-addressed, stamped envelopes to use for postal mail return upon completion of their packet.

To locate potential sites, general web-based searches were conducted, and lists of potential sites were generated. Each of the institutions, facilities, programs, and groups were contacted directly via e-mail, telephone calls, and/or in-person inquiries so that the general

purpose of the study could be presented and an informational meeting could be requested. Many individuals who were contacted preliminarily (i.e., particularly individuals in statewide administrative positions who were well-connected with the Deaf/HOH community) provided direction or contact information for other individuals and groups who may have been willing to participate. Once initial contact was made with an organization, in-person and/or telephone meetings with administrators, therapists, clinic directors, coordinators, or other people designated as 'in charge' of a particular site or group (i.e., capable of authorizing or approving the research to be conducted) were held. These meetings took place to inform authorized individuals about the detailed purpose of the study and the proposed method of data collection through their particular site. This process occurred on an ongoing basis as new sites agreed to participate. As sites agreed to assist in the dissemination of this research project, authorized personnel were asked to sign the Facility Official Approval Form (Appendix R) so that this form could be submitted to the UCF IRB for their records.

Data collection occurred at a multitude of facilities/locations, all of which are listed in Table 1 by the following categorizations: 1) Direct data collection coordinating partners, 2) Indirect and/or non-participating data collection advocates, and 3) Contacted and/or formally applied but declined or inappropriate. Amongst the wide array of potential and actual recruitment sites, two main sources (i.e., the University of Central Florida's Communicative Disorders Clinic [CDC] and the Arizona Schools for the Deaf and Blind [ASSDB]) yielded the highest number of participants. Please note that, as these two locations were most fruitful in terms of data collection, detailed information regarding procedures utilized at these sites will be discussed, as compared to less detailed information for collections from other sites.

Clinical Hearing/Speech Clinics Associated With a University.

For the first recruitment effort, an affiliation was formed between Project Child (this project) in the Understanding Children and Families Laboratory in the UCF Department of Psychology and the UCF Communicative Disorders Clinic (CDC). Once the project protocol was approved on several levels, the staff audiologist aided in facilitating participant contact. The research team was notified of referrals for clients seen currently for audiological evaluations at the CDC. The audiologist asked these parents if they would be willing to consider information regarding this study and speak with a researcher. If the parent agreed, a research team member entered the room and attempted recruitment. In addition, potential participants being seen currently for therapy at the CDC for communication difficulties also were contacted on site. After the research team completed additional training in HIPAA compliance and with approval from the UCF IRB, parents of these current clients were approached directly while seated in a waiting/observation room during the time that their children were being seen for a scheduled appointment. Care was taken not to approach parents a second time if they initially declined participation.

Parents who agreed to participate returned their completed packets at the end of their children's session time. Others were provided with a self-addressed, stamped envelope in which to return the survey packet upon completion. Participants were shown the secure, sealed collection box that was placed behind the front desk in the main waiting room at the CDC and asked to return the completed packet upon arriving for their children's next visit, if they so chose. When parents began participation in the presence of a researcher but did not return the packet during that same session, parents were either approached once more during their next visit

or they were contacted at their next clinic visit. No future contact was made after this second point of contact. A similar data collection protocol was implemented at the Speech and Hearing Clinic at Western Carolina University in Clyde, North Carolina, as the clinic director disseminated study materials to several of their current clients in a similar manner. Current clients from the Vanderbilt Bill Wilkerson Center, National Center for Childhood Deafness and Family Communication, in Nashville, Tennessee, also were told about the study, provided with the IRB-approved flyer, and encouraged to contact the research team.

For parents of child clients who were seen previously for an audiological evaluation and/or therapy at the CDC (i.e., their case files were considered "closed"), a list of names and contact information was provided to the research team following approval for this procedure in this particular setting only from the UCF IRB. These parents were contacted via telephone, explained the purpose and procedure of the study using prewritten scripts, and asked permission to mail a survey packet to their home address. If parents agreed to participate, they were mailed one packet per primary caregiver living in the household with a self-addressed, stamped envelope for return. If they declined participation, they were not contacted again.

Independent Clinical/Private Practices in the Community.

Audiologists and Speech Pathologists from private clinical practices across the state of Florida also were contacted in an effort to gain their participation, and four agreed to participate by distributing survey packets and self-addressed, stamped envelopes to groups of their current clients. As mentioned previously, in these cases, if a potential participant had any questions or concerns, they were directed to contact the research team, as the therapists were limited to only providing them with materials. Additionally, patients from the Deaf and Hard of Hearing

Program at Children's Hospital in Boston, Massachusetts, were informed about the study by a therapist, provided with the IRB-approved flyer, and encouraged to contact the research team if they were interested in participating.

Schools with Programs for the Deaf/HOH and/or Communication Disorders.

The other site that yielded the highest number of actual participants was the Arizona State Schools for the Deaf and Blind (ASSDB). With approval from the UCF IRB, the ASSDB Superintendent provided written authorization for this research study to be conducted with its students in the manner described below, and the ASSDB Agency Accountability Specialist (AAS) worked alongside the principal investigator to disseminate information to families. A set of 700 envelopes containing the UCF IRB-approved study flyer (Appendix S) and a self-addressed, stamped postcard (Appendix T) were sent in one package to the AAS. [Note that Appendices U-W display samples of letters included in mailings.] Without providing any contact information to the research team, the AAS affixed mailing labels to these 700 envelopes, one for each family identified as having at least one child or adolescent who was Deaf or HOH and who attended one of their schools. Once a primary caregiver received the envelope, it was the caregiver's decision whether or not to return the postcard, which indicated their desire (or refusal) to participate, to the primary investigator. It should be noted that the participants were asked only to include their mailing address on the postcard (i.e., without their name) to insure a high level of confidentiality. Of the 700 mailed postcards, 56 postcards were received and corresponding survey packets were sent to those families. The postcards were received over a period of three months, and the survey packets were mailed immediately (i.e., within one to two days). Completed packets were returned typically within another one to two months.

Additionally, administrators and teachers from two central Florida schools for children who are Deaf and HOH, Lake Sybelia Elementary School (LSES) and Kaylee Elementary School (KES), were contacted. After UCF IRB and approval from these schools was received, they facilitated administration of survey packets to parents of some of their students. In one case, the research team attended a school-related group activity (i.e., a picnic/egg hunt for families of children who are Deaf and HOH and who attend LSES) to recruit potential participants. Similarly, the Miami-Dade County Research Review Committee approved the research protocol for their South Florida schools. Of the 18 principals who were contacted because they served schools providing specialized services for children who have hearing and/or communication disorders, approval was obtained from the principal of only one school, Gulfstream Elementary School (GES). Two teachers from GES who agreed to have their classrooms participate were provided with parent questionnaire packets. These survey packets, along with self-addressed, stamped envelopes for return, were handed out subsequently to each of their students to take home at the end of a class period.

Several other schools serving children and adolescents who experience Deafness, hearing loss, and/or communication disorders also were contacted. For example, Clarke Schools for the Deaf in Florida and Massachusetts were asked to participate. Although two schools in Massachusetts approved the protocol and disseminated the survey packets with self-addressed, stamped envelopes, the Clarke School in Jacksonville, Florida, declined to participate, citing that the study packet was too lengthy. The Florida School for the Deaf and Blind also declined to participate, expressing concerns regarding external research evaluating their students. Additionally, the Learning Center for the Deaf in Massachusetts, which includes three schools

for children who experience Deafness or hearing loss, also declined to participate after a full research review protocol overview was submitted, reviewed, and rejected by their executive committee. In contrast, the Blossom Montessori School for the Deaf in Clearwater, Florida, agreed to participate and disseminated a group of surveys to each of its students' primary caregivers. The superintendent for the Arkansas School for the Deaf also reviewed and approved the study protocol and disseminated a group of survey materials to parents of students attending this school. Similarly, the director of the Program for Exceptional Children for Atlanta Public Schools authorized a small group of survey packets to be distributed to parents via speech-language pathologists in her district. These were mailed directly to the program director, and the research team did not have access to any family information.

Parent Support Groups.

Next, the "Hearing Me" support group for parents of children and adolescents who are hard of hearing holds a monthly meeting at the Howard Phillips Center for Children and Families in Orlando, Florida. This meeting was attended on multiple occasions for data collection. Approval was gained from the UCF IRB and the leader of this group, so that the research team could present the study to the families at the end of each meeting. Additionally, a group of 30 mail-out packages (including full survey packets) were prepared and given to the group leader, who then affixed address labels for other parents of children being seen through the HPCCF and mailed them. The research team did not have direct access to the contact information for these families at any point. Similarly, the parent support group at Florida State University also was attended to recruit potential participants, and the group leader was provided with a set of mail-

out survey packets to be distributed to other caregivers of children who have hearing or communication disorders that were not present at this meeting.

Other Sites.

With the approval of the UCF IRB, the research team also visited other gatherings and events geared toward children and adolescents who have hearing and communication difficulties, including a week-long summer camp (called Sertoma Camp Endeavour) and Orlando Silent Weekend. In addition, church-affiliated Deaf ministries and youth groups also were contacted through the Central Florida Baptist Church, and multiple meetings were attended to recruit participants. The principal investigator and the research team attended the annual Orlando Deaf Nation Exposition that was held in Kissimmee, Florida, as well. Here, parents were approached as they entered or exited the exhibition hall, and a majority of individuals who were provided with questionnaire packets were themselves Deaf or HOH. In many cases, an RA on the research team used ASL to communicate with these parents. Only parents of children and adolescents who had hearing impairments were asked to participate; however, a majority reported having hearing children, thus being excluded from participation. A similar protocol was implemented when the research team attended the annual convention for the Florida Association for the Deaf that was held in Orlando, Florida. Pease see Table 1 for a complete listing of other groups that were contacted but declined participation.

Web-Based Participant Recruitment.

After being contacted and informed about the study, two websites agreed to post information regarding the project, including contact information for the research team, following approval from the UCF IRB. One of these was the Hands & Voices National website, and the

other was the Florida Association for the Deaf website. Several other web-based organizations also were contacted but declined to participate and/or post information for the study.

Participant-Research Team Contact and Confidentiality

As mentioned previously, parents who completed their packets with and without an investigator present received contact information for the primary investigator including her name, phone number, and a specialized email address (i.e., UCFProjectCHILD@gmail.com; noted in several places of the survey packet) to use should they desire direct contact with the research team. Eight participants contacted the primary investigator by telephone, and three participants utilized e-mail to ask questions. No participant reported any emotional distress related to completing the surveys upon contacting the primary investigator, and most reasons for contact pertained to requests to receive a survey packet or inquiries about questionnaire instructions, maintenance of confidentiality, and 'due dates' for return. Upon receipt of completed questionnaires, consent forms were detached from the packets, meaning that no identifying information remained on the packets of questionnaires. Numbers identifying the recruitment source were stamped on each packet for the purpose of data analytic sorting, and each survey packet received an individualized reference number for data entry purposes (i.e., participants were not tracked in any way using this number). Consent forms and packets of questionnaires are stored separately and are in a locked file cabinet in the assigned laboratory space of the faculty investigator so that each participant's responses will remain completely anonymous.

Table 1. *Data Collection Information*

Direct Data Collection Coordinating Partners (by survey or flyer)		
Location	**Site/Setting**	**Contact Person(s)**
Orlando, FL	UCF Communication Disorders Clinic	Dr. Melissa Riess, Dr. Charlotte Harvey & Dr. Janet Whiteside
Tallahassee, FL	Florida State University Speech and Hearing Clinic	Dr. Janet Kahn
Tallahassee, FL	Communication Camp	Dr. Carla Wood Jackson
Miami, FL	Miami Dade County Public School District	Dr. Joseph J. Gomez & Delsey Yancoskie
Miami, FL	Gulfstream Elementary School	Susan Lyle & Laura Chinloy
Orlando, FL	University of Florida, Silent Weekend	Dr. Michael Tuccelli
Dundee, FL	Sertoma Camp Endeavor	Jeff Nunemaker
Orlando, FL	Howard Phillips Center for Children and Families	Tanya Williams
Orlando, FL	First Baptist Church of Central Florida	Brother Earl Brigham & Adrian Dreifuerst
Clearwater, FL	Blossom Montessori School for the Deaf	Carol Downing & Julie Rutenberg
Broward Cty., FL	Alliance for Families with Deaf Children	Dr. Jennifer Jones
Jacksonville, FL	Florida Association of the Deaf, Inc., Annual Convention	Andy J. Lange
Orlando, FL	Kaley Elementary School	Beth Otto
Maitland, FL	Lake Sybelia Elementary School	Christina Arenth
Tallahassee, FL	WT Moore Elementary School	Lindsey Gardner
Kissimmee, FL	Orlando Deaf Nation Exposition	
Tampa, FL	A-V First Therapy Services, LLC.	Marcus W. Rose
St. Augustine, FL	Parent Advocates	Robin Campbell & Lisa McFeely
Boston, MA	Deaf and Hard of Hearing Program at the Children's Hospital	Dr. Jennifer Johnston
Canton & Northampton, MA	Clarke Schools for the Deaf (East and West)	Cara Jordan
Tucson, AZ	Arizona State Schools for the Deaf and the Blind	Dr. Lisa M. Jackson
Clyde, NC	Western Carolina University	Dr. Kia Asberg & Dr. Kimberly Crawford
Nashville, TN	Vanderbilt Bill Wilkerson Center, National Center for Childhood Deafness and Family Communication	Ginger Geldreich Jones
Little Rock, AK	Arkansas School for the Deaf	Dr. Marcella A. Dalla Rosa
Atlanta, GA	Program for Exceptional Children, Atlanta Public Schools	Dr. Debra Dwight
National	Hands & Voices National website	Leeanne Seaver

Table 1. Continued

Indirect and/or Non-Participating Data Collection Advocates		
Location	**Site/Setting**	**Contact Person(s)**
West Coast, FL	Deaf and Hard of Hearing Services of the Treasure Coast, Inc.	Rick Kottler
Tallahassee, FL	Coordinating Council for Deaf and Hard of Hearing Florida Department of Health, Children's Medical Services Early Steps State Office; Bureau of Early Interventions	Dr. Karen L. Anderson
Pinellas Park, FL	Family Center on Deafness	Charon Aurand
St. Augustine, FL	Florida School for the Deaf and the Blind	Dr. Mark Keith
Brandon, FL	First Baptist Church	Dr. Tommy Green
Washington, DC	Gallaudet University	Dr. Jennifer Reesman
Washington, DC	Children's National Medical Center	Dr. Penny Glass
Miami, FL	Advisory Committee for Students who are Deaf and Hard of Hearing	Barbara Chotiner
Pensacola, FL	Escambia School District Audiology	Dr. Linda Allen

Contacted/Formally Applied but Declined or Were Found to Be Not Appropriate (not an exhaustive list)		
Location	**Site/Setting**	**Contact Person(s)**
Miami, FL	University of Miami Debbie School	Lynn W. Miskiel
Bloomfield Hills, MI	Bloomfield Hills Schools	Dr. Debra Belavek
Framingham, Randolph, & Walden, MA	Learning Centers for the Deaf	Michael Bello & Judy Vreeland
Washington, DC	Gallaudet University	Dr. Martha Sheridan
Oviedo, FL	Meetup.com Signing Play Group	
Gainesville, FL	Florida Outreach Project for Children & Young Adults with Deaf-Blindness	Pam Kissoondyal & Shelly Voelker
Jacksonville, FL	Clarke School	Susan Allen
National	Where do we go from Hear?	
Tampa, FL	Bolesta Center	Judy Horvath
Orlando, FL	Orlando Club for the Deaf	
St. Augustine, FL	Deaf Women of Florida	Staci Wagner

CHAPTER FOUR: RESULTS

Descriptive Analyses

All statistical analyses were conducted using the Statistical Package for the Social Sciences, Version 14.0 (SPSS, 2005). Certain preliminary calculations were completed to generate specific variables for the purpose of data analyses. First, from the information provided on the demographics form, socioeconomic status (SES) was calculated utilizing educational and occupational information, as well as reported household income, for one (or both, when available) parents in a home. In particular, two-parent categorical information was averaged for educational and occupational levels. Then, this information was summed with the household income data, yielding a continuous SES variable, with higher scores indicating higher relative socioeconomic status. When information was provided for only one parent, this information was utilized alone to calculate SES. Due to missing data, SES could not be calculated for four families.

Next, several steps were taken to calculate the combined Corporal Punishment variable that was used in many analyses. First, the Corporal Punishment subscale from the CTSPC and the Corporal Punishment subscale from the APQ each were calculated independently. As expected, these two subscales yielded relatively low reliability scores (i.e., .55 and .42, respectively), a finding that is consistent with previous studies examining their psychometric properties. Low internal consistency on these subscales was likely due to restricted range related to parents' low rates of endorsements of minor corporal punishment. These low rates may have reflected that parents actually implemented few instances of minor physical discipline in these households; however, these low rates also may be related to parents' hesitance to report their use

of corporal punishment for fear of possible repercussions (i.e., reporting to and/or intervention by professionals), despite attempts in the Consent Form to explain the anonymous nature of the study (i.e., no identifying information would be associated with participants' endorsements). Nonetheless, parents report a range in their use of minor physical discipline practices (e.g., spanking, hitting, slapping, pinching) in this study. Frequency information for endorsements of each item/question pertaining to minor physical discipline is listed in Table 2.

To create the Corporal Punishment variable of interest, the raw Corporal Punishment subscale scores from the two measures (APQ and CTSPC) each were standardized into *z*-scores. Then, these scores were averaged for each parent, resulting in a combined Corporal Punishment score. This method was used with the intent of incorporating a higher number of independent items relating to this theoretical construct into one variable. It should be noted that the range in reported corporal punishment as indicated by this combined, standardized variable showed a significantly and positively skewed distribution (*Range* = -1.08 to 2.98; *M* = -.00; *SD* = .90; *Median* = -.18), indicating that parents are more likely to report low rates of minor physical discipline. Also, there is a small subset of parents who endorse comparably high levels of corporal punishment use (see Table 2).

Table 2. *Corporal Punishment Frequency Item Analysis*

Measure/Item								
Parent-Child Conflict Tactics Scale	This has never happened	Not in a year but happened before	Once in a year	Twice in a year	3-5 Times in a year	6-10 Times in a year	11-20 Times in a year	More than 20 Times in a year
3. Shook him/her	72 (94.7%)	1 (1.3%)	3 (3.9%)	0	0	0	0	0
4. Hit him/her on the bottom with something like a belt, hairbrush, or a stick or some other hard object	66 (86.8%)	6 (7.9%)	1 (1.3%)	1 (1.3%)	0	2 (2.6%)	0	0
7 Spanked him/her on the bottom with your bare hand	22 (28.9%)	14 (18.4%)	7 (9.2%)	7 (9.2%)	14 (18.4%)	5 (6.6%)	5 (6.6%)	2 (2.6%)
11. Slapped him/her on the hand, arm, or leg	34 (44.7%)	7 (9.2%)	7 (9.2%)	10 (13.2%)	9 (11.8%)	4 (5.3%)	3 (3.9%)	2 (2.6%)
13. Pinched him/her	67 (88.2%)	3 (3.9%)	1 (1.3%)	2 (2.6%)	1 (1.3%)	1 (1.3%)	0	1 (1.3%)
Alabama Parenting Questionnaire	Never	Rarely	Sometimes	Often	Always			
33. You spank your child with your hand when he/she has done something wrong.	28 (36.8%)	28 (36.8%)	20 (26.3%)	0	0			
35. You slap your child when he/she has done something wrong.	54 (71.1%)	17 (22.4%)	5 (6.6%)	0	0			
38. You hit your child with a belt, switch, or other object when he/she has done something wrong.	70 (92.1%)	4 (5.3%)	2 (2.6%)	0	0			

After calculating all necessary scale/subscale scores, descriptive statistics for the entire sample on all variables utilized in this study were examined, and these results are displayed in Table 3. The clinical significance of ratings on measures of participants' ratings of the emotional and behavioral functioning of their children and adolescents and their depression and anxiety were examined first.

To examine the relative clinical significance of participants' ratings of the emotional and behavioral problems of their children and adolescents, *T* scores for broad-band subscales on the CBCL were calculated separately using age- and gender-normed comparison groups. *T* scores of 65 to 69 (i.e., 93rd to 97th percentile ranks) are considered to fall within the Borderline range, whereas *T* scores of 70 or greater (i.e., > 97th percentile ranks) are considered to fall within the Clinical range. Scores of 64 or lower are considered to be Nonclinical. Mean scores for the Internalizing Problems, Externalizing Problems, and Total Problems of the children and adolescents of the participants in this study fall within the Nonclinical range of functioning (M = 50.85, SD = 12.06; M = 51.58, SD = 10.44; and M = 53.19, SD = 11.82, respectively) on average. Closer examination of the Internalizing, Externalizing, and Total Problems frequencies show that 10.4% (n = 8), 7.8% (n = 6), and 6.5% (n = 5), respectively, fall within the Borderline range. With regard to more severe scores, 3.9% (n = 3) of Internalizing Problems, 5.2% (n = 4) of Externalizing Problems, and 5.2% (n = 4) of Total Problems scores fall within the Clinical range of functioning. The remaining scores for Internalizing (81.8%; n = 62), Externalizing (83.1%; n = 63), and Total (81.5%; n = 62) Problems fall within the Nonclinical range.

Next, relative clinical significance of scores measuring depression, anxiety, and parenting stress are examined. The mean score for participants' ratings of depressive symptomatology on the BDI-II falls within the Minimal range of severity (M = 7.64, SD = 7.55), with the majority

(76.3%; n = 58) of individual scores also falling within this range. In contrast, 11.8% (n = 9) of participants report a Mild level of depression, 9.2% (n = 7) endorse a Moderate level of depression, and 1.3% (n = 1) report a Severe level of depression (based on clinical cut-offs provided by the BDI-II). Next, the clinical significance of participants' anxiety scores, as measured by the STAI-Y, was examined. This measure does not provide clear clinical cutoff scores by which to categorize levels of anxiety symptoms (Spielberger, 1983). However, in previous uses of this measure, Stauder and Kovács (2003) report evidence of this measure's discriminant validity when it is used to differentiate patients who have psychiatric diagnoses from those who do not have psychiatric diagnoses. In the sample examined by Stauder and Kovács (2003), all patients who have a score of 52 or greater on the STAI-Trait Anxiety scale (i.e., 50% of their sample) also have at least one psychiatric diagnosis, as established by a structured diagnostic interview. Therefore, Stauder and Kovács (2003) conclude that a cutoff score of 52, according to their results, shows high specificity for psychiatric difficulties as well as a high level of trait anxiety. In this study, the mean score for trait anxiety is well below this suggested cutoff score (M = 36.82, SD = 11.55), indicating a comparably low average level of trait anxiety. In contrast, however, 14.3% (n = 7) of the participants in this sample score at or above a score of 52 on this measure of trait anxiety, suggesting that this portion of the sample experiences a comparably high level of this stable aspect of anxiety that may be associated with other types of psychological distress.

With regard to parenting stress, no participants' ratings reached the established clinical cutoff score (i.e., 162 or greater on the PSI-SF Total Score; Abidin, 1995). In contrast, 5.2% (4) of participants' ratings fall within the highest 5% (i.e., PSI-SF $\geq$ 114.84) of stress ratings in this sample (M = 70.44, SD = 20.95). Given that the highest scores do not approximate the clinically

significant range, these reports are considered high relative only to the sample obtained in this study.

Other study measures also are examined for relative clinical significance (i.e., if able to ascertained) and/or severity of ratings relative to the sample. Clinically significant ranges have been established for some scales; however, cutoff scores have not been established previously for all measures. Therefore, if no precedent of clinical significance has been determined by previous research, relative severity in proportion to the range of scores provided in this sample are described. Also, for some measures, higher ratings theoretically indicate increased difficulties (e.g., inconsistent discipline and psychological aggression), whereas, for other measures, lower scores theoretically represent poorer functioning in those areas (e.g., parent-child communication and involvement).

With regard to assessment of the parent-child relationship, 3.9% (3) of participants' scores of parent-child involvement (M = 26.37, SD = 3.65) are within the lowest, or theoretically least adaptive, 5% of scores (i.e., PCRI Involvement $\leq$ 20.85). Also, for parent-child communication (M = 26.46, SD = 3.09), 5.2% (4) of parents' scores fall within the lowest 5% of scores (i.e., PCRI Communication $\leq$ 22.00). Next, although the utility of the CTSPC in identifying clinically relevant parent discipline tactics has been suggested previously, no clinical minimum scores are provided for its subscales (Straus et al., 1998). In this sample, the highest 5% of scores (i.e., CTSPC Psychological Aggression Total Score $\geq$ 17.45) for psychological aggression (M = 7.63, SD = 5.02) are reported by three (3.9%) participants. Also, 3.9% (3) of participants' scores fall within the lowest 5% of scores (i.e., CTSPC Nonviolent Discipline $\leq$ 8.70) for nonviolent discipline (M = 19.07, SD = 5.91). Other measurements of parents' discipline, as assessed using the APQ, also may be examined using relative levels compared to

the current sample, as no clinical significance scores have been identified. Thus, ratings of inconsistent discipline (M = 11.82, SD = 3.23) fall within the highest 5% of the sample (i.e., APQ Inconsistent Discipline Total Score $\geq$ 19.00) for 5.2% (4) of participants. Given these scores, this sample appears to be relatively well-adjusted.

Table 3. *Means and Standard Deviations for Whole Group*

Variable	*M*	*SD*
1. CBCL Internalizing	50.85	12.06
2. CBCL Externalizing	51.58	10.44
3. CBCL Total Problems	53.19	11.82
4. BDI-II Depression	7.64	7.55
5. STAI-State Anxiety	35.63	13.14
6. STAI-Trait Anxiety	36.82	11.55
7. PSI-SF Parenting Stress	70.44	20.95
8. PCRI Involvement	26.37	3.65
9. PCRI Communication	26.46	3.09
10. APQ Corporal Punishment	4.36	1.26
11. APQ Inconsistent Discipline	11.82	3.23
12. CTSPC Corporal Punishment	4.84	4.44
13. CTSPC Psychological Aggression	7.63	5.02
14. CTSPC Nonviolent Discipline	19.07	5.91
15. Corporal Punishment†	-.00	.90

Note. †Standardized Combined Variable

Inferential Statistics: Demographic Differences

Next, a series of Chi-Square analyses (i.e., tests of independence) were examined to assess between-group differences based on the hearing and communication grouping that describes the characteristics of the children and adolescents rated in this study (i.e., Deaf/HOH, Communication Disorder, or Both). The following variables were examined: location of data collection, household income, parent sex, race/ethnicity, education level, work status, marital status, previous history of treatment seeking, biological/non-biological relationship to the child or adolescent being rated, youth sex and race/ethnicity, and any additional disability exhibited by the children and adolescents. It should be noted that results for these analyses must be examined with caution, as many cells contained few, if any, data points.

Given these limitations, results reveal two significant differences for the hearing/communication grouping (see Table 4), that for location of data collection, $\chi^2(22) = 72.26$, $p < .001$, and an additional disability being experienced by the children and adolescents being rated, $\chi^2(2) = 8.38$, $p < .02$. These findings suggest that there is an overrepresentation of parents raising communication disordered youth in the sample recruited from clinics. This finding is not surprising as the children and adolescents who would need the most assistance would be seen currently or in the past at those types of clinics. Similarly, although an overrepresentation of parents raising children who are Deaf and HOH come from recruitment efforts targeting schools serving this population specifically, this finding is expected given the recruitment efforts for this study. Next, closer examination of the latter finding shows that the hearing impaired group and the combined group each are comprised of a higher absolute number of children with an additional disability (n = 10 and n = 9, respectively) than the group of children with communication disorders only (n = 5). In interpreting this finding, however, it

must be noted that the combined group has the highest percentage of children with an additional disability (64.3%) relative to the hearing impairment only and communication disorder only groups (i.e., 26.3% and 21.7%, respectively). Therefore, although there is an overall significant difference across the hearing and communication groupings in the frequency of an additional disability, it appears that the frequency of those in the combined group who have an additional disability may be driving this association. This finding is not unexpected given that the children in this combined group by definition are already identified as experiencing at least two areas of significant difficulty (i.e., hearing impairment/loss and a diagnosed communication disorder). As these differences can be explained by the expected characteristics of this sample, they are not considered in further analyses.

Table 4. *Youth Hearing/Communication Grouping Differences on Demographic Variables*

Variable (Number of Levels)	χ^2	*df*	*p*
Location of Data Collection†	72.26***	22	.001
Household Income† (8)	15.72	14	.33
Parent Sex (2)	2.50	2	.29
Parent Race/Ethnicity† (5)	12.33	8	.14
Parent Education† (6)	11.93	10	.29
Parent Work Status† (4)	7.34	6	.29
Parent Marital Status (4)	3.25	6	.78
Parent Treatment History (2)	1.08	2	.58
Biological/Non-Biological Rel. (2)	1.17	2	.56
Youth Sex (2)	1.17	2	.56
Youth Race/Ethnicity (5)	13.87	8	.09
Youth Additional Disability (2)	8.38*	2	.02

Note. * $p < .05$, ** $p < .01$, *** $p < .001$; †This calculation contained small or zero cell sizes and must be viewed with caution.

Inferential Statistics: Group Mean Differences

To investigate for other possible between-group differences, three one-way analyses of variance (ANOVA) were conducted using internalizing, externalizing, and total problems as dependent variables, respectively. For each of these analyses, the following variables were included as independent variables: the hearing and communication grouping (i.e., hearing impaired, communication disordered, or both), recruitment location, parent sex, parent race/ethnicity, parent having sought treatment, youth sex, and youth additional disability (e.g., Ammerman et al., 1994). Cases were excluded by pairwise deletion. It should be noted that significant differences in outcome measures by parent-child communication style match could not be assessed, as incomplete information was gained for a large portion of the sample. See Tables 5 through 8 for descriptive information by group categorization. Results indicate that there are no significant main or interaction effects of any variables for internalizing, externalizing, or total problems.

Next, a factorial multivariate analyses of variance (MANOVA) was used to asses for between-group differences on the variables scores used in theoretical Models 1, 2, and 3 (see *Regression Analyses*). For this analysis, the following variables were included as independent variables: the hearing and communication grouping (i.e., hearing impaired, communication disordered, or both), recruitment location, parent race/ethnicity, parent having sought treatment, youth sex, and youth additional disability. Cases were excluded by pairwise deletion in these analyses. Again, see Tables 5 through 8 for descriptive information by group categorization. Using Wilk's Lambda criterion, results indicate that there are no significant main effects for individual variables (hearing and communication grouping $F(18, 30) = .65$, $p < .83$; recruitment location, $F(72, 98) = 1.18$, $p < .26$; parent race/ethnicity, $F(27, 44) = 1.19$, $p < .30$; parent having

sought treatment, $F(9, 15) = .61$, $p < .77$; youth sex, $F(9, 15) = .95$, $p < .51$; and youth additional disability, $F(9, 15) = 1.16$, $p < .38$) and no significant interaction effects for combined independent variables for these dependent variables. As a result, these grouping variables are not considered further. These findings are not surprising, given that previous literature has investigated the characteristics of children with hearing impairment/loss and those with communication disorders together (Ammerman et al., 1994; Sullivan & Knutson, 2000).

Table 5. *Means and Standard Deviations by the Hearing and Communication*

	Deaf/Hard-of-Hearing Only		Communication Disorder Only		Both Deaf/HOH and Communication Disorder	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*
1. CBCL Internalizing	47.84	11.41	56.09	12.09	50.77	11.69
2. CBCL Externalizing	50.24	10.38	53.64	10.01	52.00	11.50
3. CBCL Total Problems	50.26	11.33	58.68	11.39	52.46	11.50
4. BDI-II Depression	7.71	8.10	9.09	8.14	5.29	4.60
5. STAI-State Anxiety	36.45	12.93	39.14	14.89	28.79	7.92
6. STAI-Trait Anxiety	37.45	12.00	39.27	12.41	31.00	7.00
7. PSI-SF Parenting Stress	69.91	20.66	76.40	23.71	61.54	14.57
8. PCRI Involvement	26.55	4.09	27.13	2.97	24.64	3.18
9. PCRI Communication	26.32	2.39	26.83	2.81	26.36	5.00
10. APQ Corporal Punishment	4.45	1.18	4.35	1.53	4.07	1.07
11. APQ Inconsistent Discipline	12.00	3.35	11.83	3.39	11.21	2.86
12. CTSPC Corporal Punishment	5.31	4.33	4.74	5.28	3.36	2.90
13. CTSPC Psychological Aggression	8.74	4.90	7.70	5.60	4.64	3.27
14. CTSPC Nonviolent Discipline	17.92	6.62	20.74	4.51	19.00	5.53
15. Corporal Punishment†	.08	.86	-.02	1.08	-.28	.66

Note. †Standardized Combined Variable

Table 6. *Means and Standard Deviations by Recruitment Location*

	1*		2*		3*		4*		5*	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1. CBCL Internalizing	48.80	8.64	55.52	11.68	48.57	12.61	42.80	7.80	61.20	6.18
2. CBCL Externalizing	47.40	6.62	53.17	9.92	51.40	11.56	48.30	8.74	56.00	12.08
3. CBCL Total Problems	50.40	2.07	58.00	11.16	50.70	13.22	47.90	9.49	59.40	6.88
4. BDI-II Depression	2.60	2.70	8.13	7.95	6.39	7.80	9.80	6.44	13.80	5.45
5. STAI-State Anxiety	29.80	7.19	36.88	15.16	33.29	12.36	38.30	13.17	44.60	8.44
6. STAI-Trait Anxiety	30.80	4.97	37.83	12.47	34.60	10.55	38.00	12.46	49.00	9.08
7. PSI-SF Parenting Stress	57.04	6.46	74.84	22.80	66.44	19.98	68.69	20.60	90.04	12.90
8. PCRI Involvement	23.40	6.73	27.00	2.94	26.03	3.20	27.10	4.63	26.80	3.49
9. PCRI Communication	26.60	3.85	27.00	2.77	26.16	3.68	26.10	2.42	26.20	.84
10. APQ Corporal Punishment	3.80	.84	4.32	1.49	4.42	1.20	4.50	1.27	4.40	.90
11. APQ Inconsistent Discipline	9.80	3.11	11.60	3.39	11.94	3.09	12.10	3.93	13.60	1.14
12. CTSPC Corporal Punishment	3.80	4.32	4.76	5.26	5.35	4.45	5.40	3.06	2.00	1.58
13. CTSPC Psychological Aggression	7.60	4.98	7.20	5.65	8.10	5.36	7.60	3.60	7.00	3.00
14. CTSPC Nonviolent Discipline	18.00	10.95	21.00	4.59	18.23	6.29	18.60	5.32	16.60	3.05
15. Corporal Punishment†	-.34	.69	-.02	1.07	.08	.89	.12	.74	-.30	.52

Note. †Standardized Combined Variable; *1=Independent clinical/private practice (N=5); 2=Clinical hearing/speech practice associated with a university (N=25); 3=Schools for the Deaf/HOH (N=31); 4=Parent support groups (N=10); 5=Summer camp for Deaf/HOH youth (N=5)

Table 7. *Means and Standard Deviations by Parent Race/Ethnicity*

	1*		2*		3**		4*		5*	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1. CBCL Internalizing**	50.76	12.17	57.00	6.56	-	-	47.92	12.13	-	-
2. CBCL Externalizing**	51.62	10.04	59.33	10.97	-	-	47.92	11.32	-	-
3. CBCL Total Problems**	53.29	11.96	58.33	10.21	-	-	49.69	11.13	-	-
4. BDI-II Depression	7.77	7.35	9.33	10.41	-	-	7.77	8.86	4.50	.71
5. STAI-State Anxiety	36.07	13.10	44.67	22.37	-	-	33.46	12.16	30.50	.71
6. STAI-Trait Anxiety	37.73	11.08	40.67	23.07	-	-	34.38	11.49	26.00	11.31
7. PSI-SF Parenting Stress	71.36	21.88	77.67	19.60	-	-	64.34	19.50	75.70	3.16
8. PCRI Involvement	26.23	3.49	27.00	3.61	-	-	26.85	3.76	30.50	3.54
9. PCRI Communication	26.56	2.51	29.33	2.89	-	-	26.54	2.54	26.50	2.12
10. APQ Corporal Punishment	4.21	1.25	6.33	1.15	-	-	4.38	.77	6.00	1.41
11. APQ Inconsistent Discipline	12.12	3.30	11.00	1.73	-	-	10.62	3.43	11.50	.71
12. CTSPC Corporal Punishment	4.58	4.14	10.33	10.21	-	-	5.38	3.75	3.00	4.24
13. CTSPC Psychological Aggression	7.44	4.46	11.33	11.68	-	-	8.23	5.99	5.00	2.83
14. CTSPC Nonviolent Discipline	20.51	5.25	16.00	7.81	-	-	13.23	4.75	20.50	9.19
15. Corporal Punishment†	-.09	.89	1.40	1.38	-	-	.07	.60	.44	.08

Note. †Standardized Combined Variable; *1=Caucasian (Non-Hispanic; N=57); 2=African American (low sample size of N=3); 3=Asian American (low sample size of N=1); 4=Hispanic (N=13); 5=Other (low sample size of N-2); ** No mean value available (for the subscale indicated by -) due to sample of N=1.

Table 8. *Means and Standard Deviations by Child Sex, Child Additional Disability, and Parent Treatment Seeking*

	Child Female		Child Male		Yes Other Child Disability		No Other Child Disability		Parent Treated		Parent Not Treated	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
1. CBCL Internalizing	48.56	11.32	52.63	12.45	52.33	12.63	50.12	11.84	56.25	10.51	48.78	11.91
2. CBCL Externalizing	49.94	11.06	52.85	9.87	52.38	9.26	51.18	11.04	54.80	10.23	49.90	10.21
3. CBCL Total Problems	51.19	10.93	54.76	12.37	54.67	12.57	52.47	11.49	57.80	11.25	51.16	11.65
4. BDI-II Depression	6.82	7.46	8.29	7.65	6.84	6.54	8.04	8.04	10.00	8.39	6.60	7.14
5. STAI-State Anxiety	33.15	11.19	37.57	14.31	33.48	12.48	36.70	13.45	38.95	15.62	34.35	12.18
6. STAI-Trait Anxiety	35.30	10.83	38.05	12.09	34.25	10.59	38.06	11.89	40.10	14.35	35.31	10.36
7. PSI-SF Parenting Stress	67.95	21.58	72.45	20.46	68.36	21.32	71.45	20.91	79.84	24.01	66.85	19.14
8. PCRI Involvement	26.24	2.57	26.48	4.37	26.80	4.12	26.16	3.43	27.05	3.90	26.49	3.00
9. PCRI Communication	26.85	2.34	26.14	3.59	25.76	4.21	26.80	2.34	25.25	4.19	27.02	2.46
10. APQ Corporal Punishment	4.15	1.02	4.52	1.42	4.32	1.41	4.37	1.20	4.45	1.43	4.28	1.23
11. APQ Inconsistent Discipline	11.74	3.35	11.88	3.17	11.00	3.18	12.22	3.21	12.55	3.39	11.47	3.23
12. CTSPC Corporal Punishment	4.71	3.69	4.95	5.02	4.52	4.30	5.00	4.55	4.20	4.63	5.08	4.45
13. CTSPC Psychological Aggression	7.97	4.90	7.36	5.17	5.48	3.97	8.69	5.18	7.80	4.75	7.45	5.24
14. CTSPC Nonviolent Discipline	18.82	6.50	19.26	5.46	19.00	5.58	19.10	6.12	19.55	7.39	18.83	5.36
15. Corporal Punishment†	-.10	.72	.08	1.02	-.05	.93	.02	.89	-.04	.93	-.00	.92

Note. †Standardized Combined Variable

Inferential Statistics: Correlational Analyses

A Pearson product-moment bivariate correlation matrix (Table 9) was generated to investigate the relationships among demographic information (i.e., socioeconomic status, parent age, youth age), the emotional and behavioral functioning of children and adolescents (i.e., Internalizing, Externalizing, and Total Problems), parents' functioning (i.e., Depression, State and Trait Anxiety, and Parenting Stress), characteristics of the parent-child relationship (i.e., Involvement and Communication), and parents' discipline practices (i.e., Nonviolent Discipline, Psychological Aggression, Inconsistency, Corporal Punishment). It should be noted that, due to the exploratory nature of this study, no *p* value correction was employed and a minimum significance level of $p < .05$ is used unless otherwise stated.

Demographic Relationships.

For demographic variables, several significant correlations were expected. First, socioeconomic status was expected to correlate positively with recommended parenting practices and negatively with less desirable parenting practices. In contrast, no significant relationships for socioeconomic status and parent or child age were anticipated. As expected, results show that socioeconomic status is correlated significantly and positively with Nonviolent Discipline ($r = .25$, $p < .04$). SES also is correlated significantly and negatively with child age ($r = -.25$, $p < .04$). These relationships suggest that higher family socioeconomic status (i.e., based on participants' education, work status, and household income) is associated with parents using more nonviolent discipline and having younger identified children. Next, significant positive correlations were expected between parent and child age, and child age also was expected to be correlated negatively with corporal punishment. Correlational results show that the older the parent is at the time of their participation in this study, the older their child or adolescent is as

well ($r = .35$, $p < .002$). Child age also is correlated significantly and negatively with the combined corporal punishment variable ($r = -.23$, $p < .04$), indicating that participants are more likely to endorse the use of minor physical discipline with younger children and adolescents.

Relationships Among Variables Measuring Similar Constructs.

Next, significant correlations were expected among all variables related to similar constructs of interest. Specifically, it was expected that each of the three parent functioning variables would relate significantly to one another, as would the two parent-child relationship variables, the four discipline dimensions, and the three behavior problems scores for children and adolescents. Positive directionality was expected for all these correlations.

With regard to child problems, the expected positive correlations are found. In particular, higher levels of internalizing problems are associated significantly with higher levels of externalizing problems ($r = .69$, $p < .001$) and total problems ($r = .87$, $p < .001$). There is also a significant and positive correlation between externalizing and total problems ($r = .87$, $p < .001$). With regard to the parent functioning variables, results show that parents' depression ($r = .56$, $p < .001$), state anxiety ($r = .53$, $p < .001$), and trait anxiety ($r = .63$, $p < .001$) all are correlated significantly and positively to parenting stress. Also, parents' depression is correlated significantly and positively with state anxiety ($r = .81$, $p < .001$) and trait anxiety ($r = .86$, $p < .001$). Finally, parents' higher rates of state anxiety also are associated significantly with higher trait anxiety ($r = .89$, $p < .001$).

With regard to parent-child relationship characteristics, the two measured parent-child relationship characteristics, involvement and communication, are not correlated significantly with one another ($r = .01$, $p < .97$). With regard to the four measured discipline dimensions, several expected correlations are noted. Parents' use of nonviolent discipline is correlated

significantly and positively with engagement in psychological aggression ($r = .24$, $p < .04$) and inconsistent discipline ($r = .27$, $p < .02$). This finding indicates that participants' increased use of a range of nonviolent parenting behaviors is related to more parenting inconsistency and greater use of verbal aggression toward their children and adolescents who have hearing and/or communication difficulties. Psychological aggression also is correlated significantly and positively with inconsistent discipline ($r = .36$, $p < .001$), suggesting that parents' engagement in verbal aggression tactics is related to higher rates of inconsistency in parenting strategies. The APQ corporal punishment subscale is correlated significantly and positively with participants' use of psychological aggression ($r = .45$, $p < .001$) and nonviolent discipline ($r = .23$, $p < .05$). The CTSPC corporal punishment subscale is associated significantly and positively with participants' use of psychological aggression ($r = .59$, $p < .001$) and nonviolent discipline ($r = .27$, $p < .02$). The two corporal punishment subscales (APQ and CTSPC) are correlated significantly and positively with one another ($r = .62$, $p < .001$), thus lending themselves to being merged into a single standardized variable. With regard to the standardized combined corporal punishment score, this score is correlated significantly with parents' use of psychological aggression ($r = .58$, $p < .001$) and nonviolent discipline ($r = .28$, $p < .02$).

Relationships Among Parents' Functioning, the Parent-Child Relationship, and Discipline.

Significant negative correlations were expected between parents' functioning and parent-child relationship characteristics, indicating that higher levels of psychological symptomatology and perceived parenting stress would relate to lower reported frequencies of communication and involvement behaviors between parents and their children. In contrast to predictions, no significant correlations are noted between parents' depressive and anxious symptomatology and

the two parent-child relationship factors (depression and involvement, $r = .11$ $p < .36$; depression and communication, $r = -.12$, $p < .31$; state anxiety and involvement, $r = .12$, $p < .32$; state anxiety and communication, $r = -.18$, $p < .13$; trait anxiety and involvement, $r = .10$, $p < .39$; trait anxiety and communication, $r = -.18$, $p < .12$). As expected, however, higher reported parenting stress is associated significantly with lower parent-child communication ($r = -.31$, $p < .006$). In contrast, parenting stress is correlated significantly and positively with parent-child involvement ($r = .29$, $p < .01$). Overall, these findings suggest that parenting stress, rather than parents' depression and anxiety, is related to parent-child relationship characteristics.

Next, significant positive correlations were expected between parents' functioning and discipline practices, suggesting that higher levels of psychological distress would be related directly to less effective and more extreme parenting strategies. Participants' depression is correlated significantly and positively with psychological aggression ($r = .28$, $p < .02$), indicating that higher levels of depression are associated with a greater use of verbal aggression toward children and adolescents. Participants' state anxiety also is correlated significantly and positively with the use of psychological aggression toward children ($r = .28$, $p < .01$) as well as inconsistent discipline ($r = .43$, $p < .001$), suggesting that higher situational anxiety is related to parents' lack of consistency and follow-through with consequences for misbehavior. As anticipated, parenting stress is correlated significantly and positively with parents' use of psychological aggression ($r = .33$, $p < .004$) and the use of inconsistent discipline toward identified children ($r = .40$, $p < .001$). These findings indicate that high parenting stress is associated with higher usage of discipline strategies that are considered negative and/or ineffective. Overall, it seems that parents' increased depression, state anxiety, and parenting

stress are associated with poorer parenting strategies used with children and adolescents who have hearing and/or communication disorders.

Relationships Among Parents' Functioning, the Parent-Child Relationship, and Children's Problems.

Next, significant positive relationships were expected between parents' functioning and children's problems, such that higher levels of parents' psychological symptomatology and stress would relate to higher reported frequencies of children's internalizing, externalizing, and total problems. As expected, all parents' psychological symptoms (i.e., depression [$r = .40$, $p < .001$], state anxiety [$r = .36$, $p < .002$], trait anxiety [$r = .41$, $p < .001$]) and parenting stress ($r = .59$, $p < .001$) are related significantly and positively to children's internalizing problems. These findings indicate that parents' more problematic psychological symptoms are associated with higher ratings of internalizing problems in their children and adolescents who have hearing and/or communication disorders. Similarly, several characteristics of parents' psychological symptoms (i.e., depression [$r = .35$, $p < .003$], state anxiety [$r = .36$, $p < .002$], trait anxiety [$r = .35$, $p < .003$], and parenting stress [$r = .55$, $p < .001$]) are correlated significantly and positively with children's externalizing problems, indicating that higher levels of parents' problematic psychological symptoms and parenting stress are associated with higher ratings of externalizing problems in their children and adolescents. Additionally, higher levels of parents' symptoms (i.e., depression [$r = .40$, $p < .001$], state anxiety [$r = .39$, $p < .001$], trait anxiety [$r = .40$, $p < .001$]) and parenting stress ($r = .60$, $p < .001$) are related significantly and positively with children's total problems.

Conversely, significant negative correlations were expected between parent-child relationship characteristics and children's problems, indicating that endorsements of higher

levels of communication and involvement would be related to lower levels of internalizing, externalizing, and total problems in children and adolescents who have hearing and communication disorders. Only parent-child communication is correlated significantly and negatively with externalizing and total problems ($r = -.28$, $p < .02$, and $r = -.28$, $p < .02$, respectively), indicating that higher levels of parent-child communication are related to lower rates of externalizing and total problems in children and adolescents who have hearing and communication difficulties.

Next, parents' discipline practices were expected to correlate significantly and positively with children's problems, such that higher endorsements of ineffective and harsh parenting practices would be related to higher levels of children's internalizing, externalizing, and total problems. As expected, engagement in inconsistent parenting is correlated significantly and positively to children's internalizing problems ($r = .29$, $p < .01$). Also, parents' use of psychological aggression ($r = .43$, $p < .001$), inconsistent discipline ($r = .38$, $p < .001$), and nonviolent discipline ($r = .28$, $p < .02$) are correlated significantly and positively to children's externalizing problems. These findings indicate that higher rates of a variety of parenting behaviors are related to parents' ratings of the externalizing problems exhibited by their children and adolescents. With regard to physical discipline tactics, parents' increased use of corporal punishment (APQ [$r = .27$, $p < .02$], CTSPC [$r = .24$, $p < .04$], and the standardized combined corporal punishment statistic [$r = .28$, $p < .02$]) is related significantly and positively to ratings of externalizing problems in children and adolescents who have hearing and communication disorders, indicating that higher levels of minor physical discipline are associated with higher levels of children's externalizing problems. In contrast, corporal punishment is not associated significantly with parents' ratings of internalizing (APQ [$r = .05$, $p < .69$], CTSPC [$r = -.04$, $p <$

.76], combined CP [r = .01, p < .95]) or total (APQ [r = .17, p < .14], CTSPC [r = .09, p < .46], combined CP [r = .15, p < .22]) problems.

Table 9. *Correlation Matrix*

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. SES	1																	
2. Parent Age	.20	1																
3. Child Age	-.25*	.35**	1															
4. CBCL Internal.	.00	.00	-.02	1														
5. CBCL External.	.03	-.04	-.11	.69**	1													
6. CBCL Total Prob.	.06	.01	-.04	.87**	.87**	1												
7. BDI-II Depression	-.12	-.01	.10	.40**	.35**	.40**	1											
8. STAI-State Anxiety	-.04	.11	.12	.36**	.36**	.39**	.81**	1										
9. STAI-Trait Anxiety	-.03	.00	.11	.41**	.35**	.40**	.86**	.89**	1									
10. PSI-SF Stress	.10	-.11	-.06	.59**	.55**	.60**	.56**	.53**	.63**	1								
11. PCRI Involvement	.07	-.06	-.04	.23	-.01	.10	.11	.12	.10	.30**	1							
12. PCRI Comm.	-.12	.00	.09	-.23	-.28*	-.28*	-.12	-.18	-.18	-.31**	.01	1						
13. APQ Corp. Pun.	.01	-.07	-.11	.05	.27*	.17	.03	.06	.04	.06	.08	.02	1					
14. APQ Inc. Disc.	.20	.10	.05	.29*	.38**	.33**	.50**	.43**	.50**	.40**	.15	-.26*	.19	1				
15. CTSPC Corp. Pun.	.10	-.22	-.31**	-.04	.24*	.09	-.08	-.05	-.08	.05	.01	.02	.62**	.04	1			
16. CTSPC Psy. Aggr.	.09	-.20	-.14	.12	.43**	.30**	.28*	.28*	.28*	.33**	.03	-.11	.45**	.36**	.59**	1		
17. CTSPC Nonviolent	.25*	.05	-.17	.08	.28*	.20	.10	.08	.11	.20	-.14	-.08	.23*	.27*	.28*	.24*	1	
18. Corporal Pun.†	.07	-.16	-.23*	.01	.28*	.15	-.03	.01	-.02	.07	.05	.02	.90**	.13	.90**	.58**	.28*	1

Note. Correlations are significant at the following levels: * $p < .05$, ** $p < .01$, *** $p < .001$; †Standardized Combined Variable

Inferential Statistics: Regression Analyses

Multiple regression analyses were employed to investigate Models 1, 2, 3, and 4 (i.e., to examine the predictive utility of specific groupings of parent and parent-child variables for parents' endorsement of corporal punishment) and Models 5, 6, and 7 (i.e., to examine the prediction of child behavior problems). The entire sample (i.e., including children and adolescents who have hearing impairment/loss, communication disorders, and both) was evaluated together, as a lack of significant group differences across a majority of the variables of interest were demonstrated in the Chi-Square, ANOVA, and MANOVA analyses. With regard to needed sample size, an initial power analysis (Cohen, 1992) determines that, for a medium effect size to be detected at an $\alpha < .05$ level of significance, a sample size of 97 participants should be obtained for Models 1 and 1a that incorporate six independent variables in each multiple regression statistic. If a large effect size is expected, a sample size of 45 participants is suggested to detect significance at an $\alpha < .05$ level. For Model 2, which examines five independent variables, a power analysis (Cohen, 1992) suggests that a participant pool of 91 individuals would be necessary to detect a medium effect size, whereas 42 participants would be needed for an expected large effect size, each at an $\alpha < .05$ level of significance. A power analysis (Cohen, 1992) for Models 3, 4, 5, 6, and 7 (incorporating eight independent variables in each multiple regression statistic) suggests that 107 participants would be needed to detect a medium effect size and that 50 participants would be needed to detect a large effect size at an $\alpha < .05$ level of significance. As mentioned previously, existing studies note the ongoing difficulty in conducting research with families raising children and adolescents who have hearing and communication problems as a result of low sample sizes (Crain & Kluwin, 2006); however, a long held maxim of research regarding this population has dictated a minimum sample size of 30

(Borg & Gall, 2006). Thus, the sample size of this study was deemed to be acceptable for these analyses, particularly as they were considered to be exploratory in nature.

Model 1: Parents' Functioning, Parenting, and Corporal Punishment-Mediational Relationships.

Based on the Baron and Kenny (1986) model of mediation testing utilizing sequential regression analyses, a series of regressions investigated the relationships between parents' functioning, ineffective parenting practices, and Corporal Punishment. For mediation to be indicated in this analysis, the predictor construct (parents' functioning) must first demonstrate significant prediction of the outcome variable, Corporal Punishment. Then, the hypothesized mediator (ineffective parenting practices) must demonstrate significant relationships with both the predictor construct and the outcome variable. Finally, the predictor construct (parents' functioning) and the mediator (ineffective parenting practices) are both entered into a regression predicting the outcome, Corporal Punishment. In this regression, mediation is indicated if the mediator (ineffective parenting practices) significantly predicts Corporal Punishment, and parents' functioning no longer remains a significant predictor (or would be weakened in the case of partial mediation).

Following this procedure, variables for parents' functioning (i.e., Depression, Trait Anxiety, and Parenting Stress) first were entered into a regression to investigate their prediction of Corporal Punishment. Results indicate that the three psychological characteristics of parents together did not predict significantly the combined Corporal Punishment variable, $F(3, 70) = .27$, $p < .85$. To further investigate this finding, multicollinearity statistics were then examined as the constructs of depression and anxiety are related so highly. Research (e.g., Gardner, 2001; Tabachnick & Fidell, 2007) suggests that multicollinearity often accompanies correlations

between r = .70 to r =.90 and may weaken a regression analysis. Considering the high bivariate correlation between Depression and Trait Anxiety (r = .81, p <.01) exhibited in this study, in addition to tolerance and VIF indicators that approach suggested levels of significance, it is reasonable to presume that multicollinearity is a factor in this regression analysis. Options for rectifying a multicollinearity problem include 1) deletion of one of the two redundant variables, 2) summing or averaging of the two variables, or 3) computing the variables' principal components for use as predictors, rather than the original variables (Tabachnick & Fidell, 2007).

In this case, it appears that selection of a variable for exclusion is an appropriate action and may be made by both theoretical hypothesis and by identifying the variable with the highest variance proportion. Previous research demonstrates significant overlap in experiences of depression and anxiety (e.g., Hranov, 2007) as well as a link between parents' depression and parents' attitudes regarding the use of corporal punishment (e.g., Lutenbacher & Hall, 1998). These theoretical underpinnings, in combination with a comparatively higher variance inflation factor (VIF) for Trait Anxiety versus Depression, suggest that Trait Anxiety should be excluded from further regression analyses predicting corporal punishment. Therefore, the first regression in Model 1 was recalculated using Depression and Parenting Stress as predictors of the combined corporal punishment variable. The results of this revised regression reveal that Depression and Parenting Stress together still did not predict significantly corporal punishment, $F(2, 72) = .38$, $p < .69$.

Next, several regression analyses were conducted to investigate relationships between mediator variables and predictor and outcome variables, as these relationships are required for Model 1 to be supported. Depression and Parenting Stress were entered together into three separate regressions to investigate their prediction of each mediator variable (ineffective

parenting practices). One regression analysis demonstrated that parents' functioning predicts significantly Inconsistent Discipline, $F(2, 72) = 13.66$, $p < .001$, and another regression analysis reveals that parents' functioning predicts significantly Psychological Aggression, $F(2, 72) = 4.87$, $p < .01$. In contrast, however, parents' functioning does not predict significantly Nonviolent Discipline, $F(2, 72) = 1.47$, $p < .24$. Then, to investigate the relationship between the mediators and the outcome, Nonviolent Discipline, Psychological Aggression, and Inconsistent Discipline were entered together into one regression to investigate their combined prediction of Corporal Punishment. As expected, this group of parenting behaviors significantly predicted Corporal Punishment, $F(3, 72) = 13.92$, $p < .001$.

Finally, the variables that comprise parents' functioning (i.e., Depression and Parenting Stress) and parenting practices (i.e., Inconsistent Discipline, Nonviolent Discipline, and Psychological Aggression) all were entered simultaneously as potential predictors of Corporal Punishment. Although the overall regression is significant, $F(5, 69) = 9.12$, $p < .001$, only parents' use of Psychological Aggression ($p < .001$) proves to be a significant predictor of parents' use of Corporal Punishment.

In sum, the proposed meditational Model 1 is not supported for several reasons. First, parents' functioning did not fulfill the criterion of significantly predicting Corporal Punishment, despite accounting for the initial issue of multicollinearity. Also, one of the proposed mediator variables, Nonviolent Discipline, was not significantly predicted by parents' functioning, again not fulfilling a basic tenet of a mediational model. Finally, the last regression analysis violated the significance expectations described above, per Baron and Kenny (1986); therefore, Model 1 is rejected.

Table 10. *Model 1: Parents' Functioning (Predictor), Ineffective Parenting Practices (Mediator), and Corporal Punishment (Outcome)*

Independent Variable	*F*	r^2	*Beta*	*t*	*p*
Predictor to Outcome Regression	.38	.01			.69
Parenting Stress			.12	.83	.41
Depression			-.09	-.67	.51
Predictor to Mediator (Inc. Discipline) Regression	13.66	.28***			
Parenting Stress			.18	1.50	.14
Depression			.40	3.33**	.001
Predictor to Mediator (Psych. Aggression) Regression	4.87	.12*			
Parenting Stress			.25	1.88	.06
Depression			.14	1.03	.31
Predictor to Mediator (Nonvio. Discipline) Regression	1.47	.04			
Parenting Stress			.21	1.48	.14
Depression			-.01	-.10	.92
Mediator to Outcome Regression	13.92	.37***			.001
Inconsistent Discipline			-.13	-1.23	.22
Nonviolent Discipline			.18	1.80	.08
Psychological Aggression			.58	5.70***	.001
Predictor and Mediator to Outcome Regression	9.12	.40***			.001
Parenting Stress			-.07	-.57	.57
Depression			-.17	-1.36	.18
Inconsistent Discipline			-.03	-.23	.82
Nonviolent Discipline			.17	1.74	.09
Psychological Aggression			.61	5.92***	.001

Note. Regressions are significant at: * $p < .05$, ** $p < .01$, *** $p < .001$;Variables entered using Enter command.

Alternate Model 1a: Parents' Depression, Parenting Stress, and Corporal Punishment-Mediational Relationships.

As Model 1 is unsupported, an alternate examination of the potential meditational utility of parenting stress in the relationship between parents' depressive symptoms and corporal punishment was conducted, per the steps outlined by Baron and Kenny (1986). In Model 1a, Depression was entered into a regression to examine its unique prediction of Corporal Punishment, however, this regression is not significant, $F(1, 73) = .06$, $p < .80$. (Note that Trait

Anxiety was not included as a predictor variable due to concerns about multicollinearity.) Next, in another separate regression analysis, Depression is found to predict significantly the mediator variable, Parenting Stress, $F(1, 73) = 32.56$, $p < .001$. The mediator's relationship with the outcome also was examined, and Parenting Stress is not found to significantly predict Corporal Punishment, $F(1, 74) = .31$, $p < .58$. Finally, the meditational Model 1a was examined by entering both Depression and Parenting Stress into a final regression to investigate their combined prediction of Corporal Punishment, $F(2, 72) = .38$, $p < .69$. Results suggest that parenting stress does not mediate the relationship between parents' depression and parents' use of corporal punishment, as predictive relationships are not significant in the manner outlined by Baron and Kenny (1986) as necessary to indicate mediation.

Table 11. *Alternate Model 1a: Parent Depression (Predictor), Parenting Stress (Mediator), and Corporal Punishment (Outcome)*

Independent Variable	***F***	***r*** ^{2}	***Beta***	***t***	***p***
Predictor to Outcome Regression	.06	.00			.80
Depression			-.03	-.25	
Predictor to Mediator Regression	32.56	.31***			.001
Depression			.56	5.71***	
Mediator to Outcome Regression	.31	.00			.58
Parenting Stress			.07	.56	
Predictor and Mediator to Outcome Regression	.38	.01			.69
Depression			-.09	-.67	.51
Parenting Stress			.12	.83	.41

Note. Regressions are significant at: * $p < .05$, ** $p < .01$, *** $p < .001$; Variables entered using Enter command.

Model 2: Parents' Functioning, Disrupted Relationship, and Corporal Punishment-Moderational Relationships.

Next, using the Baron and Kenny (1986) model of moderation testing, the following three blocks were entered into one regression analysis. Parents' functioning (i.e., Depression and

Parenting Stress but not Trait Anxiety) were entered simultaneously in Block 1 of the regression to investigate their unique prediction of the dependent variable, Corporal Punishment. Next, parent-child relationship characteristics (i.e., Involvement and Communication) were entered together in Block 2 of the regression. In preparation for variables to be entered in Block 3, the predictor variables that comprise parents' functioning and parent-child relationship characteristics first were centered around zero (i.e., by subtracting the sample mean for each variable from all individual scores), as suggested by Rose, Holmbeck, Coakley, and Franks (2004). This transformation served to prevent multicollinearity among the predictors and allow for proper testing of simple slopes (Rose et al., 2004). Then, the newly transformed independent variables were multiplied to create four interaction terms (i.e., the combined products of depression and involvement, depression and communication, parenting stress and involvement, and parenting stress and communication). These four interaction terms were then entered in Block 3.

For the moderational model to be supported, parents' functioning should demonstrate significant prediction of corporal punishment in Block 1. In Block 2, parent-child relationship characteristics also should predict significantly corporal punishment. In Block 3, significant predictive utility of the interaction terms should indicate that the moderating variables are active in the relationship between the predictor variables and criterion variable such that the impact or the nature of the predictors on the criterion variable varies according to the strength of the moderating variable. Unfortunately, the overall model is unsupported (see Table 12), as Block 1 is nonsignificant, $F(2, 72) = .38$, $p < .69$, Block 2 is nonsignificant, $F(4, 70) = .23$, $p < .92$, and Block 3 reveals nonsignificant findings as well, $F(8,66) = .76$, $p < .64$; thus, the required conditions for moderation are not met.

Table 12. Model 2: *Parents' Functioning (Predictor), Ineffective Parenting Behavior (Moderator), and Corporal Punishment (Outcome)*

	Independent Variable	*F*	r^2 (Δr^2)	*Beta*	*t*	*p*
Block 1		.38	.01			.69
	Depression			-.09	-.67	.51
	Parenting Stress			.12	.83	.41
Block 2		.23	.01 (.00)			.92
	Depression			-.10	-.67	.50
	Parenting Stress			.13	.82	.42
	Involvement			.02	.14	.89
	Communication			.05	.39	.70
Block 3		.76	.08(.07)			.64
	Depression			-.21	-1.31	.19
	Parenting Stress			.24	1.32	.19
	Involvement			-.05	-.37	.71
	Communication			.12	.70	.49
	Interaction Term 1[a]			.28	1.78	.08
	Interaction Term 2[b]			-.11	-.48	.63
	Interaction Term 3[c]			-.10	-.71	.48
	Interaction Term 4[d]			.15	.76	.45

Note. Regressions are significant at: * $p < .05$, ** $p < .01$, *** $p < .001$; Variables entered using Enter command;
[a] Interaction term consisted of the following centered variables: Depression and Involvement;
[b] Interaction term consisted of the following centered variables: Depression and Communication;
[c] Interaction term consisted of the following centered variables: Parenting Stress and Involvement;
[d] Interaction term consisted of the following centered variables: Parenting Stress and Communication.

Model 3: Parents' Functioning, Parenting Behaviors, Parent-Child Relationship, and Corporal Punishment.

An analysis of Model 3 was conducted to evaluate the predictive utility of all eight independent variables (i.e., parents' functioning, parenting behaviors, and parent-child relationship characteristics) for parents' use of corporal punishment. When entered into a regression using a stepwise method (which statistically selects the most highly predictive set of independent variables to retain in the final predictive model), only two variables were retained statistically in the final equation: parents' depression and psychological aggression. Together,

this combination of variables predicts significantly the occurrence of corporal punishment, $F(2, 71) = 20.86$, $p < .001$, and accounts for a significant portion of the variance in this outcome (37.0%). In sum, it appears that one parent characteristic, depressive symptoms, and one parenting behavior, psychological aggression, together are the best predictors of the use of corporal punishment by parents of children and adolescents who have hearing impairment/loss and communication disorders.

Table 13. *Model 3: Overall Model in Predicting Corporal Punishment*

Independent Variable	***F***	***r*** ^{2}	***Beta***	***t***	***p***
Block 1	20.86	.37*			.04
Depression			-.20	-2.08*	.04
Psychological Aggression			.63	6.45***	.001

Note. Regressions are significant at: * $p < .05$, ** $p < .01$, *** $p < .001$; Independent variables (Depression, Trait Anxiety, Parenting Stress, Involvement, Communication, Nonviolent Discipline, Psychological Aggression, and Inconsistent Discipline) were entered using Stepwise command, and only those that were statistically retained are indicated.

Model 4: Nonviolent Discipline, Child Externalizing Problems, and Corporal Punishment: Mediational Relationships.

An additional exploratory investigation of a predictive model of corporal punishment was conducted, given the relationships among discipline behaviors, child externalizing problems, and harsh parenting. Model 4 further examined the discipline-mediated model of predicting use of corporal punishment (Greenwald et al., 1997) by examining a hypothesis that ineffective discipline practices in association with higher rates of externalizing behavior problems may result in escalation toward the use of minor physical discipline. In the context of this theory, the relationship between nonviolent discipline and corporal punishment is expected to be mediated by parents' perceptions of youth externalizing behavior problems (Brubaker & Szakowski,

2000). Thus, the requirements to suggest mediation purported by Baron and Kenny (1986) are again examined here.

First, a regression incorporating Nonviolent Discipline as an independent variable predicting Corporal Punishment is found to be significant, $F(1, 74) = 6.27$, $p < .02$. Next, the relationship between the predictor, Nonviolent Discipline, and the mediator, Externalizing Behavior Problems, was examined, and Nonviolent Discipline is found to signfiicantly predict this hypothesized mediator, $F(1, 71) = 6.22$, $p < .02$, as expected. Another regression analysis examined the prediction of the outcome, Corporal Punishment, by the mediator, Externalizing Behavior Problems, and this relationship also if found to be signficant, $F(1, 71) = 6.25$, $p < .02$. A final regression analysis incorporating both Nonviolent Discipline and Externalizing Behavior Problems simultaneously as predictors of Corporal Punishment was significant, $F(2, 70) = 4.95$, $p < .01$. Also, within the context of the significant predictive relationships found between predictor and mediator variables, the hypothesized Model 4 is supported partially, as each independent variable predicts individually through weakened relationships in the final regression. However, it is unclear which independent variable, Nonviolent Discipline or Externalizing Behavior Problems, serves as the mediator in predicting Corporal Punishment in this model, as the two variables remain comparable in the strength of their unique prediction.

Table 14. *Model 4: Nonviolent Discipline (Predictor), Children's Externalizing Problems (Mediator), and Corporal Punishment (Outcome)*

	Independent Variable	*F*	r^2	*Beta*	*t*	*p*
Predictor to Outcome Regression		6.27	.08*			.02
	Nonviolent Discipline			.28	2.50*	
Predictor to Mediator Regression		6.22	.08*			.02
	Nonviolent Discipline			.28	2.49*	
Mediator to Outcome Regression		6.25	.08*			.02
	Externalizing Behavior Problems			.28	2.50*	
Predictor and Mediator to Outcome Regression		4.95	.12*			.01
	Nonviolent Discipline			.22	1.85	.07
	Externalizing Behavior Problems			.22	1.91	.06

Note. Regressions are significant at: * $p < .05$

Models 5, 6, and 7: Parents' Functioning, Parenting Behaviors, Parent-Child Relationship, and Child Functioning.

To provide a final "big" picture of the variables examined in this study, Models 5, 6, and 7 incorporated simultaneously all parents' characteristics, parenting practices, and parent-child relationship characteristics as potential predictors of children's internalizing, externalizing, and total problems, respectively. When entered into a regression using a stepwise method, only one variable, Parenting Stress, was retained in Model 5 due to its significant prediction of internalizing behavior problems, $F(1, 69) = 37.69$, $p < .001$, and this accounted for 35.3% of the variance in this outcome. Parenting Stress and Psychological Aggression were both retained in Model 6, which investigated the prediction of externalizing behavior problems, $F(2, 68) = 20.44$, $p < .001$, and this accounted for a significant portion of the variance (37.5%) of this outcome. In Model 7, predicting total problems, only Parenting Stress was retained from the stepwise regression analysis, $F(1, 69) = 39.21$, $p < .001$, and this factor accounted for 36.2% of the variance in this outcome. In sum, it appeared that parents' ratings of children's behavior

problems are predicted by Parenting Stress and Psychological Aggression, but not parent-child relationship characteristics.

Table 15. *Models 5, 6, and 7: Overall Models in Predicting Children's Problems*

Independent Variable	*F*	r^2	*Beta*	*t*	*p*
Regression/Model 5	37.69	.35***			.001
Parenting Stress			.59	6.14***	
Regression/Model 6	20.44	.38***			.001
Parenting Stress			.46	4.52***	.001
Psychological Aggression			.28	2.80**	.007
Regression/Model 7	39.21	.36***			.001
Parenting Stress			.60	6.26***	

Note. Regressions are significant at: * $p < .05$, ** $p < .01$, *** $p < .001$; Dependent variables are as follows: Internalizing Behavior Problems for Model 5, Externalizing Behavior Problems for Model 6, and Total Behavior Problems for Model 7; Independent variables (Depression, Trait Anxiety, Parenting Stress, Involvement, Communication, Nonviolent Discipline, Psychological Aggression, and Inconsistent Discipline) were entered using Stepwise command, and only those that were statistically retained are indicated.

CHAPTER FIVE: DISCUSSION

Although interventions aimed at improving the communication, language, and learning skills of children and adolescents who have hearing and communication disorders are certainly important, these alone may not protect these children and adolescents from psychological difficulties if other family factors are contributing to the development, maintenance, and/or exacerbation of behavior problems. Thus, this study investigates the relationships among characteristics of parents and the parent-child relationship, parents' discipline choices, and the subsequent behavior problems of children and adolescents who have hearing and communication disorders. The current study is important in its attempt to identify predictors of parental engagement in corporal punishment in this population, as child maltreatment occurs frequently in this population of children and adolescents (e.g., Ammerman et al., 1994; Sullivan & Knutson, 1998a, 1998b, 2000). Further, correlates of children's emotional and behavioral problems also are investigated to examine whether relationship patterns in these families are consistent with extant literature describing families and children and adolescents who have normal hearing and communication abilities.

Parents' Functioning and Ratings of Their Children and Adolescents

Although a majority of parents' reports of their own depressive and anxious symptoms fall within the nonclinical range of functioning in this study, a small portion of this group experiences clinically significant levels of these symptoms (Achenbach & Rescorla, 2001; Beck et al., 1996; Spielberger, 1983). Also, few participants' ratings of parenting stress fall within the more problematic, or highest, 5% range of functioning in the sample, and none reached the clinical cutoff score suggested by previous literature (Abidin, 1995). With regard to characteristics of the parent-child relationship, a small proportion of parents endorse very low

levels of communication and involvement with their children, as compared to the range of ratings across the sample. Additionally, a majority of the parents in this sample report that their children and adolescents experience nonclinical levels of internalizing, externalizing, and total problems relative to gender-specific age-normed data. Low rates of clinically significant levels of emotional and behavioral problems in children and adolescents who have hearing and communication difficulties is an unexpected finding, as previous research suggests that these children and adolescents experience considerable rates of syptomatology, particularly externalizing behavior problems (e.g., Baker & Cantwell, 1982; Carson et al., 1998; Prizant et al., 1990; Schnittjer & Hirshoren, 1981; Sigafoos, 2000; Tavormina et al., 1981; van Gent et al., 2007).

It may be that a selection bias occurred with regard to the parents who completed this study versus those who elected not to participate. It is possible that those parents who feel that their children exhibit lower, or more manageable, levels of behavior problems are overrepresented in this sample. As there is no data concerning a non-participating group, this possibility cannot be examined statistically. Further, many participants were recruited from clinical intervention settings (i.e., where children and adolescents are being seen for therapy) and many of the children and adolescents who are rated in this study receive some form of clinical intervention for their hearing and/or communication difficulties currently or previously. Although these children and adolescent may not have been seen specifically for emotional and behavioral difficulties, receiving support outside the family, despite the reason, may impact their well-being positively. Similarly, a large portion of the parents in this sample also engaged in some method of treatment for a variety of reported reasons, including parenting support for child behavior management as well as interventions targeting improvements in their personal

depressive or anxious symptomatology and/or marital support. Naturally, this finding may be related to a majority of parents' psycholgoical well-being indicators falling within normal limits, as these interventions may have resulted in improvements or maintenance of adaptive aspects of their psychological functioning. Thus, overall, families who are more well-adjusted may be overrepresented in this sample.

Parenting Behaviors

The reported incidence of parenting behaviors and discipline practices varies somewhat among the sample examined in this study. First, a majority of the parents in this sample reports engaging in nonviolent, or positive, parenting discipline behaviors, including reasoning with their children and adolescents, using response cost, and implementing time-out. Also, as expected, a majority of the parents in this sample reports low levels of engagement in extreme, negative aspects of discipline, such as psychological aggression (e.g., Straus et al., 1998), or verbal or symbolic acts intended to cause their children and adolescents psychological pain or fear. Similarly, parents' ratings of inconsistency in discipline practices are generally low, with few parents' ratings falling within the highest, or most problematic, portion of the sample group.

Next, as parents' use of corporal punishment was a focal point in this study, particular emphasis was placed on evaluating the dimensions and severity of these ratings. Parents in this sample report a range in their frequency of corporal punishment behavior toward their children and adolescents who have hearing and/or communication difficulties. Of the types of minor physical discipline practices endorsed, parents report spanking most frequently, followed by slapping their children and adolescents on the hand, arm, or leg. In contrast, comparably low rates of hitting, shaking, and pinching are endorsed in this study. These findings are consistent

with previous research that discusses spanking as a culturally normative behavior in many American families (e.g., Flynn, 1996).

Despite differences between the types of corporal punishment that are endorsed by parents in this sample, overall endorsements of all types of corporal punishment are low. Such low rates may be related to a variety of factors, including the possibility that these parents actually do use low rates of minor physical discipline tactics, that these parents may be reluctant to report the use of corporal punishment due to social stigma or a perceived threat of repercussions, or that these parents may report certain types of corporal punishment (e.g., spanking) as a result of some social acceptability of this behavior relative to other types of corporal punishment that are more extreme and harmful (e.g., hitting or pinching; Flynn, 1996; Whipple & Richey, 1997). It should be noted, however, that severe forms of physical discipline are not assessed in this study. Had these forms of physical discipline been included, the distribution of reports across the variety of physical discipline practices may have been different.

Group Differences

Next, to evaluate the statistical appropriateness of examining together the reports of parents of children and adolescents who are Deaf/HOH and parents of children and adolescents who have communication disorders, nonparametric and parametric methods of discerning group mean differences on all variables of interest were conducted. First, results show a significant difference across children and adolescents in the different communication/hearing groupings (i.e., hearing impaired/loss only, communication disorder only, or both hearing and communication difficulties) by the location of data collection. Higher representations of each group are expected due to the targeted methods of data collection at sites specifically serving these populations (e.g., schools for children who are Deaf/HOH children versus clinical settings

serving children and adolescents who have communication disorders). Another significant difference across the hearing/communication groupings emerges for the existence of an additional youth disability. Specific investigation of this finding, however, shows that the combined group appears to drive this association. This finding is logical, as the combined group by definition already has been identified as experiencing two areas of significant difficulty (i.e., hearing impairment/loss plus a diagnosed communication disorder). Thus, simply by belonging to this category, it may be likely that these children would experience an additional type of recognized disability that may or may not relate to the emotional and behavioral impact of having concurrent hearing impairment/loss and a communication disorder.

Next, no significant main or interaction effects are found for any categorical variables (i.e., youth hearing/communication grouping, recruitment location, parent sex, parent race/ethnicity, youth sex, youth additional disability, and caregiver treatment seeking) on internalizing behavior problems, externalizing behavior problems, or total behavior problems. Similarly, when possible group differences in the pooled parental and parent-child variables of interest (i.e., depression, parenting stress, state and trait anxiety, involvement, inconsistent discipline, psychological aggression, nonviolent discipline, and corporal punishment) were evaluated, results show no significant main or interaction effects of individual or combined categorical variables. This lack of significantly different findings suggests that the whole sample may be examined together with confidence that inferences are applicable to the combined group. This finding is consistent with the accepted practice in the field of coming children and adolescents who have varying hearing and/or communication difficulties (Ammerman et al., 1994; Sullivan & Knutson, 2000).

Relationships Among Parents' Characteristics, the Parent-Child Relationship, and Discipline

Many expected significant relationships among parent and parent-child variables are supported. First, findings suggest that younger parents tend to provide ratings regarding younger children and adolescents who have hearing and communication difficulties. Also, the measured indicators of parents' psychological well-being (i.e., depression, state and trait anxiety, and parenting stress) all are correlated significantly with one another, showing that parents are likely to endorse similar ratings across the different domains of their psychological functioning. In contrast with previous findings (e.g., Coffman et al., 2006), however, measures of the parent-child relationship (i.e., involvement and communication) are not correlated significantly with one another in this study. Nonetheless, several expected relationships among parenting practices are supported. For example, parents' endorsement of higher levels of psychological aggression is associated significantly with increased endorsements of inconsistent discipline and corporal punishment. These relationships are logical, as higher rates of negative parenting practices are expected in combination with one another.

Unexpectedly, however, nonviolent discipline, considered to include positive parenting practices, is related significantly and positively with psychological aggression, inconsistent discipline, and corporal punishment. In the context of these findings, it is important to note that the frequency of engagement in nonviolent discipline does not measure the actual effectiveness of the positive strategies reported. That is, although the utilization of nonviolent parenting strategies (e.g., inductive reasoning, response cost, providing alternative behaviors) may, on the surface, be a positive pattern of behavior, these discipline strategies may not prove as effective for parents raising children and adolescents who have hearing and/or communication difficulties. It is possible, therefore, that parents may attempt to use other discipline practices, including

those considered negative or harmful, if nonviolent discipline techniques do not immediately result in desired outcomes. Such a tendency may explain the correlation between higher levels of all parenting practices. Given these findings, we may hypothesize that these parents could experience frustration and that their children could experience behavior problems as a result of the lack of immediate effectiveness of parents' initial attempts to use positive parenting techniques without considering their children's hearing and communication difficulties. This lack of effectiveness in the use of traditional nonviolent discipline practices, in turn, may result in an escalation toward the use of minor physical discipline to elicit the desired behavior from children and adolescents (e.g., Greenwald, 1997; Knutson, DeGarmo, & Reid, 2004). Therefore, further examinations of these hypothesized relationships are warranted.

Correlates of Negative Parenting Behaviors.

Next, variables related to the use of negative discipline practices were evaluated. Results for this sample of parents raising children and adolescents who have hearing and communication problems replicate a developmental trend toward decreased use of corporal punishment with older children. This finding is consistent with that of previous research examiming families raising children and adolescents who do not have communicative difficulties (e.g., Straus & Stewart, 1999). Also, results reveal that parents who experience more depression, trait anxiety, and perceived stress related to parenting their children and adolescents who have hearing and/or communication difficulties are more likely to engage in psychological aggression tactics as part of their discipline (e.g., shouting, yelling, screaming, threatening to use physical discipline without going through with it, swearing, name calling). This finding also is consistent with those of previous research. Higher levels of state anxiety and perceived parenting stress also are associated with the use of more inconsistent discipline with children and adolescents (e.g.,

increased rates of being talked out of punishments, not providing a consequence for misbehaviors at times, not following through with threatened consequences). Essentially, it seems that parents who report experiencing higher levels of distress (i.e., depression, state and trait anxiety, and/or parenting stress) also report higher rates of psychological aggression toward and inconsistency in their discipline of their children and adolescents who have hearing and/or communication difficulties (e.g., Johnson et al., 2006). This finding is not surprising, as previous research describes the negative impact of parents' problematic functioning on the scope of discipline practices employed with children and adolescents (e.g., Abidin, 1992; Ammerman & Patz, 1996; Dadds et al., 2003; Knutson et al., 2000; Webster-Stratton, 1990). It is well-documented that the psycholgical well-being of the primary caregiver has a direct impact on the consistency, choice, and effectiveness of their implemented parenting strategies (e.g., Renk et al., 2007a). Such findings are confirmed in this sample of parents raising children and adolescents who have unique characteristics.

Additionally, parents' endorsements of corporal punishment are higher when they report that their children and adolescents also are experiencing higher levels of externalizing behavior problems (Aucoin, Frick, & Bodin, 2006). This relationship between corporal punishment and parents' perceptions of severity of externalizing behavior problems also has been noted for children and adolescents who have hearing difficulties and varying communication abilities (e.g., Brubaker & Szakowski, 2000). In contrast, corporal punishment is not related significantly to the internalizing or total behavior problems of the children and adolescents in this sample. This pattern of results may suggest a higher rate of escalation from the use of nonviolent tactics to much more physical discipline by parents who perceive the behavior of their children and adolescents to be disruptive, rather than emotionally internal (e.g., depressive or anxious

symptomatology). Such a pattern of results would be highly consistent with the coercive process of parenting described by Patterson (1982).

Correlates of Positive Parenting Behaviors.

Next, factors relating to parenting behaviors that are considered positive were examined. As expected, parents who report that they are from higher socioeconomic status backgrounds also endorse higher levels of positive parenting practices (i.e., nonviolent discipline), including response cost, time-out, and providing alternative behavior options during times of misbehavior. This finding suggests that families belonging to lower socioeconomic groups may be at a disadvantage when raising children and adolescents who have additional conditions requiring attention (e.g., hearing and communication difficulties), as these parents may have fewer resources to address the needs of these children and adolescents (e.g., Duncan et al., 1994). Parents experiencing higher levels of parenting stress also show more involvement with their children and adolescents. This relationship likely reflects a higher level of perceived stress related to the increased parenting demands that are associated with spending the substantial amounts of interaction time and effort that are necessary to support the needs of children and adolescents who have hearing and communication disorders (e.g., Quittner et al., 1990). Moreover, it could indicate that children and adolescents who have hearing and communication difficulties may require a higher level of day-to-day involvement from their caregivers as a result of a wider range of activities and needs (Wood-Jackson et al., 2008). In contrast to these findings, higher rates of parenting stress are associated with lower reported parent-child communication. This finding suggests that, as perceived parenting stress rises, the perceived capability of parents to effectively communicate with their children and adolescents decreases (or vice versa). This relationship is a particularly salient finding given the inherent difficulties

with communication that these children and adolescents experience based on their hearing and communication disorders.

Relationships Among Parents' Fucntioning, the Parent-Child Relationship, and Child Behavior

With regard to parents' functioning, parent-child variables, and child outcomes, many expected relationships are confirmed in this group of caregivers. Not surprisingly, poorer functioning across all dimensions of parents' psychological symptomatology (i.e., depression, state and trait anxiety, parenting stress) are associated with higher perceived internalizing, externalizing, and total behavior problems in children and adolescents who have hearing and communication disorders. These findings are consistent with those previously established in the research literature (e.g., Fergusson et al., 1993; Hintermair, 2006). Next, although internalizing behavior problems are not associated with any measures of parenting or parent-child relationship quality, higher externalizing behavior problems emerge as significantly correlated with increased psychological aggression and inconsistent parenting practices. These findings demonstrate the reciprocal relationship between disruptive child behaviors and parents' use of verbally negative and generally inconsistent discipline tactics. Also, parents' reports of increased externalizing behavior problems are associated with their report of more frequent usage of nonviolent discipline practices. Whereas this relationship may seem like a counterintuitive finding, previous research regarding mediating factors in the use of parenting techniques may explain this result. That is, although the use of nonviolent parenting behaviors may appear to be advisable, the actual effectiveness of these techniques depends on the consistency and follow-through with which they are implemented (e.g., Barkley, 1997, 1999). Therefore, a high frequency of use does not necessarily suggest appropriate timing, consistency, application, or resulting success in

eliciting compliance. If these factors are absent or ineffective, an increase in the disruptive behaviors exhibited by children and adolescents may be expected.

Finally, as hypothesized, higher perceived parent-child communication also is associated with fewer reported externalizing behavior problems. This finding suggests that the more effective communication is between parents and their children and adolescents who have hearing and communication difficulties, the less likely that children and adolescents are to exhibit significant disruptive behavior problems. On a related note, higher reported total behavior problems for children and adolescents also are associated with lower communication ratings between parents and their children and adolescents as well as higher discipline inconsistency. This finding suggests that parent-child dyads experience more difficulty in expressing and understanding each other and parents tend to exhibit more inconsistent parenting approaches as children and adolescents who have hearing and communication difficulties experience more overall behavior problems. In contrast, this finding also may suggest that children and adolescents may experience more overall behavior problems in conjunction with the frustration that they experience in response to poor communication with their parents and more inconsistent parenting being used by their parents.

Overall, these results suggest that, as externalizing behavior problems increase in children and adolescents who have hearing and communication difficulties, parents tend to use higher rates of varied discipline approaches to elicit compliance, including specific parenting strategies that are considered both positive (recommended) and negative (not recommended). In many cases, the use of these strategies may yield varied responses or a lack of compliance, which may result in an escalation of parental discipline toward a tendency to use corporal punishment, or minor physical discipline, practices. Thus, further examinations of the relationships among

parents' characteristics, parent-child variables, and corporal punishment were conducted in this study.

Predictors of Corporal Punishment.

Several potential predictive models examining the use of corporal punishment in families raising children and adolescents who have hearing and communication disorders were investigated and reveal varying results. Specifically, regression analyses examined the discipline-mediated model of corporal punishment (Greenwald et al., 1997) by examining the relationships among specific hypothesized predicting variables that represent an escalation from the use of ineffective discipline practices to the use of minor physical discipline (e.g., Knutson & Bower, 1994; Knutson, DeGarmo, & Reid, 2004). The first series of regression analyses investigated the discipline-mediated model of predicting harsh discipline. These analyses examined whether, after accounting for the impact of parental psychological functioning, parents who employ parenting strategies perceived as ineffective would, in turn, require more coercion in the form of physical discipline to resolve issues. Unfortunately, this hypothesis is not supported, as the underlying conditions for mediation (Baron & Kenny, 1986) are not found in this study. Therefore, an alternate model examining the mediating utility of parenting stress in the potential relationship between parental depression and the use of corporal punishment was examined. This alternate model also is unsupported due to the fact that parents' depression does not show strong prediction of parents' endorsement of corporal punishment in this sample.

Next, a second model investigated the hypothesis that disruptions in parent-child communication and involvement would moderate the relationship between parental functioning and corporal punishment (Gutermuth-Anthony et al., 2005; Johnson et al., 2006). That is, the degree to which parents' individual characteristics are related to parents' endorsements of their

use of corporal punishment would depend on the degree of disruption in parent-child communication and involvement. Again, findings with this sample do not support this hypothesis due to the nonsignificant relationship between parents' functioning (depression and parenting stress) and corporal punishment.

Then, results of a stepwise regression analysis incorporating all parental discipline and parent-child relationship factors measured in this study reveal that one parental characteristic, depressive symptomatology, and one parenting behavior, psychological aggression, together are highly predictive of parents' endorsements of their use of corporal punishment with their children and adolescents who have hearing impairment/loss and communication disorders. These results demonstrate that parents' psychological functioning, particularly parents' degree of depressive symptomatology, is related to parents' engagement in psychological aggression toward their children and adolescents, and these two factors are predictive of the degree of corporal punishment that parents endorse. This finding highlights the fact that interventions targeting improvements in parents' psychological well-being, in combination with the provision of education regarding the potential negative outcomes of engaging in verbal aggression toward children, are centrally important in decreasing the likelihood that parents will engage in harsh physical discipline toward their children and adolescents.

Additionally, the hypothesis that engagement in ineffective parenting strategies may predict escalation toward parents' use of harsh physical discipline was examined. In the context of the discipline-mediation theory, the relationship between nonviolent discipline and corporal punishment was expected to be mediated by parents' perceptions of externalizing behavior problems exhibited by their children and adolescent (Brubaker & Szakowski, 2000). Findings support this meditational model, suggesting that nonviolent parenting practices depend on

parents' perceptions of the severity of their youth's disruptive behaviors and that these variables together predict parents' endorsement of their use of corporal punishment. This finding is particularly noteworthy, as it underscores the importance of the relationship between positive discipline practices and perceived externalizing behavior in children and adolescents. These variables collectively predict parents' endorsements of their use of corporal punishment. In essence, these findings suggest that interventions aimed at improving the *quality* of positive parenting techniques, not simply the *frequency* of such behaviors, may produce a greater positive impact on the disruptive behavior problems exhibited by children and adolescents who have hearing and communication problems. Such improvements then may decrease the likelihood that parents would use corporal punishment. Similarly, it also may be that the use of nonviolent discipline practices may be inherently more effective for children and adolescents who exhibit fewer externalizing behavior problems. If nonviolent discipline practices are being used to effectively manage the behavior of children and adolescents, parents may be less likely to move to practices involving corporal punishment. Overall, these findings suggest that future research should examine the directionality of these relationships further with families raising children and adolescents who have hearing and communication disorders.

Predictors of Behavior Problems.

In addition to examining predictors of corporal punishment, predictors of the behavior problems exhibited by children and adolescents who have hearing and communication difficulties also were examined. With regard to internalizing and total behavior problems, regression analyses demonstrate that the most highly predictive factor, of those investigated in this study, is parenting stress. Additionally, parenting stress and psychological aggression are together found to be significant predictors of the externalizing behavior problems exhibited by

children and adolescents who have hearing and communication difficulties. Generally, these findings are consistent with those of other studies that note the relationship between perceived parenting stress and parents' perceptions of their children's internalizing and total behavior problems in families raising children and adolescents who have hearing and communication disorders (e.g., Barker et al., 2009). Additionally, parents' endorsements of engaging in verbal aggression toward their children and adolescents add to the prediction of parents' endorsements of the externalizing behavior problems exhibited by their children and adolescents. Thus, parents who are experiencing parenting stress and engaging in increased psychological aggression to elicit compliance from their children and adolescents may inadvertently increase the likelihood that their children and adolescents will exhibit externalizing behavior problems.

Implications

Given that previous research suggests that physical punishment may escalate more readily in families raising children who have special needs (e.g., Sullivan & Knutson, 1998b, 2000), the identification of variables that predict parents' engagement in corporal punishment is certainly important. Correlational findings from this study indicate that parents raising children and adolescents who have hearing and communication disorders are using many different types of discipline practices. However, when specific models investigating the mediating utility of parents' discipline practices and parent-child factors in explaining the relationships between parents' distress and use of corporal punishment are examined, parents' discipline practices do not appear to mediate this relationship. Specifically, the *discipline-mediated model* of physical discipline (i.e., the theoretical basis for explaining the effect of parental distress on harsh discipline) is not entirely supported. This lack of support is due, in large part, to the lack of necessary significant relationships between parents' depression and parenting stress with parents'

use of corporal punishment in these families raising children and adolescents who have hearing and communication disorders. This lack of support also may be related to the restricted range of parents' endorsements of their use of minor physical discipline.

An additional model examined in this study and including possible predictor variables for parents' endorsements of their use of corporal punishment finds that two predictors are particularly important for minor physical discipline in families raising children and adolescents who have hearing and communication disorders. In particular, parents' depressive symptoms combined with their reported use of psychological aggression toward the identified children and adolescents predict a substantial portion of the variance in parents' tendency to use corporal punishment. Finally, one supported model suggests that parents' use of nonviolent discipline, in combination with their reports of the externalizing behavior problems exhibited by their children and adolescents, predict their endorsements of their use of corporal punishment. These findings are consistent with the discipline-mediated model of harsh parenting. That is, the current study suggests that nonviolent, or positive, discipline practices may be perceived as ineffective, especially in the context of disruptive behaviors that are exhibited by children and adolescents. These parents may exhibit a tendency toward escalating the type of discipline used to elicit desired behaviors from their children and adolescents who have hearing and communication disorders (e.g., Sullivan & Knutson, 2000). This finding is particularly important as interventions with these families that seek to decrease harsh punishment by targeting parents' use of nonviolent, or authoritative, parenting practices must lend particular emphasis on increasing the effectiveness (i.e., in the form on accuracy, consistency, and follow-through) of advisable discipline practices, especially if children and adolescents have been referred for services due to high rates of disruptive behavior problems.

Study Limitations

The findings of this study must be viewed in the context of several limitations. Although expected due to the considerable difficulty of collecting data from this population, the low sample size is a primary limitation to the generalizability of the results reported in this study. As a result, information from parents of both sexes was examined collectively, resulting in an inability to identify potential differences that may exist between the experiences and reports of mothers versus fathers. Next, as nearly every parent-child dyad shared the same preferred mode of communication (i.e., sign language, oral communication, and total communication [signing and speaking]), relationships between mismatching of communication style and other variables could not be assessed. Further, the relationships between etiology of the children's hearing impairment and other variables were not able to be assessed as planned, as a large portion of participants did not know or report this information. The cross-sectional and single point in time design of the study also limits the inferences that may be made with regard to parenting practices across the lifespan. Additionally, the children of the participants also varied widely in their hearing ability and communication difficulties, which may indicate that the different parenting strategies used by these parents may be required contextually. The data was collected over a period of over two years and across varying geographic locations and settings, which may have contributed in part to the range of parenting behaviors reported. Additionally, the self-report nature of the study may have affected the accuracy with which parents reported incidence of corporal punishment and other discipline practices in the home, which may relate with the restricted range of reports described in this study.

In lieu of these limitations, future studies should include families who are referred for or currently being treated for parenting or behavioral issues to identify whether these parents may

report a wider range of practices. Also, other methods of assessing discipline practices, such as third-party (e.g., therapist) reports, and naturalistic and experimental observational data collection, may elucidate different aspects of discipline practices and dimensions of the parent-child relationship, thus these should be examined. Furthermore, it is important that future evaluations compare families raising youth with hearing and communication disorders with families raising typically developing youth to evaluate potential differences in these families across the measures examined in this study.

Conclusion

This investigation expands upon previous literature regarding a range of parents' characteristics, discipline practices, parent-child relationship factors, and behavior problems in children and adolescent with a group of parents raising children and adolescents who have hearing and communication disorders. Wood-Jackson and colleagues (2008) suggest that therapeutic interventions with families raising children and adolescents who have such difficulties should be implemented within a family-based or systemic approach (i.e., rather than focusing solely upon child-centered techniques), even if the identified client is the child/adolescent who has hearing impairment/loss or an identified communication disorder. The findings of this study support this notion in that problematic (particularly externalizing) child behavior is related to parents' poor psychological functioning and certain dimensions of problematic parenting practices and relationship characteristics. Also, less desirable and potentially harmful physical discipline practices seem to be predicted by parents' distress in the form of their own psychological symptoms, parenting stress, and ineffective parenting behavior (e.g., psychological aggression), lending further support for family-based treatment approaches.

Thus, a parent-focused approach to intervention, such as behavioral parent training (e.g., *Defiant Children/Teens: Clinician's Manuals for Assessment and Parent Training/Family Intervention*; Barkley, 1997, 1999) or a dyad-based therapy method (e.g., *Parent-Child Interaction Therapy*; Hembree-Kigin & McNeil, 1995; Eyberg, 2005) may be best suited to address the increased behavioral problems that may be related to a number of parent and parent-child variables in families raising children and adolescents who have hearing and communication disorders. Finally, the information gained from this study adds to available literature for mental health professionals to better understand and respond to the needs of children and adolescents who have hearing and/or communication disorders, particularly within the family context. When a more comprehensive understanding of the relationships between these parents and their children and adolescents is achieved, services provided for these individuals may help practitioners to more readily identify at-risk youth and guide them toward living psychologically healthy and productive lives.

APPENDIX A: COVER LETTER

Psychology Department

Dear Parent,

Jenny Klein and Dr. Kimberly Renk at the University of Central Florida are currently conducting a study involving families raising children and adolescents who are Deaf, hard-of-hearing, and/or have communication difficulties. Specifically, we are investigating the relationships amongst certain parent and child/adolescent characteristics and overall emotional and behavioral functioning. We are asking for your help. If you choose to volunteer for this study, you would simply read and sign the Parent Consent Form, fill out the surveys in the packet, and return the packet to the researcher. Participation is completely voluntary, but this is what you can expect to find in the packet:

The packet contains a Parent Consent Form, which explains the study in more detail, a Demographics Questionnaire, which asks for information about your child's/adolescent's age, type of schooling and communication abilities, and information about household characteristics. The packet also includes surveys about daily life issues, parenting/discipline strategies, and personal well-being. This packet of questionnaires will take approximately 1 hour to complete.

All information you provide will be kept strictly confidential. The Parent Consent Form will be the only form with your name on it and will be separated from your packet of questionnaires. You also have the option to complete a form to receive a summary of the results of the study upon its completion.

If you have any further questions or concerns about participation in this study, please feel free to contact me at (407) 823-5219 or jklein@ucf.edu. We appreciate your interest in our study, and we look forward to hearing from you.

Sincerely,

Jenny Klein, M.S.
University of Central Florida
Department of Psychology

APPENDIX B: CONSENT FORM

University of Central Florida

Psychology Department

CONSENT FORM for PARTICIPATION

Please review this form and sign on Page 3 if you agree with the terms presented here.

PROJECT: Predictors of Parental Discipline in Families Raising Youth with Hearing and Communication Disorders

INVESTIGATORS: Kimberly Renk, Ph.D. and Jenny Klein, M.S.

Kimberly Renk, Ph.D. and Jenny Klein, M.S. from the Department of Psychology at the University of Central Florida are studying the relationships between certain parental and family characteristics and current child adjustment in families raising children with hearing impairment and/or communication difficulties. The purpose of this study is to gain a better understanding of various family characteristics and the psychological well-being of parents raising these children with specialized needs. Not only will this information add to current literature with this population, but it will help to guide the development of evidence-based interventions tailored to the needs of families raising children with hearing impairment and/or communication difficulties.

Please note that you must be 18 years of age or older to participate in this study. Participation will involve filling out a demographics questionnaire asking general information about you and your family, as well as some background information about your child with hearing impairment and/or communication difficulties. You will also be given a packet of surveys designed to identify various family factors and that may be related to your and your child's current well-being. You will be asked to provide information about your own emotions, behavior, and parental discipline style. You may skip any questions that you do not wish to answer and may discontinue participation at any time without penalty. If you decide to participate, the time commitment for filling out the demographic sheet and the packet of surveys will be approximately 1 hour. Once you have completed the surveys, you will be asked to return them, along with this informed consent form and demographics questionnaire to the research team, either directly to your child's instructor or group leader, or by using an addressed and stamped envelope provided.

We believe that there will be no to minimal risk to you should you participate in this study. Please note that a potential "minimal" risk is indicated above because some individuals may be more self-conscious about rating their own emotions and behaviors whereas others will not experience this type of response. All information will be kept strictly confidential, with only a code number appearing on the collected information, and the informed consent form will be detached from the packet of surveys and stored separately. All information gathered will be examined statistically within a group format, not individually. No individual information will be shared with any agency unless you specifically request it in writing. Your identity will be kept confidential to the extent provided by law. Participation is completely voluntary. No compensation will be given for participation.

UCF University of Central Florida IRB
IRB NUMBER: SBE-06-03725
IRB APPROVAL DATE: 12/2/2008
IRB EXPIRATION DATE: 12/1/2009

If you have any questions regarding the study being conducted, or the information provided on this form, please contact Jenny Klein, M.S. (407) 823-5219 or Kimberly Renk, Ph.D. (407-823-2218) at the University of Central Florida, Department of Psychology. Ms. Klein is the project coordinator and Dr. Renk is the project supervisor, and they will be glad to answer any questions that you have about the study in general or about completing particular items on the questionnaires provided to you or your child.

If you believe you have been injured during participation in this research project, you may file a claim with UCF Environmental Health & Safety, Risk and Insurance Office, P.O. Box 163500, Orlando, FL 32816-3500 (407) 823-6300. The University of Central Florida is an agency of the State of Florida for purposes of sovereign immunity and the university's and the state's liability for personal injury or property damage is extremely limited under Florida law. Accordingly, the university's and the state's ability to compensate you for any personal injury or property damage suffered during this research project is very limited. Information regarding your rights as a research volunteer may be obtained from Barbara Ward, UCF Institutional Review Board Office at the University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246. (Telephone numbers: (407) 823-2901 or (407) 882-2276).

If you agree to participate, please sign the next page. You may tear off and keep this first page for your own information about the study and return only the signed sheet with the surveys.

Consent for Parent Participation

I have read the procedure described on the previous page, and I voluntarily agree to participate in this study entitled "Predictors of Parental Discipline in Families Raising Youth with Hearing and Communication Disorders," conducted by Kimberly Renk, Ph.D. and the research team at the University of Central Florida. I understand all of the above information and I am aware that I may withdraw from the study at any time without penalty.

_____ _____

Signature Date

_____

Print Name

APPENDIX C: CHILD BEHAVIOR CHECKLIST

Please print. Be sure to answer all items.

CHILD BEHAVIOR CHECKLIST FOR AGES 1½ - 5

For office use only
ID #

CHILD'S FULL NAME First Middle Last

CHILD'S GENDER ☐ Boy ☐ Girl | CHILD'S AGE | CHILD'S ETHNIC GROUP OR RACE

TODAY'S DATE Mo. ____ Date ____ Yr. ____

CHILD'S BIRTHDATE Mo. ____ Date ____ Yr. ____

Please fill out this form to reflect *your* view of the child's behavior even if other people might not agree. Feel free to write additional comments beside each item and in the space provided on page 2. ***Be sure to answer all items.***

PARENTS' USUAL TYPE OF WORK, even if not working now. *Please be specific—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.*

FATHER'S TYPE OF WORK: ____

MOTHER'S TYPE OF WORK: ____

THIS FORM FILLED OUT BY: (print your full name)

Your relationship to child:

☐ Mother ☐ Father ☐ Other (specify):

Below is a list of items that describe children. For each item that describes the child ***now or within the past 2 months***, please circle the ***2*** if the item is ***very true*** or ***often true*** of the child. Circle the ***1*** if the item is ***somewhat or sometimes true*** of the child. If the item is ***not true*** of the child, circle the ***0***. Please answer all items as well as you can, even if some do not seem to apply to the child.

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0	1	2	1.	Aches or pains (without medical cause; *do not* include stomach or headaches)
0	1	2	2.	Acts too young for age
0	1	2	3.	Afraid to try new things
0	1	2	4.	Avoids looking others in the eye
0	1	2	5.	Can't concentrate, can't pay attention for long
0	1	2	6.	Can't sit still, restless, or hyperactive
0	1	2	7.	Can't stand having things out of place
0	1	2	8.	Can't stand waiting; wants everything now
0	1	2	9.	Chews on things that aren't edible
0	1	2	10.	Clings to adults or too dependent
0	1	2	11.	Constantly seeks help
0	1	2	12.	Constipated, doesn't move bowels (when not sick)
0	1	2	13.	Cries a lot
0	1	2	14.	Cruel to animals
0	1	2	15.	Defiant
0	1	2	16.	Demands must be met immediately
0	1	2	17.	Destroys his/her own things
0	1	2	18.	Destroys things belonging to his/her family or other children
0	1	2	19.	Diarrhea or loose bowels (when not sick)
0	1	2	20.	Disobedient
0	1	2	21.	Disturbed by any change in routine
0	1	2	22.	Doesn't want to sleep alone
0	1	2	23.	Doesn't answer when people talk to him/her
0	1	2	24.	Doesn't eat well (describe): ____
0	1	2	25.	Doesn't get along with other children
0	1	2	26.	Doesn't know how to have fun; acts like a little adult
0	1	2	27.	Doesn't seem to feel guilty after misbehaving
0	1	2	28.	Doesn't want to go out of home
0	1	2	29.	Easily frustrated
0	1	2	30.	Easily jealous
0	1	2	31.	Eats or drinks things that are not food—*don't* include sweets (describe): ____
0	1	2	32.	Fears certain animals, situations, or places (describe): ____
0	1	2	33.	Feelings are easily hurt
0	1	2	34.	Gets hurt a lot, accident-prone
0	1	2	35.	Gets in many fights
0	1	2	36.	Gets into everything
0	1	2	37.	Gets too upset when separated from parents
0	1	2	38.	Has trouble getting to sleep
0	1	2	39.	Headaches (without medical cause)
0	1	2	40.	Hits others
0	1	2	41.	Holds his/her breath
0	1	2	42.	Hurts animals or people without meaning to
0	1	2	43.	Looks unhappy without good reason
0	1	2	44.	Angry moods
0	1	2	45.	Nausea, feels sick (without medical cause)
0	1	2	46.	Nervous movements or twitching (describe): ____
0	1	2	47.	Nervous, highstrung, or tense
0	1	2	48.	Nightmares
0	1	2	49.	Overeating
0	1	2	50.	Overtired
0	1	2	51.	Shows panic for no good reason
0	1	2	52.	Painful bowel movements (without medical cause)
0	1	2	53.	Physically attacks people
0	1	2	54.	Picks nose, skin, or other parts of body (describe): ____

Be sure you have answered all items. Then see other side.

ASEBA, University of Vermont, 1 S. Prospect St., Burlington, VT 05401-3456 Web: http://Checklist.uvm.edu

7-28-00 Edition

Please print your answers. Be sure to answer all items.

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

0	1	2	55.	Plays with own sex parts too much
0	1	2	56.	Poorly coordinated or clumsy
0	1	2	57.	Problems with eyes (without medical cause) (describe): _____
0	1	2	58.	Punishment doesn't change his/her behavior
0	1	2	59.	Quickly shifts from one activity to another
0	1	2	60.	Rashes or other skin problems (without medical cause)
0	1	2	61.	Refuses to eat
0	1	2	62.	Refuses to play active games
0	1	2	63.	Repeatedly rocks head or body
0	1	2	64.	Resists going to bed at night
0	1	2	65.	Resists toilet training (describe): _____
0	1	2	66.	Screams a lot
0	1	2	67.	Seems unresponsive to affection
0	1	2	68.	Self-conscious or easily embarrassed
0	1	2	69.	Selfish or won't share
0	1	2	70.	Shows little affection toward people
0	1	2	71.	Shows little interest in things around him/her
0	1	2	72.	Shows too little fear of getting hurt
0	1	2	73.	Too shy or timid
0	1	2	74.	Sleeps less than most children during day and/or night (describe): _____
0	1	2	75.	Smears or plays with bowel movements
0	1	2	76.	Speech problem (describe): _____
0	1	2	77.	Stares into space or seems preoccupied
0	1	2	78.	Stomachaches or cramps (without medical cause)
0	1	2	79.	Rapid shifts between sadness and excitement
0	1	2	80.	Strange behavior (describe): _____
0	1	2	81.	Stubborn, sullen, or irritable
0	1	2	82.	Sudden changes in mood or feelings
0	1	2	83.	Sulks a lot
0	1	2	84.	Talks or cries out in sleep
0	1	2	85.	Temper tantrums or hot temper
0	1	2	86.	Too concerned with neatness or cleanliness
0	1	2	87.	Too fearful or anxious
0	1	2	88.	Uncooperative
0	1	2	89.	Underactive, slow moving, or lacks energy
0	1	2	90.	Unhappy, sad, or depressed
0	1	2	91.	Unusually loud
0	1	2	92.	Upset by new people or situations (describe): _____
0	1	2	93.	Vomiting, throwing up (without medical cause)
0	1	2	94.	Wakes up often at night
0	1	2	95.	Wanders away
0	1	2	96.	Wants a lot of attention
0	1	2	97.	Whining
0	1	2	98.	Withdrawn, doesn't get involved with others
0	1	2	99.	Worries
			100.	Please write in any problems the child has that were not listed above.
0	1	2		_____
0	1	2		_____
0	1	2		_____

Please be sure you have answered all items.
Underline any you are concerned about.

Does the child have any illness or disability (either physical or mental)? ☐ **No** ☐ **Yes—Please describe:**

_____

What concerns you most about the child?

_____

Please describe the best things about the child:

LANGUAGE DEVELOPMENT SURVEY FOR AGES 18-35 MONTHS

For office use only
ID #

The Language Development Survey assesses children's word combinations and vocabulary. By carefully completing the Language Development Survey, you can help us obtain an accurate picture of your child's developing language. ***Please print your answers. Be sure to answer all items.***

I. Was your child born earlier than the usual 9 months after conception?

☐ No ☐ Yes—how many weeks early? _____weeks early.

II. How much did your child weigh at birth? _____ pounds _____ ounces or _____ grams.

III. How many ear infections did your child have before age 24 months?

☐ 0-2 ☐ 3-5 ☐ 6-8 ☐ 9 or more

IV. Is any language beside English spoken in your home?

☐ No ☐ Yes—please list the languages: _____ _____

_____ _____

V. Has anyone in your family been slow in learning to talk?

☐ No ☐ Yes—please list their relationships to your child; for example, brother, father:

_____

VI. Are you worried about your child's language development?

☐ No ☐ Yes—why? _____

VII. Does your child spontaneously say words in any language? (not just imitates or understands words)?

☐ No ☐ Yes—if yes, please complete item VIII and page 4.

VIII. Does your child combine 2 or more words into phrases? For example: "more cookie," "car bye-bye."

☐ No ☐ Yes—please print 5 of your child's longest and best phrases or sentences.
For each phrase that is not in English, print the name of the language.

1. _____
2. _____
3. _____
4. _____
5. _____

Be sure you have answered all items. Then see other side.

Please circle each word that your child says SPONTANEOUSLY (not just imitates or understands). If your child says non-English versions of words on the list, circle the English word and write the first letter of the language (e.g., S for Spanish). Please include words even if they are not pronounced clearly or are in "baby talk" (for example: "baba" for bottle).

FOODS
1. apple
2. banana
3. bread
4. butter
5. cake
6. candy
7. cereal
8. cheese
9. coffee
10. cookie
11. crackers
12. drink
13. egg
14. food
15. grapes
16. gum
17. hamburger
18. hotdog
19. ice cream
20. juice
21. meat
22. milk
23. orange
24. pizza
25. pretzel
26. raisins
27. soda
28. soup
29. spaghetti
30. tea
31. toast
32. water

TOYS
33. ball
34. balloon
35. blocks
36. book
37. crayons
38. doll
39. picture
40. present
41. slide
42. swing
43. teddy bear

OUTDOORS
44. flower
45. house
46. moon
47. rain
48. sidewalk
49. sky
50. snow
51. star
52. street
53. sun
54. tree

ANIMALS
55. bear
56. bee
57. bird
58. bug
59. bunny
60. cat
61. chicken
62. cow
63. dog
64. duck
65. elephant
66. fish
67. frog
68. horse
69. monkey
70. pig
71. puppy
72. snake
73. tiger
74. turkey
75. turtle

BODY PARTS
76. arm
77. belly button
78. bottom
79. chin
80. ear
81. elbow
82. eye
83. face
84. finger
85. foot
86. hair
87. hand
88. knee
89. leg
90. mouth
91. neck
92. nose
93. teeth
94. thumb
95. toe
96. tummy

VEHICLES
97. bike
98. boat
99. bus
100. car
101. motorcycle
102. plane
103. stroller
104. train
105. trolley
106. truck

ACTIONS
107. bath
108. breakfast
109. bring
110. catch
111. clap
112. close
113. come
114. cough
115. cut
116. dance
117. dinner
118. doodoo
119. down
120. eat
121. feed
122. finish
123. fix
124. get
125. give
126. go
127. have
128. help
129. hit
130. hug
131. jump
132. kick
133. kiss
134. knock
135. look
136. love
137. lunch
138. make
139. nap
140. open
141. outside
142. pattycake
143. peekaboo
144. peepee
145. push
146. read
147. ride
148. run
149. see
150. show
151. shut
152. sing
153. sit
154. sleep
155. stop
156. take
157. throw
158. tickle
159. up
160. walk
161. want
162. wash

HOUSEHOLD
163. bathtub
164. bed
165. blanket
166. bottle
167. bowl
168. chair
169. clock
170. crib
171. cup
172. door
173. floor
174. fork
175. glass
176. knife
177. light
178. mirror
179. pillow
180. plate
181. potty
182. radio
183. room
184. sink
185. soap
186. spoon
187. stairs
188. table
189. telephone
190. towel
191. trash
192. T.V.
193. window

PERSONAL
194. brush
195. comb
196. glasses
197. key
198. money
199. paper
200. pen
201. pencil
202. penny
203. pocketbook
204. tissue
205. tooth brush
206. umbrella
207. watch

PLACES
208. church
209. home
210. hospital
211. library
212. park
213. school
214. store
215. zoo

MODIFIERS
216. all gone
217. all right
218. bad
219. big
220. black
221. blue
222. broken
223. clean
224. cold
225. dark
226. dirty
227. dry
228. good
229. happy
230. heavy
231. hot
232. hungry
233. little
234. mine
235. more
236. nice
237. pretty
238. red
239. stinky
240. that
241. this
242. tired
243. wet
244. white
245. yellow
246. yucky

CLOTHES
247. belt
248. boots
249. coat
250. diaper
251. dress
252. gloves
253. hat
254. jacket
255. mittens
256. pajamas
257. pants
258. shirt
259. shoes
260. slippers
261. sneakers
262. socks
263. sweater

OTHER
264. any letter
265. away
266. booboo
267. byebye
268. excuse me
269. here
270. hi, hello
271. in
272. me
273. meow
274. my
275. myself
276. nightnight
277. no
278. off
279. on
280. out
281. please
282. Sesame St.
283. shut up
284. thank you
285. there
286. under
287. welcome
288. what
289. where
290. why
291. woofwoof
292. yes
293. you
294. yumyum
295. any number

PEOPLE
296. aunt
297. baby
298. boy
299. daddy
300. doctor
301. girl
302. grandma
303. grandpa
304. lady
305. man
306. mommy
307. own name
308. pet name
309. uncle
310. name of TV or story character

Other words your child says, including non-English words:

_____

_____

_____

_____

Please print **CHILD BEHAVIOR CHECKLIST FOR AGES 6-18**

For office use only
ID #

CHILD'S FULL NAME First Middle Last

CHILD'S GENDER ☐ Boy ☐ Girl

CHILD'S AGE

CHILD'S ETHNIC GROUP OR RACE

TODAY'S DATE Mo._____ Date _____ Yr. _____

CHILD'S BIRTHDATE Mo._____ Date _____ Yr. _____

GRADE IN SCHOOL _____

NOT ATTENDING SCHOOL ☐

Please fill out this form to reflect *your* view of the child's behavior even if other people might not agree. Feel free to print additional comments beside each item and in the space provided on page 2. ***Be sure to answer all items.***

PARENTS' USUAL TYPE OF WORK, even if not working now. *(Please be specific — for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.)*

FATHER'S TYPE OF WORK _____

MOTHER'S TYPE OF WORK _____

THIS FORM FILLED OUT BY: (print your full name)

_____

Your gender: ☐ Male ☐ Female

Your relation to the child:

☐ Biological Parent ☐ Step Parent ☐ Grandparent
☐ Adoptive Parent ☐ Foster Parent ☐ Other (specify)_____

I. Please list the sports your child most likes to take part in. For example: swimming, baseball, skating, skate boarding, bike riding, fishing, etc.

☐ None

	Compared to others of the same age, about how much time does he/she spend in each?				Compared to others of the same age, how well does he/she do each one?			
	Less Than Average	Average	More Than Average	Don't Know	Below Average	Average	Above Average	Don't Know
a. _____	☐	☐	☐	☐	☐	☐	☐	☐
b. _____	☐	☐	☐	☐	☐	☐	☐	☐
c. _____	☐	☐	☐	☐	☐	☐	☐	☐

II. Please list your child's favorite hobbies, activities, and games, other than sports. For example: stamps, dolls, books, piano, crafts, cars, computers, singing, etc. (Do ***not*** include listening to radio or TV.)

☐ None

	Compared to others of the same age, about how much time does he/she spend in each?				Compared to others of the same age, how well does he/she do each one?			
	Less Than Average	Average	More Than Average	Don't Know	Below Average	Average	Above Average	Don't Know
a. _____	☐	☐	☐	☐	☐	☐	☐	☐
b. _____	☐	☐	☐	☐	☐	☐	☐	☐
c. _____	☐	☐	☐	☐	☐	☐	☐	☐

III. Please list any organizations, clubs, teams, or groups your child belongs to.

☐ None

	Compared to others of the same age, how active is he/she in each?			
	Less Active	Average	More Active	Don't Know
a. _____	☐	☐	☐	☐
b. _____	☐	☐	☐	☐
c. _____	☐	☐	☐	☐

IV. Please list any jobs or chores your child has. For example: paper route, babysitting, making bed, working in store, etc. (Include both paid and unpaid jobs and chores.)

☐ None

	Compared to others of the same age, how well does he/she carry them out?			
	Below Average	Average	Above Average	Don't Know
a. _____	☐	☐	☐	☐
b. _____	☐	☐	☐	☐
c. _____	☐	☐	☐	☐

Be sure you answered all items. Then see other side.

6-1-01 Edition - 201

Please print. Be sure to answer all items.

V. 1. About how many close friends does your child have? (Do *not* include brothers & sisters)

❒ None ❒ 1 ❒ 2 or 3 ❒ 4 or more

2. About how many times a week does your child do things with any friends outside of regular school hours? (Do *not* include brothers & sisters) ❒ Less than 1 ❒ 1 or 2 ❒ 3 or more

VI. Compared to others of his/her age, how well does your child:

	Worse	Average	Better	
a. Get along with his/her brothers & sisters?	❒	❒	❒	❒ Has no brothers or sisters
b. Get along with other kids?	❒	❒	❒	
c. Behave with his/her parents?	❒	❒	❒	
d. Play and work alone?	❒	❒	❒	

VII. 1. Performance in academic subjects. ❒ Does not attend school because _____

Check a box for each subject that child takes		Failing	Below Average	Average	Above Average
	a. Reading, English, or Language Arts	❒	❒	❒	❒
Other academic subjects—for example: computer courses, foreign language, business. Do *not* include gym, shop, driver's ed., or other nonacademic subjects.	b. History or Social Studies	❒	❒	❒	❒
	c. Arithmetic or Math	❒	❒	❒	❒
	d. Science	❒	❒	❒	❒
	e. _____	❒	❒	❒	❒
	f. _____	❒	❒	❒	❒
	g. _____	❒	❒	❒	❒

2. Does your child receive special education or remedial services or attend a special class or special school?
❒ No ❒ Yes—kind of services, class, or school:

3. Has your child repeated any grades? ❒ No ❒ Yes—grades and reasons:

4. Has your child had any academic or other problems in school? ❒ No ❒ Yes—please describe:

When did these problems start?_____

Have these problems ended? ❒ No ❒ Yes–when?

Does your child have any illness or disability (either physical or mental)? ❒ No ❒ Yes—please describe:

What concerns you most about your child?

Please describe the best things about your child.

Be sure you answered all items.

Please print. Be sure to answer all items.

Below is a list of items that describe children and youths. For each item that describes your child ***now or within the past 6 months***, please circle the ***2*** if the item is ***very true or often true*** of your child. Circle the ***1*** if the item is ***somewhat or sometimes true*** of your child. If the item is ***not true*** of your child, circle the ***0***. Please answer all items as well as you can, even if some do not seem to apply to your child.

0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

0 1 2 1. Acts too young for his/her age
0 1 2 2. Drinks alcohol without parents' approval (describe):_____
0 1 2 3. Argues a lot
0 1 2 4. Fails to finish things he/she starts
0 1 2 5. There is very little he/she enjoys
0 1 2 6. Bowel movements outside toilet
0 1 2 7. Bragging, boasting
0 1 2 8. Can't concentrate, can't pay attention for long
0 1 2 9. Can't get his/her mind off certain thoughts; obsessions (describe):_____
0 1 2 10. Can't sit still, restless, or hyperactive
0 1 2 11. Clings to adults or too dependent
0 1 2 12. Complains of loneliness
0 1 2 13. Confused or seems to be in a fog
0 1 2 14. Cries a lot
0 1 2 15. Cruel to animals
0 1 2 16. Cruelty, bullying, or meanness to others
0 1 2 17. Daydreams or gets lost in his/her thoughts
0 1 2 18. Deliberately harms self or attempts suicide
0 1 2 19. Demands a lot of attention
0 1 2 20. Destroys his/her own things
0 1 2 21. Destroys things belonging to his/her family or others
0 1 2 22. Disobedient at home
0 1 2 23. Disobedient at school
0 1 2 24. Doesn't eat well
0 1 2 25. Doesn't get along with other kids
0 1 2 26. Doesn't seem to feel guilty after misbehaving
0 1 2 27. Easily jealous
0 1 2 28. Breaks rules at home, school, or elsewhere
0 1 2 29. Fears certain animals, situations, or places, other than school (describe):_____
0 1 2 30. Fears going to school
0 1 2 31. Fears he/she might think or do something bad
0 1 2 32. Feels he/she has to be perfect
0 1 2 33. Feels or complains that no one loves him/her
0 1 2 34. Feels others are out to get him/her
0 1 2 35. Feels worthless or inferior
0 1 2 36. Gets hurt a lot, accident-prone
0 1 2 37. Gets in many fights
0 1 2 38. Gets teased a lot
0 1 2 39. Hangs around with others who get in trouble
0 1 2 40. Hears sounds or voices that aren't there (describe):_____
0 1 2 41. Impulsive or acts without thinking
0 1 2 42. Would rather be alone than with others
0 1 2 43. Lying or cheating
0 1 2 44. Bites fingernails
0 1 2 45. Nervous, highstrung, or tense
0 1 2 46. Nervous movements or twitching (describe):_____
0 1 2 47. Nightmares
0 1 2 48. Not liked by other kids
0 1 2 49. Constipated, doesn't move bowels
0 1 2 50. Too fearful or anxious
0 1 2 51. Feels dizzy or lightheaded
0 1 2 52. Feels too guilty
0 1 2 53. Overeating
0 1 2 54. Overtired without good reason
0 1 2 55. Overweight
56. Physical problems ***without known medical cause:***
0 1 2 a. Aches or pains (***not*** stomach or headaches)
0 1 2 b. Headaches
0 1 2 c. Nausea, feels sick
0 1 2 d. Problems with eyes (***not*** if corrected by glasses) (describe):_____
0 1 2 e. Rashes or other skin problems
0 1 2 f. Stomachaches
0 1 2 g. Vomiting, throwing up
0 1 2 h. Other (describe):_____

 Be sure you answered all items. Then see other side.

Please print. Be sure to answer all items.

0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

0 1 2 57. Physically attacks people
0 1 2 58. Picks nose, skin, or other parts of body (describe): _____
0 1 2 59. Plays with own sex parts in public
0 1 2 60. Plays with own sex parts too much
0 1 2 61. Poor school work
0 1 2 62. Poorly coordinated or clumsy
0 1 2 63. Prefers being with older kids
0 1 2 64. Prefers being with younger kids
0 1 2 65. Refuses to talk
0 1 2 66. Repeats certain acts over and over; compulsions (describe): _____
0 1 2 67. Runs away from home
0 1 2 68. Screams a lot
0 1 2 69. Secretive, keeps things to self
0 1 2 70. Sees things that aren't there (describe): _____
0 1 2 71. Self-conscious or easily embarrassed
0 1 2 72. Sets fires
0 1 2 73. Sexual problems (describe): _____
0 1 2 74. Showing off or clowning
0 1 2 75. Too shy or timid
0 1 2 76. Sleeps less than most kids
0 1 2 77. Sleeps more than most kids during day and/or night (describe): _____
0 1 2 78. Inattentive or easily distracted
0 1 2 79. Speech problem (describe): _____
0 1 2 80. Stares blankly
0 1 2 81. Steals at home
0 1 2 82. Steals outside the home
0 1 2 83. Stores up too many things he/she doesn't need (describe): _____
0 1 2 84. Strange behavior (describe): _____
0 1 2 85. Strange ideas (describe): _____
0 1 2 86. Stubborn, sullen, or irritable
0 1 2 87. Sudden changes in mood or feelings
0 1 2 88. Sulks a lot
0 1 2 89. Suspicious
0 1 2 90. Swearing or obscene language
0 1 2 91. Talks about killing self
0 1 2 92. Talks or walks in sleep (describe): _____
0 1 2 93. Talks too much
0 1 2 94. Teases a lot
0 1 2 95. Temper tantrums or hot temper
0 1 2 96. Thinks about sex too much
0 1 2 97. Threatens people
0 1 2 98. Thumb-sucking
0 1 2 99. Smokes, chews, or sniffs tobacco
0 1 2 100. Trouble sleeping (describe): _____
0 1 2 101. Truancy, skips school
0 1 2 102. Underactive, slow moving, or lacks energy
0 1 2 103. Unhappy, sad, or depressed
0 1 2 104. Unusually loud
0 1 2 105. Uses drugs for nonmedical purposes (***don't*** include alcohol or tobacco) (describe): _____
0 1 2 106. Vandalism
0 1 2 107. Wets self during the day
0 1 2 108. Wets the bed
0 1 2 109. Whining
0 1 2 110. Wishes to be of opposite sex
0 1 2 111. Withdrawn, doesn't get involved with others
0 1 2 112. Worries
113. Please write in any problems your child has that were not listed above:
0 1 2 _____
0 1 2 _____
0 1 2 _____

Please be sure you answered all items.

APPENDIX D: PARENTING STRESS INDEX – SHORT FORM

PSI Short Form

Instructions

This questionnaire contains 36 statements. Read each statement carefully. For each statement, please focus on the child you are most concerned about, and circle the response that best represents your opinion.

Circle the SA if you strongly agree with the statement.

Circle the A if you agree with the statement.

Circle the NS if you are not sure.

Circle the D if you disagree with the statement.

Circle the SD if you strongly disagree with the statement.

For example, if you sometimes enjoy going to the movies, you would circle A in response to the following statement:

I enjoy going to the movies. SA (A) NS D SD

While you may not find a response that exactly states your feelings, please circle the response that comes closest to describing how you feel. YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.

Circle only one response for each statement, and respond to all statements. **DO NOT ERASE!** If you need to change an answer, make an "X" through the incorrect answer and circle the correct response. For example:

I enjoy going to the movies. SA A NS (X) (SD)

Before responding to the statements, write your name, gender, date of birth, ethnic group, marital status, child's name, child's gender, child's date of birth, and today's date in the spaces at the top of the questionnaire.

Name_____ Gender ____ Date of birth _____ Ethnic group _____ Marital status_____

Child's name_____ Child's gender_____ Child's date of birth _____ Today's date_____

SA = Strongly Agree A = Agree NS = Not Sure D = Disagree SD = Strongly Disagree

1.	I often have the feeling that I cannot handle things very well.	SA	A	NS	D	SD
2.	I find myself giving up more of my life to meet my children's needs than I ever expected.	SA	A	NS	D	SD
3.	I feel trapped by my responsibilities as a parent.	SA	A	NS	D	SD
4.	Since having this child, I have been unable to do new and different things.	SA	A	NS	D	SD
5.	Since having a child, I feel that I am almost never able to do things that I like to do.	SA	A	NS	D	SD
6.	I am unhappy with the last purchase of clothing I made for myself.	SA	A	NS	D	SD
7.	There are quite a few things that bother me about my life.	SA	A	NS	D	SD
8.	Having a child has caused more problems than I expected in my relationship with my spouse (or male/female friend).	SA	A	NS	D	SD
9.	I feel alone and without friends.	SA	A	NS	D	SD
10.	When I go to a party, I usually expect not to enjoy myself.	SA	A	NS	D	SD
11.	I am not as interested in people as I used to be.	SA	A	NS	D	SD
12.	I don't enjoy things as I used to.	SA	A	NS	D	SD
13.	My child rarely does things for me that make me feel good.	SA	A	NS	D	SD
14.	Sometimes I feel my child doesn't like me and doesn't want to be close to me.	SA	A	NS	D	SD
15.	My child smiles at me much less than I expected.	SA	A	NS	D	SD
16.	When I do things for my child, I get the feeling that my efforts are not appreciated very much.	SA	A	NS	D	SD
17.	When playing, my child doesn't often giggle or laugh.	SA	A	NS	D	SD
18.	My child doesn't seem to learn as quickly as most children.	SA	A	NS	D	SD
19.	My child doesn't seem to smile as much as most children.	SA	A	NS	D	SD
20.	My child is not able to do as much as I expected.	SA	A	NS	D	SD
21.	It takes a long time and it is very hard for my child to get used to new things.	SA	A	NS	D	SD

For the next statement, choose your response from the choices "1" to "5" below.

22.	I feel that I am: 1. not very good at being a parent 2. a person who has some trouble being a parent 3. an average parent 4. a better than average parent 5. a very good parent	1	2	3	4	5
23.	I expected to have closer and warmer feelings for my child than I do and this bothers me.	SA	A	NS	D	SD
24.	Sometimes my child does things that bother me just to be mean.	SA	A	NS	D	SD
25.	My child seems to cry or fuss more often than most children.	SA	A	NS	D	SD
26.	My child generally wakes up in a bad mood.	SA	A	NS	D	SD
27.	I feel that my child is very moody and easily upset.	SA	A	NS	D	SD
28.	My child does a few things which bother me a great deal.	SA	A	NS	D	SD
29.	My child reacts very strongly when something happens that my child doesn't like.	SA	A	NS	D	SD
30.	My child gets upset easily over the smallest thing.	SA	A	NS	D	SD
31.	My child's sleeping or eating schedule was much harder to establish than I expected.	SA	A	NS	D	SD

For the next statement, choose your response from the choices "1" to "5" below.

32.	I have found that getting my child to do something or stop doing something is: 1. much harder than I expected 2. somewhat harder than I expected 3. about as hard as I expected 4. somewhat easier than I expected 5. much easier than I expected	1	2	3	4	5

For the next statement, choose your response from the choices "10+" to "1-3."

33.	Think carefully and count the number of things which your child does that bother you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc.	10+	8-9	6-7	4-5	1-3

3. about as hard as I expected
4. somewhat easier than I expected
5. much easier than I expected

For the next statement, choose your response from the choices "10+" to "1-3."

33.	Think carefully and count the number of things which your child does that bother you. For example: dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc.	10+	8-9	6-7	4-5	1-3
34.	There are some things my child does that really bother me a lot.	SA	A	NS	D	SD
35.	My child turned out to be more of a problem than I had expected.	SA	A	NS	D	SD
36.	My child makes more demands on me than most children.	SA	A	NS	D	SD

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APPENDIX E: BECK DEPRESSION INVENTORY – SECOND EDITION

BDI-II

Date:

Name: _____ Marital Status: _____ Age: _____ Sex: _____

Occupation: _____ Education: _____

Instructions: This questionnaire consists of 21 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today**. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 16 (Changes in Sleeping Pattern) or Item 18 (Changes in Appetite).

1. Sadness

0 I do not feel sad.
1 I feel sad much of the time.
2 I am sad all the time.
3 I am so sad or unhappy that I can't stand it.

2. Pessimism

0 I am not discouraged about my future.
1 I feel more discouraged about my future than I used to be.
2 I do not expect things to work out for me.
3 I feel my future is hopeless and will only get worse.

3. Past Failure

0 I do not feel like a failure.
1 I have failed more than I should have.
2 As I look back, I see a lot of failures.
3 I feel I am a total failure as a person.

4. Loss of Pleasure

0 I get as much pleasure as I ever did from the things I enjoy.
1 I don't enjoy things as much as I used to.
2 I get very little pleasure from the things I used to enjoy.
3 I can't get any pleasure from the things I used to enjoy.

5. Guilty Feelings

0 I don't feel particularly guilty.
1 I feel guilty over many things I have done or should have done.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6. Punishment Feelings

0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.

7. Self-Dislike

0 I feel the same about myself as ever.
1 I have lost confidence in myself.
2 I am disappointed in myself.
3 I dislike myself.

8. Self-Criticalness

0 I don't criticize or blame myself more than usual.
1 I am more critical of myself than I used to be.
2 I criticize myself for all of my faults.
3 I blame myself for everything bad that happens.

9. Suicidal Thoughts or Wishes

0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

10. Crying

0 I don't cry anymore than I used to.
1 I cry more than I used to.
2 I cry over every little thing.
3 I feel like crying, but I can't.

_____ Subtotal Page 1

Continued on Back

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11. Agitation

0 I am no more restless or wound up than usual.
1 I feel more restless or wound up than usual.
2 I am so restless or agitated that it's hard to stay still.
3 I am so restless or agitated that I have to keep moving or doing something.

12. Loss of Interest

0 I have not lost interest in other people or activities.
1 I am less interested in other people or things than before.
2 I have lost most of my interest in other people or things.
3 It's hard to get interested in anything.

13. Indecisiveness

0 I make decisions about as well as ever.
1 I find it more difficult to make decisions than usual.
2 I have much greater difficulty in making decisions than I used to.
3 I have trouble making any decisions.

14. Worthlessness

0 I do not feel I am worthless.
1 I don't consider myself as worthwhile and useful as I used to.
2 I feel more worthless as compared to other people.
3 I feel utterly worthless.

15. Loss of Energy

0 I have as much energy as ever.
1 I have less energy than I used to have.
2 I don't have enough energy to do very much.
3 I don't have enough energy to do anything.

16. Changes in Sleeping Pattern

0 I have not experienced any change in my sleeping pattern.
1a I sleep somewhat more than usual.
1b I sleep somewhat less than usual.
2a I sleep a lot more than usual.
2b I sleep a lot less than usual.
3a I sleep most of the day.
3b I wake up 1–2 hours early and can't get back to sleep.

17. Irritability

0 I am no more irritable than usual.
1 I am more irritable than usual.
2 I am much more irritable than usual.
3 I am irritable all the time.

18. Changes in Appetite

0 I have not experienced any change in my appetite.
1a My appetite is somewhat less than usual.
1b My appetite is somewhat greater than usual.
2a My appetite is much less than before.
2b My appetite is much greater than usual.
3a I have no appetite at all.
3b I crave food all the time.

19. Concentration Difficulty

0 I can concentrate as well as ever.
1 I can't concentrate as well as usual.
2 It's hard to keep my mind on anything for very long.
3 I find I can't concentrate on anything.

20. Tiredness or Fatigue

0 I am no more tired or fatigued than usual.
1 I get more tired or fatigued more easily than usual.
2 I am too tired or fatigued to do a lot of the things I used to do.
3 I am too tired or fatigued to do most of the things I used to do.

21. Loss of Interest in Sex

0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.

10 11 12 A B C D E

_____ Subtotal Page 2
_____ Subtotal Page 1
_____ Total Score

APPENDIX F: STATE-TRAIT ANXIETY INVENTORY

SELF-EVALUATION QUESTIONNAIRE STAI Form Y-1

Please provide the following information:

Name_____ Date_____ S_____

Age_____ Gender (*Circle*) **M** **F** T_____

DIRECTIONS:

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you feel *right now*, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	NOT AT ALL	SOMEWHAT	MODERATELY SO	VERY MUCH SO
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I feel strained	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortunes	1	2	3	4
8. I feel satisfied	1	2	3	4
9. I feel frightened	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel indecisive	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4
18. I feel confused	1	2	3	4
19. I feel steady	1	2	3	4
20. I feel pleasant	1	2	3	4

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SELF-EVALUATION QUESTIONNAIRE

STAI Form Y-2

Name_____ Date_____

DIRECTIONS

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate number to the right of the statement to indicate how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

	ALMOST NEVER	SOMETIMES	OFTEN	ALMOST ALWAYS
21. I feel pleasant	1	2	3	4
22. I feel nervous and restless	1	2	3	4
23. I feel satisfied with myself	1	2	3	4
24. I wish I could be as happy as others seem to be	1	2	3	4
25. I feel like a failure	1	2	3	4
26. I feel rested	1	2	3	4
27. I am "calm, cool, and collected"	1	2	3	4
28. I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
29. I worry too much over something that really doesn't matter	1	2	3	4
30. I am happy	1	2	3	4
31. I have disturbing thoughts	1	2	3	4
32. I lack self-confidence	1	2	3	4
33. I feel secure	1	2	3	4
34. I make decisions easily	1	2	3	4
35. I feel inadequate	1	2	3	4
36. I am content	1	2	3	4
37. Some unimportant thought runs through my mind and bothers me	1	2	3	4
38. I take disappointments so keenly that I can't put them out of my mind	1	2	3	4
39. I am a steady person	1	2	3	4
40. I get in a state of tension or turmoil as I think over my recent concerns and interests	1	2	3	4

STAID-AD Test Form Y
www.mindgarden.com

APPENDIX G: PARENT-CHILD RELATIONSHIP INVENTORY

Directions

The statements below describe different ways some parents feel about their children. For each statement, decide how you feel. If you *strongly agree*, circle the 1 next to that statement number on the answer sheet. If you *agree*, circle the 2. If you *disagree*, circle the 3 on the answer sheet. If you *strongly disagree*, circle the 4. Please make sure that you are circling the correct response on the answer sheet.

Use a ball-point pen only, and make heavy marks that completely circle the appropriate response. If you want to change your answer, cross out your first mark and circle another response.

Try to respond to all of the statements. If you aren't sure how you feel, mark the response that comes closest to your feelings at this time. *There are no right or wrong answers.*

PORT

Anthony B. Gerard, Ph.D

Name (Optional): _____ Date: _____

ID Number: _____ Age: _____

Ethnicity: ☐ Asian ☐ Black ☐ Hispanic ☐ Native American ☐ White ☐ Other _____

Parent: ☐ Mother ☐ Father

Child's Age: _____

Child's Sex: ☐ Male ☐ Female

Examiner's Name: _____

Strongly Agree	Agree	Disagree	Strongly Disagree	
1	2	3	4	**1.** My child generally tells me when something is bothering him or her.
1	2	3	4	**2.** I have trouble disciplining my child.
1	2	3	4	**3.** I get as much satisfaction from having children as other parents do.
1	2	3	4	**4.** I have a hard time getting through to my child.
1	2	3	4	**5.** I spend a great deal of time with my child.
1	2	3	4	**6.** When it comes to raising my child, I feel alone most of the time.
1	2	3	4	**7.** My feelings about being a parent change from day to day.
1	2	3	4	**8.** Parents should protect their children from things that might make them unhappy.
1	2	3	4	**9.** If I have to say no to my child, I try to explain why.
1	2	3	4	**10.** My child is more difficult to care for than most children are.
1	2	3	4	**11.** I can tell by my child's face how he or she is feeling.
1	2	3	4	**12.** I worry a lot about money.
1	2	3	4	**13.** I sometimes wonder if I am making the right decisions about how I raise my child.
1	2	3	4	**14.** Being a parent comes naturally to me.
1	2	3	4	**15.** I sometimes give in to my child to avoid a tantrum.
1	2	3	4	**16.** I love my child just the way he or she is.
1	2	3	4	**17.** I get a great deal of enjoyment from all aspects of my life.
1	2	3	4	**18.** My child is never jealous of others.
1	2	3	4	**19.** I often wonder what the rewards are in raising children.
1	2	3	4	**20.** My child tells me all about his or her friends.
1	2	3	4	**21.** I wish I could set firmer limits with my child.
1	2	3	4	**22.** I get a great deal of satisfaction from having children.
1	2	3	4	**23.** I sometimes feel if I don't have more time away from my child I'll go crazy.
1	2	3	4	**24.** I regret having children.
1	2	3	4	**25.** Children should be given most of the things they want.
1	2	3	4	**26.** My child is out of control much of the time.
1	2	3	4	**27.** Being a parent isn't as satisfying as I thought it would be.
1	2	3	4	**28.** I feel that I can talk to my child on his or her level.
1	2	3	4	**29.** My life is very stressful right now.
1	2	3	4	**30.** I never worry about my child.
1	2	3	4	**31.** I wish my child would not interrupt when I'm talking to someone else.
1	2	3	4	**32.** Parents should give their children all those things the parents never had.
1	2	3	4	**33.** I generally feel good about myself as a parent.
1	2	3	4	**34.** I sometimes feel overburdened by my responsibilities as a parent.
1	2	3	4	**35.** I feel very close to my child.
1	2	3	4	**36.** I'm generally satisfied with the way my life is going right now.
1	2	3	4	**37.** I have never had any problems with my child.
1	2	3	4	**38.** I can't stand the thought of my child growing up.
1	2	3	4	**39.** My child would say that I am a good listener.

PLEASE TURN THE FORM OVER NOW AND COMPLETE STATEMENTS 40 THROUGH 78.

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Publishers and Distributors

W-293A

Strongly Agree	Agree	Disagree	Strongly Disagree	PLEASE PRESS HARD WHEN CIRCLING YOUR RESPONSE
1	2	3	4	**40.** I often lose my temper with my child.
1	2	3	4	**41.** I am very involved with my child's sports or other activities.
1	2	3	4	**42.** My spouse and I work as a team in doing chores around the house.
1	2	3	4	**43.** I have never been embarrassed by anything my child has said or done.
1	2	3	4	**44.** My child really knows how to make me angry.
1	2	3	4	**45.** Parents should be careful about whom they allow their children to have as friends.
1	2	3	4	**46.** When my child has a problem, he or she usually comes to me to talk things over.
1	2	3	4	**47.** My child never puts off doing things that should be done right away.
1	2	3	4	**48.** Being a parent is one of the most important things in my life.
1	2	3	4	**49.** Women should stay home and take care of the children.
1	2	3	4	**50.** Teenagers are not old enough to decide most things for themselves.
1	2	3	4	**51.** My child keeps many secrets from me.
1	2	3	4	**52.** Mothers who work are harming their children.
1	2	3	4	**53.** I feel I don't really know my child.
1	2	3	4	**54.** I sometimes find it hard to say no to my child.
1	2	3	4	**55.** I wonder if I did the right thing having children.
1	2	3	4	**56.** I would really rather do a lot of other things than spend time with my child.
1	2	3	4	**57.** It's a parent's responsibility to protect his or her child from harm.
1	2	3	4	**58.** Sometimes I wonder how I would survive if anything were to happen to my child.
1	2	3	4	**59.** I miss the close relationship I had with my child when he or she was younger.
1	2	3	4	**60.** My child rarely talks to me unless he or she wants something.
1	2	3	4	**61.** A father's major responsibility is to provide financially for his children.
1	2	3	4	**62.** It's better to reason with children than just to tell them what to do.
1	2	3	4	**63.** I spend very little time talking with my child.
1	2	3	4	**64.** I feel there is a great distance between me and my child.
1	2	3	4	**65.** For a woman, having a challenging career is just as important as being a good mother.
1	2	3	4	**66.** I often threaten to punish my child but never do.
1	2	3	4	**67.** If I had it to do over, I would probably not have children.
1	2	3	4	**68.** Husbands should help with child care.
1	2	3	4	**69.** Mothers should work only if necessary.
1	2	3	4	**70.** Some people would say that my child is a bit spoiled.
1	2	3	4	**71.** I worry a lot about my child getting hurt.
1	2	3	4	**72.** I seldom have time to spend with my child.
1	2	3	4	**73.** Below age four, most children are too young to be in a regular preschool or day-care program.
1	2	3	4	**74.** A woman can have a satisfying career and be a good mother too.
1	2	3	4	**75.** I carry a photograph of my child in my wallet or purse.
1	2	3	4	**76.** I have a hard time letting go of my child.
1	2	3	4	**77.** I feel I don't know how to talk with my child in a way that he or she really understands.
1	2	3	4	**78.** Having a full-time mother is best for a child.

APPENDIX H: ALABAMA PARENTING QUESTIONNAIRE

Alabama Parenting Questionnaire

Instructions: Please respond to the following statements regarding your typical parenting practices used with your child. There are no right or wrong answers so please answer as openly as possible. Please circle the number corresponding to how often you engage in the following activities.

	Never	Rarely	Sometimes	Often	Always
1. You have a friendly talk with your child.	1	2	3	4	5
2. You let your child know when he/she is doing a good job with something.	1	2	3	4	5
3. You threaten to punish your child and then do not actually punish him/her.	1	2	3	4	5
4. You volunteer to help with the special activities that your child is involved in (e.g., sports, boys/girl Scouts, church youth groups)	1	2	3	4	5
5. You reward or give something extra to your child for obeying you or behaving well.	1	2	3	4	5
6. Your child fails to leave a note or let you know where he/she was going.	1	2	3	4	5
7. You play games or do other fun things with your child.	1	2	3	4	5
8. Your child talks you out of being punished after he/she has done something wrong.	1	2	3	4	5
9. You ask your child about his/her day in school.	1	2	3	4	5
10. Your child stays out in the evening past the time he/she is supposed to be home.	1	2	3	4	5
11. You help your child with his/her homework.	1	2	3	4	5
12. You feel that getting your child to obey you is more trouble than it is worth.	1	2	3	4	5
13. You compliment your child when he/she does something well.	1	2	3	4	5
14. You ask your child what his/her plans are for the coming day.	1	2	3	4	5
15. You drive your child to a special activity.	1	2	3	4	5
16. You praise your child if he/she behaves well.	1	2	3	4	5
17. Your child goes out with friends you do not know.	1	2	3	4	5
18. You hug or kiss your child when he/she has done something well.	1	2	3	4	5
19. Your child goes out without a set time to be home.	1	2	3	4	5
20. You talk to your child about his/her	1	2	3	4	5

friends.					
21. Your child is out after dark without an adult with him/her.	1	2	3	4	5
22. You let your child out of a punishment early (e.g., lift restrictions earlier than you originally said).	1	2	3	4	5
23. Your child helps plan family activities.	1	2	3	4	5
24. You get so busy that you forget where your child is and what he/she is doing.	1	2	3	4	5
25. Your child is not punished when he/she has done something wrong.	1	2	3	4	5
26. You attend PTA meetings, parent/teacher conferences, or other meetings at your child's school.	1	2	3	4	5
27. You tell your child that you like it when he/she helps around the house.	1	2	3	4	5
28. You do not check that your child has come home from school when he/she is supposed to.	1	2	3	4	5
29. You do not tell your child where you are going.	1	2	3	4	5
30. Your child comes home from school more than an hour past the time you expect him/her.	1	2	3	4	5
31. The punishment you give your child depends on your mood.	1	2	3	4	5
32. Your child is at home without adult supervision.	1	2	3	4	5
33. You spank your child with your hand when he/she has done something wrong.	1	2	3	4	5
34. You ignore your child when he/she is misbehaving.	1	2	3	4	5
35. You slap your child when he/she has done something wrong.	1	2	3	4	5
36. You take away privileges or money from your child as a punishment.	1	2	3	4	5
37. You send your child to his/her room as a punishment.	1	2	3	4	5
38. You hit your child with a belt, switch, or other object when he/she has done something wrong.	1	2	3	4	5
39. You yell or scream at your child when he/she has done something wrong.	1	2	3	4	5
40. You calmly explain to your child why his/her behavior is wrong when he/she misbehaved.	1	2	3	4	5
41. You use timeout (make him/her sit or stand in a corner) as a punishment.	1	2	3	4	5
42. You give your child extra chores as a	1	2	3	4	5

punishment.					
43. You smack your child's hand if he/she misbehaves.	1	2	3	4	5
44. When your child misbehaves, you swat him/her on the bottom.	1	2	3	4	5
45. You use physical punishment to let your child know when he/she has misbehaved.	1	2	3	4	5
46. You use a nearby object to hit your child as a punishment.	1	2	3	4	5

APPENDIX I: CONFLICT TACTICS SCALE – PARENT-CHILD

CTSPC (Modified Version)

Children often do things that are wrong, disobey, or make their parents angry. We would like to know what you have done when your child did something wrong or made you upset or angry. Please circle the number that indicates how often you responded these ways during the past year.

1 = Once in a year
2 = Twice in a year
3 = 3-5 times in a year
4 = 6-10 times in a year
5 = 11-20 times in a year
6 = More than 20 times in a year
7 = Not in a year, but it happened before
0 = This has never happened

A. Explained why something was wrong	1	2	3	4	5	6	7	0
B. Put him/her in "time out" (or sent to his/her room)	1	2	3	4	5	6	7	0
C. Shook him/her	1	2	3	4	5	6	7	0
D. Hit him/her on the bottom with something like a belt, hairbrush, a stick or some other hard object	1	2	3	4	5	6	7	0
E. Gave him/her something else to do instead of what he/she was doing wrong	1	2	3	4	5	6	7	0
F. Shouted, yelled, or screamed at him/her	1	2	3	4	5	6	7	0
G. Spanked him/her on the bottom with your bare hand	1	2	3	4	5	6	7	0
H. Swore or cursed at him/her	1	2	3	4	5	6	7	0
I. Said you would send him/her away or kick him/her out of the house	1	2	3	4	5	6	7	0
J. Threatened to spank or hit him/her but did not actually do it	1	2	3	4	5	6	7	0
K. Slapped him/her on the hand, arm, or leg	1	2	3	4	5	6	7	0
L. Took away privileges or grounded him/her	1	2	3	4	5	6	7	0
M. Pinched him/her	1	2	3	4	5	6	7	0
N. Called him/her dumb or lazy or some other name like that	1	2	3	4	5	6	7	0

APPENDIX J: DEMOGRAPHICS QUESTIONNAIRE

Demographic Questionnaire

1. Your age: _____
2. Your gender (please circle): MALE FEMALE
3. Your Race/Ethnicity (circle): Caucasian (Non Hispanic) African-American Asian-American
   Hispanic Other:_____
4. Parents' hearing status (please circle all that apply if known):
   MOTHER: Hearing Hard-of-Hearing Deaf
   FATHER: Hearing Hard-of-Hearing Deaf
5. Number of children living in the home: _____
6. Age of deaf/hard-of-hearing child: _____(Please indicate age in years and months)
7. Gender of deaf/hard-of-hearing child (Please circle): MALE FEMALE
8. Has this child been implanted (cochlear implant)? (Please circle) YES NO
   → If yes, what was the child's age at implantation? _____ (Indicate age in years and months)
9. Combined income of house hold (Please circle one):
   $9,999 or less $10,000-19,999 $20,000-29,999 $30,000-39,999
   $40,000-49,999 $50,000-59,999 $60,000-69,999 $70,000 or more
10. Deaf/hard-of-hearing child's education (Please circle all that apply):
    Residential Totally mainstreamed Partially mainstreamed
    Deaf magnet school within larger hearing school Public school Private school
    Other (please explain): _____
11. Age of child at diagnosis:_____ (Please indicate age in years and months)
12. Cause of child's deafness/hearing loss (deaf from birth, illness during pregnancy, accident, etc.):
    _____
13. What is the severity of your child's hearing loss? (If you are not exactly sure, please estimate at least one of the two categories): a) Db loss of hearing: _____ b) Percentage loss of hearing: _____
14. Does your child have any other disability? YES NO
    → If yes, please explain: _____
15. Your marital status (Please circle one):
    Single Married Divorced Widowed Living with Partner
    → If divorced, is your home the primary residence of the deaf child? YES NO

16. Is this your biological child? (circle) YES NO

→ If no, please explain (foster child, adopted, etc.):_____

17. What is **YOUR** current work status? (circle one) If working, what is your job?_____

Staying at home Work full-time Work part-time Student N/A

18. What is your **CHILD'S OTHER PARENT'S** current work status? (circle) What is the job?_____

Staying at home Work full-time Work part-time Student N/A

19. What is the highest degree of education **YOU** have obtained? (Please circle)

Some high school High school diploma Some college

Bachelors degree Some Graduate Experience Completed Graduate Degree

20. What is the highest degree of education **YOUR CHILD'S OTHER PARENT** has obtained? (Please circle)

Some high school High school diploma Some college

Bachelor's degree Some Graduate Experience Completed Graduate Degree

21. On average, how often do you have interactions with other parents (not your spouse) of deaf and hearing impaired children? (Please circle)

More than 4 times per week 1-2 times per week 3-4 times per week

1-3 times per month Less than 1 time per month

22. Has **YOUR CHILD** participated in any intervention/treatment? (Please circle) YES NO

→If yes, please describe the type of intervention (Medical, social, etc.):

_____

→If yes, please indicate your child's age at the time of intervention: _____(indicate age in years and months)

23. Have **YOU** sought any counseling? (Please circle) YES NO

→ If yes, what was the main reason for seeking counseling? _____

24. What is the primary language **YOUR CHILD** uses with you?

Signing exclusively If signing, please indicate type (circle): ASL English

Oral communication exclusively Total communication (signing and speaking)

Other (please explain): _____

25. What is the primary language **YOU** use with your child?

Signing exclusively If signing, please indicate language (circle): ASL English

Oral communication exclusively Total communication (signing and speaking)

Other (please explain): _____

26. Below are 5 statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

The 7-point scale is:

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neither Agree Nor Disagree
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

_____ In most ways my life is close to ideal.

_____ The conditions of my life are excellent.

_____ I am satisfied with my life.

_____ So far I have gotten the important things I want in life.

_____ If I could live my life over, I would change almost nothing.

APPENDIX K: DEBRIEFING FORM

University of Central Florida

Psychology Department

Debriefing Form

PROJECT: Predictors of Parental Discipline in Families Raising Youth with Hearing and Communication Disorders
INVESTIGATORS: Kimberly Renk, Ph.D. and Jenny Klein, M.S.

Thank you for participating in this research project. The purpose of this study is to investigate the relationships between certain parental and family characteristics and current child adjustment in families raising children with hearing impairment and/or communication difficulties. In your packet of questionnaires, you completed surveys concerning parenting and discipline styles, family environment characteristics, and your own psychological well-being, perceived stress, and social support. We are looking to identify relationships between parental variables and their ratings of their children, in particular whether certain variables predict specific outcomes in children. Gaining knowledge in these areas will increase our understanding of various family characteristics and psychological well-being of parents and their children with hearing impairment and/or communication difficulties. Not only will these findings add to current literature with this special population, but they will help to guide the development of interventions tailored to the needs of families raising these children with specialized characteristics.

If you or your parents have any further questions about this research study, please contact Jenny Klein, M.S. (407-823-5219; jklein@ucf.edu) or Kimberly Renk, Ph.D. (407-823-2218; krenk@pegasus.cc.ucf.edu).

UCF University of Central Florida IRB
IRB NUMBER: SBE-06-03725
IRB APPROVAL DATE: 12/2/2008
IRB EXPIRATION DATE: 12/1/2009

APPENDIX L: FINAL CONTACT SHEET

If you wish to obtain a summary of the results upon completion of the study entitled "Predictors of Parental Discipline in Families Raising Youth with Hearing and Communication Disorders," please complete the following information. You are not required to provide this information and this form will be kept separately from the packet of questionnaires you have just completed.

Name: _____

Address(s):	Telephone Number(s):
_____	_____
_____	_____
_____	_____
_____	_____

APPENDIX M: UCF IRB-APPROVAL LETTER (FINAL)

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901, 407-882-2012 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

EXPEDITED CONTINUING REVIEW APPROVAL NOTICE

From : **UCF Institutional Review Board**
FWA00000351, Exp. 10/8/11, IRB00001138

To : **Jenny Klein** and Co-PIs: **Allison Killam, Ashley Martin, Hisae Gozu**

Date : **December 02, 2008**

IRB Number: **SBE-06-03725**

Study Title: **Project CHILD: Communication and Hearing Impairments: Learning the Dynamics**

Dear Researcher,

This letter serves to notify you that the continuing review application for the above study was reviewed and approved by the IRB Chair on **12/2/2008** through the expedited review process according to 45 CFR 46 (and/or 21 CFR 50/56 if FDA-regulated).

Continuation of this study has been approved for a one-year period. The expiration date is 12/1/2009. This study was determined to be no more than minimal risk and the category for which this study qualified for expedited review is:

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Subjects or their representatives must receive a copy of the consent form(s).

PLEASE NOTE: You cannot begin research at the Speech and Hearing Center at Western Carolina University or Hearing Associates of Central Florida until the IRB Addendum/ Modification Request to add those sites is approved.

All data must be retained in a locked file cabinet for a minimum of three years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained on a password-protected computer if electronic information is used. Additional requirements may be imposed by your funding agency, your department, or other entities. Access to data is limited to authorized individuals listed as key study personnel.

To continue this research beyond the expiration date, a Continuing Review Form must be submitted 2 – 4 weeks prior to the expiration date. Use the Unanticipated Problem Report Form or the Serious Adverse Event Form (within 5 working days of event or knowledge of event) to report problems or events to the IRB. Do not make changes to the study (i.e., protocol methodology, consent form, personnel, site, etc.) before obtaining IRB approval. Changes can be submitted for IRB review using the Addendum/Modification Request Form. An Addendum/Modification Request Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at https://iris.research.ucf.edu .

On behalf of Tracy Dietz, Ph.D., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 12/02/2008 12:41:17 PM EST

Joanne Muratori

IRB Coordinator

APPENDIX N: UCF COMMUNICATIVE DISORDERS CLINIC SCRIPT

(IN-PERSON CONACT)

In-Person Script
(Main, Observation, and TV Waiting Rooms at the Communicative Disorders Clinic)

Hello, my name is _____, and I'm a research assistant from the Understanding Children and Families Research Lab in the UCF psychology department. How are you? Since it looks like you might have some time here, would you mind if I told you about a study we have going on right now?

If YES…		If NO…
Great, thanks! Well, the UCF lab is conducting a short survey study with parents of children who have communication or hearing difficulties. We want to learn more about family relationships, child behavior, and parenting to find better ways of keeping families like yours strong and healthy. We are asking you to fill out some questionnaires for about an hour. You are not required to participate, but does this sound like something you'd like to do today?		That's okay. If you change your mind and would like to hear more about the study later, please feel free to give the project coordinator a call. Here is her contact information. (***Hand the letter to the parent.***) Thank you!
If YES…	If NO…	
Great! Then, let's get started. First, please fill in your name, date, and telephone number on this form (***hand participant the sign-in sheet – they don't have to do this if they don't want to***). Thanks. Now, here is your packet (***hand participant packet***). Please read and sign the consent from first (***hand parent packet with pen on clipboard***). When you're done with that, just let me know. (***Wait for them to read/sign it.***) Great, now let me just go through the packet with you briefly and tell you a few important things. Keep in mind that there are some sensitive questions, and you don't have to answer anything you don't want to. (***While turning the pages for/with them…***) The demographics questionnaire asks for general information and questions specific to your child's hearing and/or communication abilities; the next few are about parenting behavior and	That's okay. If you'd like, you can take a packet home with you, but if you'd rather not, that's fine too. If you change your mind and would like to hear more about the study later, please feel free to give the project coordinator a call. Here is her contact information. (***Hand the letter to the parent.***) Thank you!	

Project **CHILD** has been approved by the UCF Institutional Review Board
(IRB#06-3725 with Addenda #4162 & 4210)

your relationship with your child; this blue one asks about child behavior; now this one with the post-it note has special instructions (first pick the statement that best describes your child, then answer how true the statement is – only check one box per number); this blue and white one asks about how YOU feel right now; the next one with the post-it note has special instructions too (the front side asks about how you feel RIGHT NOW and the back asks how you feel IN GENERAL); and the other two ask about family issues. Now you can go ahead and begin filling out the questionnaires. Please let me know if you have questions at any time. I'll be right over here (***sit down or approach another parent***).		
If COMPLETE…	If INCOMPLETE…	
Great! Thank you so much for participating in this project. We will use this information to help other families like yours. (***Make sure ALL the forms have been completed and that the participant takes the first 3 pages AND the Debriefing Form– remove them from packet and give them to her/him***) You have our number on these sheets just in case you have any questions later on. We really appreciate your time, thank you again!	Thank you so much for participating in this project. If you're not done yet, I can take the ones you've completed (***remove them from the packet***), and you can just take the rest home with you and return them to the box in the main waiting room next time you come in (***point out the box if possible***). Or, if you prefer, I can give you an envelope to mail it back to us. Would it be alright for us to give you a reminder call this week? Great, thanks! (***Record their answer on the sign-in sheet.***) We really appreciate your time, thanks again.	

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	OR If you don't have another appointment soon, here is a self-addressed, stamped envelope that you can use to return the packet directly to us. We really appreciate your time, thanks again.	

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(IRB#06-3725 with Addenda #4162 & 4210)

Potential Parent Questions/Answers

What if I don't want to answer some of the questions?

You are welcome to leave blank any questions you might feel uncomfortable answering. Also, you may stop completely at any time.

What if I don't finish by the time my child's session is over?

That's okay. There is a box in the main waiting room (*show parent, if possible*) where you can return the packet next time you come in. When is your next visit (*record on sheet*)? Perfect, you can place it in the box then.

What if I don't have another appointment for a while (or never)?

That's just fine. Here is a self-addressed, stamped envelope that you can use to return the packet directly to us. (*Check script for wording.*)

Who will see my information?

Your information will be kept strictly confidential. This means that the information will not be shared with anyone, and your name will not be attached to your answer sheets in their storage. Your answers will be combined with a group of other parents' information for analysis, but your specific answers will not be looked at independently.

We live with my own parents (child's grandparents), should they fill this out too?

Thank you for thinking about that, but we are asking for only the primary caretakers and parents to participate in the study.

My child doesn't have much contact with his/her biological father/mother…should I still give him/her a packet?

Good question. If you think that his/her other parent might have information that would help us, then yes, I can give you a packet with a return envelope to give him/her. If you think that they may not spend enough time with your child to give valuable information, or that they might not be willing to participate, then we don't have to include him/her.

I have two (or more) children who are being seen here. What should I do?

Well, we'll ask that you only complete ONE packet. First, if one of your children has hearing problems, please think about that child when completing the questionnaires. If both children have communication difficulties without hearing problems, think about the child who has the most significant communication problems, and complete the questions about that child only.

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***If a parent has another question that requires an immediate response and you don't know the answer, you can either refer them to me (my number is on the first page of their packet), or **YOU** can call me on my cell phone at 321-246-3049. Please do NOT give my cell number to the participants! =) Also, please email me any questions that come up that are not listed on this sheet so we can let the other RAs know what to say should they be asked a similar question.

Project **CHILD** has been approved by the UCF Institutional Review Board
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APPENDIX O: UCF COMMUNICATIVE DISORDERS CLINIC SCRIPTS

(TELEPHONE CONACT)

Phone Call Script #1 (Contact Made)

Hello, my name is _____, and I'm a research assistant calling you from the Communicative Disorders Clinic at UCF. How are you? I am calling to let you know about a short survey study that is being conducted in the psychology department with parents of children who have communication or hearing difficulties. We want to learn more about family relationships, child behavior, and parenting to find better ways of keeping families like yours strong and healthy. We are hoping you might be interested in participating. We would just be asking you to fill out some questionnaires for about an hour. You are not required to participate, but does this sound like something you'd like to know more about?

If YES…		If NO…
That's great! Would it be alright if I passed along your contact information to the project coordinator, Jenny Klein?		Okay, well thank you for talking with me today, and if you decide you'd like to talk to someone about the study, you can contact the project coordinator, Jenny Klein at any time. Her telephone number is (407) 823-5219. Thanks again. (*Do **NOT** mail Follow-Up Letter*)
If YES…	If NO…	
Okay, perfect. I'll give her the information today. She will be sending you a follow-up letter in the mail and will call you within the next few days to talk about the study. She will answer any questions you might have when you talk, and you can always choose not to participate at that time. Thank you for talking with me today, and you'll be hearing from Jenny very soon! (*Mail Follow-Up Letter*)	That's fine. I can give you the project coordinator's information so that you can call her directly. Let me know when you're ready, and I'll tell it to you. Her name is Jenny Klein; her telephone number is (407) 823-5219; and her email address is JKlein@ucf.edu. Jenny will be sending you a follow-up letter in the mail with this information too. She will answer any questions you might have when you talk, and you can always choose not to participate at that time. Thank you for talking with me today, and Jenny will be looking forward to hearing from you! (*Mail Follow-Up Letter*)	***Research Assistants, please be sure to…** **1) Record each call on the *Telephone Contact Log*** **2) Mail *Follow-up Letter* (if applicable)** **Thanks!**

Project **CHILD** has been approved by the UCF Institutional Review Board
(IRB#06-3725)

Phone Call Script #2 (FIRST Answering Machine Message)

Hello, my name is _____, and I'm a research assistant calling you from the Communicative Disorders Clinic at UCF. I want to let you know about a short survey study that is being conducted in the psychology department with parents of children who have communication or hearing difficulties. You are not required to participate, but if you're interested, you would just be asked to fill out some questionnaires for about an hour. Please contact the project coordinator, Jenny Klein, to discuss the study. Her telephone number is (407) 823-5219. Thank you, and we look forward to hearing from you! (*Mail Follow-Up Letter*)

Phone Call Script #3 (FOLLOW-UP Answering Machine Message)

Hello, my name is _____, and I'm a research assistant calling you from the Communicative Disorders Clinic at UCF. This is our second attempt to talk with you about a short survey study that is being conducted at UCF with parents of children who have communication or hearing difficulties. We hope that you might be willing to fill out some questionnaires about your family for about an hour. If you are interested, please contact the project coordinator, Jenny Klein, to discuss the study. Her telephone number is (407) 823-5219. Thank you, and we look forward to hearing from you! (*Do NOT Mail Follow-Up Letter*)

***Research Assistants,**
please be sure to…
1) Record each call on the
Telephone Contact Log
2) Mail *Follow-up Letter*
(if applicable)

Thanks!

Project **CHILD** has been approved by the UCF Institutional Review Board
(IRB#06-3725)

APPENDIX P: PRIVATE PRACTICE SCRIPTS

Phone Call Script #1 (Contact Made)

Hello, my name is _____, and I'm an Intern calling you from the Name of Private Practice. How are you? I am calling to let you know about a short survey study that is being conducted by the University of Central Florida's psychology department about parenting in families raising children who have communication or hearing difficulties. The researchers want to learn more about family relationships, child behavior, and parenting to find better ways of keeping families like yours strong and healthy. They are hoping you might be interested in filling out some questionnaires for about an hour. You are not required to participate, but does this sound like something you'd like to know more about?

If YES…		If NO…
That's great! Would it be alright if I passed along your mailing address to the project coordinator, Jenny Klein?		Okay, well thank you for talking with me today, and if you decide you'd like to talk to someone about the study, you can contact the project coordinator, Jenny Klein at any time. Her telephone number is (321) 246-3049. Thanks again.
If YES…	If NO…	
Okay, perfect. I'll give her the information and she will be send you the packet of surveys through the mail with a self-addressed, stamped envelope that you can use to return the packet. Her contact information is on the packet, and she will be easily available to answer any questions you might have. Thank you for talking with me today, and you'll be hearing from Jenny very soon!	That's fine. I can give you the project coordinator's information so that you can call her directly. Let me know when you're ready, and I'll tell it to you. Her name is Jenny Klein; her telephone number is (321) 246-3049; and her email address is JKlein@ucf.edu. She will answer any questions you might have when you talk, and you can always choose not to participate at that time. Thank you for talking with me today, and Jenny will be looking forward to hearing from you!	

Project **CHILD** has been approved by the UCF Institutional Review Board
(IRB#06-3725)

Phone Call Script #2 (FIRST Answering Machine Message)

Hello, my name is _____, and I'm an Intern calling you from the Name of Private Practice. I want to let you know about a short survey study that is being conducted by the University of Central Florida's psychology department with parents of children who have communication or hearing difficulties. You are not required to participate, but if you're interested, you would just be asked to fill out some confidential questionnaires for about an hour. Please contact the project coordinator, Jenny Klein, to discuss the study. Her telephone number is (321) 246-3049. Thank you, and we look forward to hearing from you!

Phone Call Script #3 (FOLLOW-UP Answering Machine Message)

Hello, my name is _____, and I'm an Intern calling you from the Name of Private Practice. This is our second attempt to talk with you about a short survey study that is being conducted at UCF with parents of children who have communication or hearing difficulties. The researchers hope that you might be willing to fill out some confidential questionnaires about your family for about an hour. If you are interested, please contact the project coordinator, Jenny Klein, to discuss the study. Her telephone number is (321) 246-3049. Thank you, and we look forward to hearing from you!

Project **CHILD** has been approved by the UCF Institutional Review Board
(IRB#06-3725)

APPENDIX Q: CONTACT LOGS

Waiting Room Participant Log

Name	Date	Telephone Number	Packet Complete or Incomplete?	Date/Time of Next Appointment	Okay to Provide Reminder Call?	Date of Reminder Call

Project **CHILD** has been approved by the UCF Institutional Board
(IRB#06-3725 with Addendum #4162)

Telephone Contact Log

Client Name	Phone #	Mailing Address	Date of First Call	Message Left or Spoke Directly?	Participation Denied (Do Not Contact)	Contact Info Consented to be Given	Will Contact Us (Our Info Provided)	Date Follow-up Letter Mailed	RA Name

Project **CHILD** has been approved by the UCF Institutional Board
(IRB#06-3725 with Addendum #4162)

APPENDIX R: FACILITY OFFICIAL APPROVAL FORM

University of Central Florida

Psychology Department

FACILITY APPROVAL FORM

PROJECT: Predictors of Parental Discipline in Families Raising Youth with Hearing and Communication Disorders
INVESTIGATORS: Kimberly Renk, Ph.D. and Jenny Klein, M.S.

Below is a brief description of a research project being conducted through the Psychology Department at the University of Central Florida. The purpose of the project and the proposed method of data collection are provided. If you agree to allow the researchers to attempt to conduct such research with the instructor(s) and students of your facility, please sign and date this form.

Project Overview. Kimberly Renk, Ph.D. and Jenny Klein, M.S. from the Department of Psychology at the University of Central Florida are studying the relationships between certain parental and family characteristics and current child adjustment in families raising deaf or hearing-impaired children. The purpose of this study is to gain a better understanding of various family characteristics and the psychological well-being of parents and their hearing-impaired children. Not only will this information add to current literature with this population, but it will help to guide the development of evidence-based interventions tailored to the needs of families raising deaf or hearing-impaired children.

Facility Recruitment. The Institutional Review Board (IRB) of the University of Central Florida has provided approval for conduction of the research project entitled "Predictors of Parental Discipline in Families Raising Youth with Hearing and Communication Disorders." Specific facilities and groups providing specialized services for individuals and families raising children with hearing impairment and/or communication difficulties have been selected for participation in this study. Facilities are not required to participate despite UCF IRB approval; therefore, the program director will retain the option to refuse participation. Once approval has been obtained from the director, instructors and/or group leaders then will be contacted to request participation in the study.

Participant Recruitment. We are seeking a subject pool of 75-100 parents (minimum 18 years of age) of children with hearing impairment and/or communication difficulties. No compensation will be given for participation. Parent participants who do not receive the parent packet of questionnaires directly from one of the investigators or via postal mail will receive it in the following manner. Instructors and/or group leaders who agree to participate will be provided with parent questionnaire packets to be handed out to each child at the end of a class period/group session. Each child (regardless of racial or ethnic background) will have the opportunity to participate by taking home the parent packets for their parent(s) to complete. These forms will be returned by the student directly to their instructor or group leader, who then will be asked to mail the forms to the investigators in self-addressed, stamped envelopes prepared in advance for them (or they will be collected by the investigators in person). Collection of the parent packets will take place over the course of at least six

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weeks (starting on the date they are dispersed to the classes) to allow sufficient time for the parents to complete the forms and for children to return them to their instructors. We believe that there will be none to minimal risk for participation in this study. Please note that a potential "minimal" risk is indicated above because some individuals may be more self-conscious about rating their own emotions and behaviors whereas others will not experience any type of self-conscious response.

Participation is completely voluntary. All information will be kept strictly confidential, with only a code number appearing on the collected information so that forms. Your identity will be kept confidential to the fullest extent provided by law. All information gathered will be examined statistically within a group format, not individually. No individual information will be shared with local agencies or facilities unless a participant specifically requests it in writing. Information regarding participants' rights as research volunteers may be obtained from Barbara Ward, UCF Institutional Review Board Office at the University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246. (Telephone numbers: (407) 823-2901 or (407) 882-2276).

I have discussed the parameters of this research study with the experimenter, and I agree to allow the researchers to approach instructors in this facility to request their participation.

_____
Facility Name

_____
Facility Official (Signature & Position) Date

_____
Principal Investigator Date

_____
Kimberly Renk, Ph.D. Principal Investigator and Supervisor Date

APPENDIX S: PROJECT CHILD FLYER

Are you the **parent** or caretaker of a child (age 0-17) with **hearing loss** or a **communication disorder**?

University of Central Florida

We want to know how **YOU** are doing!

Project CHILD:

(**C**ommunication and **H**earing **I**mpairments: **L**earning the **D**ynamics)
researchers are asking parents to fill out surveys about *emotions, family factors, and child behavior* for about 1 hour. You will be given a self-addressed, stamped envelope for return.

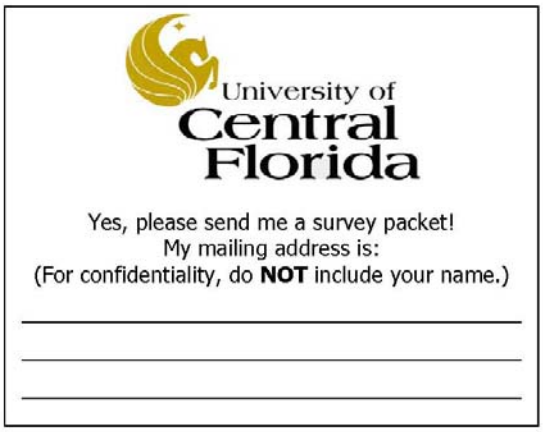
To participate, please contact **Jenny Klein** at **UCFProjectCHILD@gmail.com** or **321-246-3049**.

Project **CHILD** (IRB#06-03725) has been approved by the UCF Institutional Review Board (407-823-2901; irb@mail.ucf.edu) and is under the direction of Dr. Kimberly Renk in the UCF Psychology Department (407-823-2218).

UCF University of Central Florida IRB
IRB NUMBER: SBE-06-03725
IRB APPROVAL DATE: 12/15/2008
IRB EXPIRATION DATE: 12/01/2009

APPENDIX T: POSTCARD

FRONT →



BACK →

APPENDIX U: SAMPLE LETTER 1

University of Central Florida

Psychology Department

Date

Location
Address

Dear Director,

Thank you for agreeing to pass out our surveys at your Parent Night on Date! You will see that I have enclosed 19 **survey packets** for the parents who express interest. Survey packets should be distributed to parents/caretakers raising at least one child who is Deaf, hard of hearing, or has a communication disorder. Parents/caretakers may be male or female, of any hearing status, socioeconomic or ethnic background, age, etc, as we do not discriminate for any reason. Please let parents know that, as our consent form states, no information that participants provide will be connected with their name, so all responses are **anonymous** and confidential. Participants may easily return the completed packet using the self-addressed, stamped envelopes enclosed.

If anyone has questions, they may contact me directly at 321-246-3049 or by email at UCFProjectCHILD@gmail.com. Thank you again for helping us learn more about families raising these extraordinary children, and I look forward to including information from your group's families in our study!

Warm regards,

Jenny Klein, M.S.
Psychology Department
University of Central Florida

P.O. Box 161390 . Orlando, FL 32816-1390 . 407-823-2216 . FAX 407-823-5862

APPENDIX V: SAMPLE LETTER 2

University of Central Florida

Psychology Department

Date

Location
Address

Dear Participant,

Thank you for allowing **Person** at the **Private Practice** to pass along your contact information to us!

My name is Jenny Klein, and I am the principal investigator for **Project CHILD**: **C**ommunication and **H**earing **I**mpairments, **L**earning the **D**ynamics. As was mentioned to you by phone, we are interested in learning about parents' experiences of raising children with hearing loss and/or communication difficulties, and we appreciate you taking the time to consider participating.

You will see that the enclosed survey packet asks questions about yourself, your family, and your child. As our consent form states, no information that you provide will be connected with your name, so your responses are **anonymous** and confidential, if you choose to participate.

I have also enclosed a **self-addressed, stamped envelope** so you may easily return the completed packet at no cost to you.

If you have any questions, please contact me directly at 321-246-3049 or by email at UCFProjectCHILD@gmail.com.

Again, thank you for helping us learn more about families such as yours, and we hope that you are able to participate!

Warm regards,

Jenny Klein
Psychology Department
University of Central Florida

P.O. Box 161390 . Orlando, FL 32816-1390 . 407-823-2216 . FAX 407-823-5862

APPENDIX W: SAMPLE LETTER 3

University of Central Florida

Psychology Department

Date

Location
Address

Dear Project CHILD Participant,

Thank you for receiving our survey packet recently! We hope that you have been able to review the information, and we are available to answer any questions you may have.

If you have not already done so,
please return your completed packet to us by **DATE.**

Again, we thank you for your participation, and we look forward to including your anonymous information in our study!

Warm regards,

Jenny Klein, M.S.
Psychology Department
University of Central Florida

P.O. Box 161390 . Orlando, FL 32816-1390 . 407-823-2216 . FAX 407-823-5862

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