TEACHERS' PERCEPTIONS OF WORKING WITH MAINSTREAMED DEAF AND HARD OF HEARING STUDENTS

A Dissertation

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Doctor of Philosophy

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by

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ABSTRACT

This study examined regular education teachers' perceptions of mainstreamed deaf and hard of hearing students, and their experiences working with these students. Fifty elementary school teachers, from 11 states throughout the country, completed questionnaires pertaining to two students in their classrooms. One set of questionnaires related to a mainstreamed deaf or hard of hearing student, and the other set pertained to a hearing (control) student, who was matched with the deaf child on sex and race, and was not receiving special education services. For each student, teachers completed the Social Skills Rating System, the Student-Teacher Relationship Scale, and the Index of Teacher Stress, as well as Demographic/Background Information forms. Teachers also filled out a Communication Competency Scale pertaining to the deaf students, and they provided demographic and background information about themselves.

Results indicated that the teachers in this study did not experience greater levels of stress in relation to their rated deaf students than their rated hearing students. Similarly, they did not perceive differences in the quality of their relationships with these two groups of students. Teachers reported that the deaf students had weaker social skills and lower academic abilities than the hearing students. However, scores on the relevant variables for the deaf children, while lower than those for the hearing children, were still in the average range. The communication abilities of the deaf students were significant correlates of teachers' perceptions of these students' social skills and academic competence, the quality of the student-teacher relationship, and

their own experiences of stress working with these students. Interestingly, the number of school-based support services that teachers received (e.g., in-service training), and the hours of special education services their deaf students received (e.g., interpreters, educational resource), were not, collectively, predictors of teacher stress. The correlation between hours of services that deaf students received and teacher stress was significant, but was of low magnitude.

Overall, the teachers in this study perceived their deaf students as performing very well in the regular education classroom, and they felt capable of effectively working with these students. Suggestions for improving upon and expanding the present study were presented.

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APPROVAL OF THE DISSERTATION

This dissertation, "Teachers' Perceptions of Working with Mainstreamed Deaf and Hard of Hearing Students," has been approved by the Graduate Faculty of the Curry School of Education in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Clinical Psychology.

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May 18, 2000 Date

In loving memory of

Sondra Kopans, Ed.D.

and

Albert Kopans, Ph.D.

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TABLE OF CONTENTS

Chapter 1: Introduction and Statement of the Problem..... 1

Chapter 2: Review of the Literature..... 3

Teachers' Experiences of Stress..... 4

Inclusion and Teacher Stress..... 9

Special Education and Teacher Stress..... 11

Deafness, Language, and Education..... 12

Chapter 3: Method..... 23

Participants..... 23

Measures..... 29

Social Skills Rating System..... 30

Student-Teacher Relationship Scale..... 32

Index of Teacher Stress..... 33

Communication Competency Scale..... 34

Demographic/Background Information..... 35

Procedures..... 36

Research Hypotheses..... 37

Exploratory Questions..... 39

Chapter 4: Results..... 40

Scoring Rules..... 40

Hypothesis Testing..... 42

Exploratory Analyses 52

Post Hoc Analyses..... 60

Chapter 5: Discussion..... 67

Hypothesis Testing..... 68

Exploratory Questions..... 79

Post Hoc Analyses..... 84

Limitations of the Present Study..... 86

Directions for Future Research..... 89

Conclusion..... 91

References..... 93

Appendices..... 105

Appendix A: Packet Cover Letter to Teachers..... 105

Appendix B: General Instructions to Teachers..... 107

Appendix C: Informed Consent Letter to Teachers..... 109

Appendix D: Teacher Background Form..... 111

Appendix E: Instructions to Teachers for Completing Forms on Deaf or Hard of Hearing Student..... 113

Appendix F: Background Form Pertaining to Deaf or Hard of Hearing Student..... 115

Appendix G: Communication Competency Scale Pertaining to Deaf or Hard of Hearing Student..... 119

Appendix H: Instructions to Teachers for Completing Forms on Hearing Student..... 121

Appendix I: Background Form Pertaining to Hearing Student... 123

Appendix J: Student-Teacher Relationship Scale..... 125

Appendix K: Index of Teacher Stress (Adapted)..... 127

Appendix L: Cover Letter to Principals and Teacher Contact Approval Form..... 131

Appendix M: Cover Letter to Teachers, When Permission Was Required Prior to Sending Questionnaires..... 134

Appendix N: Cover Letter to Program Directors..... 136

Appendix O: Payment Letter to Teachers..... 139

Appendix P: Permission to Adapt or Reproduce the Social Skills Rating System, Student-Teacher Relationship Scale, and Index of Teacher Stress... 141

LIST OF TABLES

Table 1: Demographics of Participants..... 24

Table 2: Frequency and Quality of Teachers' Previous Experience with Deaf and Hard of Hearing People..... 25

Table 3: Demographic Information and Other Characteristics of Rated Deaf and Hearing Students..... 26

Table 4: Characteristics of Rated Deaf or Hard of Hearing Student..... 27

Table 5: Teachers' Perceptions of Deaf and Hearing Students on Measures of Academic Competence, Internalizing Behaviors, and Social Skills..... 44

Table 6: Teachers' Experiences Working with Deaf/Hard of Hearing and Hearing Students on Measures of Stress and the Perceived Quality of the Student-Teacher Relationship..... 46

Table 7: Correlation Summary For Communication Competency Scores of Deaf/Hard of Hearing Students and ITS, SSRS, and STRS Scores..... 49

Table 8: Frequencies of Services Teachers Received and Reported as Most Helpful/Supportive and Least Helpful/Supportive..... 53

Table 9: Services Teachers Reported They Wished They Had Received or Were Receiving..... 55

Table 10: Teachers' Reports of Most Challenging Aspect of Working with the Rated Deaf Student and the Rated Hearing Student..... 57

Table 11: Correlation Summary of SSRS, STRS, and ITS Scores for Deaf/Hard of Hearing Students..... 61

Table 12: Correlation Summary of SSRS, STRS, and ITS Scores for Hearing Students 62

Table 13: Teachers' Perceptions of Deaf and Hearing Students on SSRS Scales and Subscales 64

Table 14: Teachers' Perceptions of Deaf and Hearing Students on STRS Scales 65

Table 15: Teachers' Perceptions of Deaf and Hearing Students on Index of Teacher Stress Domains and Subscales 66

CHAPTER 1

INTRODUCTION AND STATEMENT OF THE PROBLEM

With the move toward inclusion in education, increasing numbers of deaf and hard of hearing children are being mainstreamed into regular education classrooms. Teaching a deaf child in a regular education classroom often presents teachers and school systems with unique challenges. Unlike many other forms of disability, deafness is predominantly an obstacle in communication. Some deaf children utilize sign language, whereas others do not. Some of these children have intelligible speech and some do not. For certain teachers, a student with a hearing loss might not present any remarkable challenges. Perhaps these teachers have worked with deaf students for many years and have received training and support from personnel in their school systems. For other teachers, however, working with a deaf student may be a stressful experience. These teachers may have relatively little knowledge of deafness or prior experience working with people with hearing loss.

Teacher stress and burnout are of critical concern in education today. Little is currently known, however, about the experiences of regular education elementary school teachers in relation to mainstreamed deaf students, and whether working with this population is associated with increased levels of stress in these teachers. Furthermore, while school personnel are implementing a range of services to mainstreamed deaf students and their teachers, the

degree to which teachers find each of these services to be helpful has not been adequately researched.[1]

The purpose of this study was to begin to understand how regular education teachers perceive their deaf and hard of hearing mainstreamed students, and their own experiences working with these students. The following research questions were explored in this study:

1. Do teachers report significant differences between deaf and hearing students on ratings of academic performance, behavioral functioning, social skills, quality of the student-teacher relationship, and their own feelings of comfort and stress with respect to these two groups of students?

2. What factors (i.e., student characteristics, teacher characteristics, and school resources/support services) are associated with levels of comfort and stress reported by these teachers in relation to their deaf students?

Understanding the variables that are associated with teachers' feelings of stress and support are valuable from economic, programmatic, and personal perspectives, as school administrators strive to minimize stress and maximize support to teachers while effectively serving a range of students.

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[1] For the purpose of this study, deafness is defined in functional terms and includes students with any degree of hearing loss that impacts on their educational performance. These students must be eligible for special education services under the category of "Hearing Impaired."

CHAPTER 2

REVIEW OF THE LITERATURE

In recent decades, public school teachers have experienced numerous changes in their professional roles and responsibilities. With the passage of Section 504 of the Rehabilitation Act of 1973 and Public Law 94-142 of 1975, (renamed from the Education for all Handicapped Children Act to the Individuals with Disabilities Education Act in 1990), all children with disabilities have become entitled to receive a public school education. These laws have mandated that this free education must be provided in the most appropriate and "least restrictive environment" in light of students' educational needs (Zigler & Hall, 1995).

In addition to the changes associated with inclusion and mainstreaming, as stipulated by these laws, regular education teachers throughout the country increasingly have been faced with such challenges as large class sizes, relatively low salaries, state-wide testing requirements, excessive paperwork, insufficient preparation time, and poor student attitudes and motivation. It has been suggested that these changes and challenges are associated with experiences of stress in teachers (Bakewell, McConnell, Ysseldyke, & Christenson, 1988; Phillips, 1993).

Teachers' Experiences of Stress

Stress has been defined in a variety of ways in the literature. Common conceptualizations are that stress is associated with environmental factors that are external to the individual (e.g., family problems, poorly behaved students), and emotional/physiological characteristics that are internal to the individual (e.g., depression, anger, and increased heart rate) (Boyle, Borg, Falzon, & Baglioni, 1995; McIntyre, 1983). Stress also has been defined as the result of an interaction between environmental/external factors and individual/internal characteristics, in which insufficient resources are available to handle environmental demands. These resources may be external, such as affordable and appropriate childcare for offspring, or they may be such internal factors as how an individual perceives, reacts to, and copes with environmental demands (Kyriacou & Sutcliffe, 1978a). According to Lazarus and Folkman (1984), psychological stress is the product of "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 19). Consistent with Lazarus and Folkman's definition of stress, Kyriacou and Sutcliffe (1978a) asserted that stress is the product of teachers' perceptions that the expectations and demands being placed on them are extremely difficult, if not impossible, for them to meet.

The issue of stress in the teaching profession has been considered to be "a problem of far-reaching consequences" that seriously threatens the health of

public schools (Phillips, 1993, p. 197). It is widely acknowledged by individuals within the field that teaching is a highly stressful profession (Kyriacou & Sutcliffe, 1978b; Saville, 1981). As teachers experience more stress, they become less tolerant, patient, and involved with their students (Blase, 1986; Galbo, 1983). Teacher stress also has been found to correlate with job dissatisfaction, high rates of absenteeism, and such psychological and physical manifestations of distress as psychosomatic disorders, anxiety, depression, substance abuse, and mental illness (Farber, 1991; Jenkins & Calhoun, 1991; Phillips, 1993). In addition to these factors, another serious ramification of job-related stress on teachers is burnout (Friedman, 1993). In his description of the findings presented by Farber (1991), Friedman (1993) asserted that burnout is "the product of a discrepancy between the efforts that teachers put into teaching and the perceived consequences, a discrepancy that gives rise to feelings of ineffectiveness and inconsequentiality" (p. 288). These feelings may culminate in such a high degree of frustration and discouragement that teachers strongly desire to quit or actually do leave the profession. Statistics show that the rate of attrition of teachers in their first five years is approximately 50 percent (Olson & Rodman, 1988). In a survey of teachers conducted by Saville (1981), 65% of respondents reported that teaching was highly stressful for them, and almost 60% claimed to seriously consider leaving the profession as the result of occupational stress.

In addition to the effects of stress on teachers, the consequences of teacher stress on students have been well-documented (Blase, 1986; Galbo,

1983; Kyriacou, 1987). When teachers exhibit symptoms of stress, such as decreased patience, less involvement with their students, and higher rates of absenteeism, the quality of their students' education is compromised (Blase, 1986; Galbo, 1983). It has been asserted that student outcomes of teacher stress include difficulties in the teacher-student relationship, lower academic achievement, and behavioral problems. These student characteristics, in turn, have been found to correlate with increased levels of teacher stress (Blase, 1986; Lloyd & Kauffman, 1995).

Student Characteristics Associated with Teacher Stress

Numerous characteristics of students have been identified as major sources of stress for teachers and key factors in teacher burnout (Kyriacou & Sutcliffe, 1978b; Lloyd & Kauffman, 1995; Phillips, 1993). Blase (1986) discerned four categories of student-generated stressors on teachers. The first of these categories is student discipline problems, which is widely regarded as one of the most common sources of stress for teachers (Boyle et al., 1995; Farber, 1991; Jenkins & Calhoun, 1991). Student discipline or behavioral problems include such actions as teasing, arguing, fighting, cheating, and vandalizing school property. When students demonstrate these externalizing forms of behavior, it is likely that the class will be interrupted and that the teacher will need to take the time to attempt to prevent or stop the disruptive behavior or will need to provide appropriate consequences for the behavior. Lloyd and Kauffman (1995) found that students' behaviors are more troubling to

teachers than poor academic performance. According to Blase (1986), "with few exceptions, the problem of student discipline is linked with distasteful roles teachers are required to play and strong feelings of anger" (p. 19).

Additional categories of student characteristics associated with teacher stress are student apathy (i.e., a negative attitude toward school and minimal effort, responsiveness, or involvement in the learning process); low academic achievement (i.e., students' lack of preparedness in skills, difficulty understanding what they are to do, special learning problems, and uninvolved/unsupportive parents); and high rate of student absenteeism (Blase, 1986). Students' social skills and the quality of their relationships with peers and teachers, which are directly related to such student characteristics as behavior, also have been found to be important factors associated with teachers' feelings of stress (Makinen & Kinnunen, 1986; Phillips, 1993).

Students' Social Skills and Relationships with Teachers and Peers

The quality of interactions among students and between students and teachers is critical to both the educational experience and emotional development of students and to teachers' feelings of stress and efficacy (Coates & Thorasen, 1976, as cited in McIntyre, 1983; Kyriacou & Sutcliffe, 1978b; Phillips, 1993). A child with appropriate social skills is able to successfully initiate, respond to, and sustain interpersonal interactions (Guralnick, 1980). Developing these skills and establishing rewarding relationships with others are among the most important tasks for children (Gresham & Elliott, 1990).

Students' social skills have been found to be associated with their academic performance, short and long-term adjustment to school, and teachers' perceptions of behavioral and academic problems (Demaray, Ruffalo, Carlson, Busse, Olson, McManus, & Levanthal, 1995; Stinnett, Oehler-Stinnett, & Stout, 1989). Poor social skills and low sociability in children have been found to contribute to teacher stress and burnout, although these variables appear to be less significant to teacher stress than such externalizing student behaviors as disrespect and inattentiveness (Friedman, 1995).

In addition to the importance of rewarding and satisfying social interactions between students, the quality of students' relationships with their teachers has been identified as critical to children's educational outcomes and teachers' feelings of competence or stress (Pianta, 1994; Pianta, Steinberg, & Rollins, 1995). In a study conducted by Birch and Ladd (1997), kindergarten teachers rated their relationships with individual students, using the Teacher-Student Relationship Scale (Pianta, 1992). The teachers rated these relationships on three qualities: closeness (warmth and open communication between a student and teacher); dependency (overreliance on teacher for support, demonstrated by possessive and clingy child behaviors); and conflict (friction and lack of rapport between teacher and student). The investigators found that these three different relationship qualities are associated with students' adjustment in school. Teachers' perceptions of closeness with individual students were positively associated with the student's academic performance, attitude toward school, and self-directedness. Ratings of

dependency in the teacher-student relationship were strongly correlated with such school difficulties as low academic performance, negative attitudes toward school, and less engagement in school. Finally, teachers' ratings of conflictual teacher-student relationships were associated with negative attitudes toward school, school avoidance, minimal self-directedness, and difficulty participating cooperatively in the classroom. In addition to child functioning and outcomes associated with the teacher-student relationship, negative interactions and relationships between teachers and students has been found to predict an increase in teachers' levels of depression, anxiety, and medication use (Makinen & Kinnunen, 1986).

Inclusion and Teacher Stress

Inclusion is one of the factors that has been associated with elevated levels of stress among regular education teachers. Having students with disabilities in the classroom has been found to contribute to increased amounts of paperwork and greater difficulty with classroom management for regular education teachers, as well as confusion and role conflict among the numerous educators (e.g., resource teachers, itinerant teachers, occupational/physical therapists, etc.) involved with these children (Farber, 1991; Kotkin, 1995). Mainstreaming students with special needs into large regular education classes also has been found to reduce the amount of time these teachers can spend with individual students, which is another source of stress for teachers (Broiles, 1982, as cited in Farber, 1991). Furthermore, the quality of the relationship

between regular education teachers and their students with disabilities may be another source of stress for these teachers. Several investigators have found that teachers are more likely to be critical and rejecting of their students with behavioral and learning disabilities than of other children in their classrooms (Siegel, 1992; Thompson, Jewett, & Vitale, 1983). Finally, teachers' feelings of stress regarding mainstreamed students also are associated with the challenge of teaching children who are at varying academic levels and have such a broad range of educational needs (Trendall, 1989).

Although a considerable amount of research indicates that regular education teachers' experience increased stress when students with disabilities are in their classrooms, positive outcomes of inclusion for students and teachers also have been found. Numerous investigators have found that, while inclusion may not be appropriate for all students, it is effective for many students and encompasses an important component and option on the continuum of services for children with disabilities (Maddon & Slavin, 1983; Manset & Semmel, 1997). According to Snell (1991), empirical studies have fairly consistently revealed that inclusion is associated with the development of social skills and peer relationships in students with severe disabilities, and the facilitation of more positive attitudes in nondisabled children toward their disabled peers. It also has been found that regular education teachers who have disabled students in their classrooms develop more positive attitudes of and expectations for these students, as well as "an appreciation of the human diversity and individual differences in achievement that are a part of life" (Snell, 1991, p. 138). To be

most effective with mainstreamed students, however, advocates of inclusion have asserted that teachers must receive appropriate training and support (Stainback, Stainback, & Harris, 1989).

Special Education and Teacher Stress

With the passage of Public Law 94-142, special education teachers have been faced with increasing demands and responsibilities. These teachers are finding more severely handicapped children in their classrooms, dramatic increases in paperwork (e.g., writing individualized education programs and annual progress reports), and the need to conduct diagnostic assessments (Beck & Gargiulo, 1983; Holland, 1982). Special education teachers also are expected to attend numerous multidisciplinary team meetings (e.g., child study and eligibility meetings, due process consultations and hearings, individualized education program meetings with parents and other school personnel), which frequently take these teachers away from their students during the school day. In addition to these challenging and time-consuming responsibilities, special educators are simultaneously expected to provide individualized instruction to students with a broad range of cognitive, social, emotional, and physical needs. All of these factors have been found to be sources of stress for these teachers (Dedrick & Raschke, 1990).

Numerous researchers have compared the level of stress experienced by regular education teachers versus special educators. The results of these investigations have been inconsistent. Some researchers have reported that

special education teachers experience higher levels of stress and rates of burnout and attrition than regular education teachers, including those with mainstreamed students in their classrooms. These findings are thought to relate primarily to special educators' negative expectations of their students (Bradfield & Fones, 1985; Weiskopf, 1980; Zabel & Zabel, 1981), and to behavioral and academic problems of students in special education classrooms (Fimian & Santoro, 1983; Platt & Olson, 1990). Other studies have demonstrated that overall, special educators in self-contained classrooms experience less stress than regular education and resource room teachers (Bensky, Shaw, Gouse, Bates, Dixon, & Beane, 1980; Trendall, 1989). These investigators attribute this finding to the sources of stress for each of these groups. Stressors identified by regular education teachers relate to student characteristics, while special educators experienced stress related to the implementation and demands of PL 94-142 (Bensky et al., 1980). In contrast to both of these sets of findings, still other investigators have found that regular education teachers and special educators experience comparable feelings of work-related stress and support (Bakewell et al., 1988; Sutton & Hubert, 1984).

Deafness, Language, and Education

Deaf and hard of hearing children are among those students with special learning needs who are being mainstreamed into public schools and regular education classrooms. To understand why a deaf child may present unique challenges in a regular education, inclusive classroom setting, it is important to

discuss the language acquisition patterns among prelingually deaf children, as deafness is typically associated with language and communication difficulties (Paul & Quigley, 1994). More than 90% of deaf children are born to parents with normal hearing and are the only deaf member of their family (Schein, 1989). The implications of this, especially in relation to communication, are profound. Despite the fact that these children are exposed to environments in which English (or another language) is spoken, children with a significant hearing loss are unable to acquire the language spoken by their families, as hearing children do. According to Meadows (1980), "We take for granted the fact that a four year old hearing member of any culture has a complete working grasp and knowledge of her native language – a knowledge that she has absorbed, processed, and assimilated without formal teaching" (p. 17). Although research has shown that language is innate (Neisser, 1983), language acquisition cannot occur if the language itself is not accessible.

The English language is largely inaccessible, both in its structure and modality, to a deaf person. The arduous task for a deaf child to learn and understand spoken language merely by seeing it on people's lips can be better understood if a hearing person imagines him or herself watching a movie with the volume turned off. How much of what is being said is comprehensible? If this deaf child is not yet fluent in English, it is equivalent to watching a movie in an unknown, foreign language with no volume. Not only is this individual unable to hear the words being spoken, but he or she does not even know the language being articulated by these rapid lip movements. Even if a deaf or hard of hearing

individual is fluent in English but cannot hear everything that is being said, fluent oral/aural communication is often difficult to achieve. It has been found that the most proficient lipreaders can detect only about 25% of all English words (Neisser, 1983).

People with hearing loss have a range of auditory and communication abilities. Depending on the decibel loss and the frequency of this loss, deaf or hard of hearing people may be able to hear almost all spoken language, or they may have such a profound hearing loss that they cannot hear a fire truck siren at close range. When considering the educational needs of deaf children, therefore, it is critical to carefully assess and determine their auditory and communication abilities.

Various linguistic and educational options exist for deaf children, depending on their linguistic abilities and their caretakers' expectations, goals, and values (Paul & Quigley, 1990). These children may attend residential or day schools specifically for deaf students, where they are surrounded by other deaf children, and quite possibly where they are taught by deaf teachers. Personnel from these residential and day schools for the deaf may subscribe to a number of different linguistic philosophies and approaches. They may utilize sign language as the primary method for teaching and communicating; they may endorse an oral approach, in which a significant amount of time is devoted to teaching the children to speak intelligibly; or they may employ any combination of these two communicative approaches. In addition to the option of attending a residential or day school for deaf children, in recent years increasing numbers of deaf children

have been mainstreamed into their neighborhood schools (U.S. Department of Education, 1997).

In light of the language acquisition patterns among deaf children, it is not uncommon for them to enter mainstreamed classes in elementary school without fluency in English. This linguistic challenge will likely have a profound impact on their academic performance, social interactions with teachers and peers, behaviors, and general attitudes toward school. Even those deaf children who do possess a strong command of English may not be able to speak intelligibly. It is probable that this difficulty with expressive language, as well as with receptive language, also will affect their experiences in mainstream school settings, where the ability to listen and respond to teachers and peers is essential.

Deaf Students in Regular Education Classrooms

Almost 75 percent of the approximately 80,000 school-aged deaf and hard of hearing children in the United States currently attend public schools with hearing children (Lane, 1995). More than 24,000 of these children are placed in regular education classrooms (U.S. Department of Education, 1997). Mainstreamed deaf and hard of hearing children receive a range of services and accommodations, depending upon their educational needs and what the school is able to offer. They may receive such services as educational resource, audiology, speech and language, counseling, itinerant teachers ("deaf and hard of hearing specialists"), and interpreters. In some schools, these children may be in self-contained classes, with minimal or even no contact with hearing students.

In other settings, there may be only one deaf child in a grade or in an entire school. According to Siegel (1991), the majority of mainstreamed deaf students are in this latter category, in which there are no more than one or two other deaf children in the school.

A number of researchers have examined the experiences of deaf students in mainstreamed settings (Antia, 1982; Cappelli, Daniels, Durieux-Smith, McGrath, & Neuss, 1995; Foster, 1989; Greenberg & Kusche, 1989; Lane, 1995). Much of this literature addresses the notion that regular education classrooms may not, in fact, be the least restrictive environment for many deaf children, given the communicative and social barriers that likely exist in mainstreamed classes. It has been found that the experiences in school of mainstreamed deaf students are frequently lonely, rejecting, and isolating (Cappelli et al., 1995; Foster, 1989, Mertens, 1989). However, positive aspects of mainstreaming deaf children into regular classes include exposure to more rigorous curricula and higher levels of academic attainment than when these students are in schools for the deaf (Foster, 1989; Paul et al., 1990). It also has been found that deaf children who are mainstreamed into regular education classrooms for longer periods of time, and thus have increased opportunity to interact with their hearing peers, are more likely to develop friendships with these peers than those deaf students who are mainstreamed for only part of the day (Gregory & Bishop, 1988; Kauffman, 1993; Lederberg, Ryan, & Robbins, 1986).

Stress in Teachers of Deaf Students

A few studies have explored the experiences of teachers who have been trained to work with this population, in residential or day schools, or in self-contained classrooms. The results of these studies indicate that stress on these teachers is associated with the following factors: heavy workload; excessive paperwork; needing to plan materials for students with varying abilities; insufficient preparation time; inadequate salaries; minimal feedback on job-related activities and inadequate administrative support; school-mandated curricula that teachers believed was inappropriate for their deaf students; feeling pressure from the expectations of the community; and general work-related exhaustion (Johnson, 1983; Meadows, 1981; Moores, 1991). Interestingly, none of the primary factors associated with teacher stress in these studies was related to such student characteristics as behavior and academic achievement or to teacher-student relationships. It is important to note, however, that these teachers chose to work with deaf children, and were therefore knowledgeable about deafness and had experience interacting and communicating with this population.

Academic and Behavioral Characteristics of Deaf Children

Due to the linguistic challenges associated with deafness, it is not surprising that academic achievement may be more difficult for many deaf students to attain than for hearing students. Numerous investigators have found that deaf children often lag behind their hearing peers academically, particularly

in language-based subjects such as reading and writing (Allen, 1986; Brackett & Maxon, 1986; Maxon & Brackett, 1987; Wolk & Allen, 1984). Deaf children of deaf parents who use American Sign Language have been found to have reading skills and general academic abilities that are significantly higher than deaf children raised by hearing parents (Bockmiller, 1981; Kampfe & Turecheck, 1987). It is likely that these children are better able to learn English because they already have a strong base in a first language (ASL), and they also have fluent communication with their parents, who can therefore support and assist their deaf child's academic development.

Studies of the behavioral functioning of deaf children have resulted in inconsistent findings. Some investigators have found significantly higher rates of emotional-behavioral problems (e.g., impulsivity, physical aggression, disobedience, dependency) among deaf and hard of hearing children than among their hearing counterparts (Baker, 1985; Freeman, Malkin, & Hastings, 1975; Meadow & Schlesinger, 1975; Meadow & Trybus, 1979; Pearson & Altshuler, 1982). Other researchers, however, have refuted these findings and have suggested that a higher incidence of behavioral problems in deaf and hard hearing students does not exist, and that a child's degree of hearing does not affect behavioral functioning (Furstenberg & Doyal, 1994; Raymond & Matson, 1989). Vernon and Andrews (1990) posited that the incidence and distribution of most psychological disorders are in the same proportion in the deaf and hard of hearing population as in the hearing population.

These discrepant results may be due to a number of factors. There may be reluctance by teachers and parents to label children if they believe it is only for research purposes and that their remarks will not lead to actual assistance. In addition, researchers have used different definitions of hearing impairment (ranging from moderate to profound hearing loss), as well as different definitions and measures of behavioral and emotional problems (Vostanis, Hayes, Du Feu, & Warren, 1997). Furthermore, subjects have been recruited from a range of settings, such as schools for the deaf, schools for children with multiple handicaps, mainstream classrooms, and psychiatric settings. These deaf children are likely to be very different from one another, and it is possible that evaluators from these various settings have different expectations for and biases about deaf children (Simmons, Wilmot, & McLaughlin, 1983).

In addition to the inconsistent findings regarding the behavioral functioning of deaf versus hearing children, inconclusive results also exist when the behaviors of deaf students in mainstreamed classes have been compared to the behaviors of deaf students in special programs. Numerous investigators have found that there are no differences in behavioral functioning between these two groups of deaf students (Alpin, 1987; Furstenberg et al., 1994; Schildroth, 1988). Allen and Osborn (1984), on the other hand, reported that mainstreamed deaf students have fewer behavioral problems than those deaf students in special classes. It is likely that the deaf children in this study who demonstrated poor behavioral functioning were less likely to be mainstreamed than those children who behaved more appropriately.

Social Skills of Deaf Children

Numerous investigators have examined the social development and peer interactions of deaf children (Antia, 1982; Antia & Kreimeyer, 1996; Cappelli et al., 1995; Foster, 1988;). Social competence typically requires important interaction and communication skills, such as greeting and talking to others, initiating and responding to invitations to engage in peer interactions, cooperating, and helping (Gresham, 1982). Children often learn social skills by listening to instructions and explanations, and by hearing others' (e.g., siblings', parents', peers', television characters') conversations (Friedrich & Stein, 1973, as cited in Lederberg, 1993). Because most deaf children have hearing family members with whom communication may be limited, these children are likely to "emerge from home environments having had a restricted range of interpersonal interactions as compared to hearing peers" (Marschark, 1993, as cited in Luetke-Stahlman, 1995, p. 295).

Deaf children, therefore, are often delayed in their social development and interpersonal skills, largely due to difficulty with receptive and expressive communication. It has been found that deaf children engage in less pretend and symbolic play than hearing children (Higginbotham & Baker, 1981), and that the amount of pretend play that deaf children use is positively correlated with their teachers' ratings of the communication skills in these children (Lederberg, et al., 1986). Pretend play typically involves acting out scripts, and children who have better communication skills and can understand adults' explanations of events are likely to develop more elaborate scripts. Furthermore, deaf children may not

be able to engage in such typical childhood peer communication as gossip, problem solving, and self-disclosure. These forms of communication and interaction are necessary for children to develop "an understanding of their own emotions and how these emotions function in relation to other people" (Kluwin & Stinson, 1993, p. 73).

It consistently has been found that school-age deaf children, regardless of their language skills, spend less time interacting with peers and engaging in cooperative peer play, and more time in solitary play, than hearing children (Antia, 1982; Higginbotham & Baker, 1981; Lederberg, 1991; Vandell & George, 1981). These characteristics do not appear to be due to a lack of interest in socializing, as deaf children have been found to initiate interactions with other deaf children more often than hearing children initiate play with each other (Vandell et al., 1981). Unfortunately, the invitations to engage in play are less likely to receive a positive response by deaf children than by hearing children, which has been attributed to the likelihood that deaf children will not receive the invitation (i.e., they will not see a gesture or hear a vocalization). Unlike play between hearing children, in which communication itself does not require undivided attention, for deaf children to interact successfully with playmates, each child must be able to coordinate his or her communication with the other person's attention.

It has been demonstrated that deaf children who attend residential schools for the deaf, where sign language is a common mode of communication, have more positive social experiences than those deaf children who are mainstreamed

(Mertens, 1989). Deaf and hearing children in an integrated school setting have generally revealed little interest in or skill at sustaining interactions with one another (Antia, 1985; Levy-Schiff & Hoffman, 1985; Vandell et al., 1981). Unfortunately, even those deaf students in mainstreamed settings who would like to develop friendships with hearing peers typically struggle to do so based on communication barriers (Cappelli et al., 1995). Interactions between these children have been found to improve, however, when deaf children have good oral skills (Brackett & Henniges, 1976). Although mainstreamed deaf children have been found to interact less with their peers, they interact more frequently with their teachers and rely on their teachers more to mediate classroom activities than do hearing children (Antia, 1982; Greenberg et al., 1989; Kennedy, Northcott, McCauley, & Williams, 1976).

CHAPTER 3

METHOD

Participants

Fifty regular education, first through fifth grade teachers from 11 different states, participated in this study.[2] Each of these teachers had at least one deaf or hard of hearing student mainstreamed into his or her classroom, for any portion of the day, during the 1999-2000 school year. Each participant completed a packet of questionnaires (see Appendices A-K for contents of sample packet). Teachers responded to demographic and background questions about themselves, including years of teaching experience and prior experiences with deaf and hard of hearing people (see Tables 1 and 2). Teachers also completed demographic information and a series of questionnaires pertaining to a deaf or hard of hearing student and to a hearing (control) student who matched the deaf student by sex and, when possible, by race (see Tables 3 and 4).

The directors of deaf/hard of hearing programs and special education programs, as well as other school administrators, were contacted between April 1999 and March 2000, to request permission for teachers in their schools and districts to participate in this study. Names of these administrators were obtained from a listing in the American Annals of the Deaf (Carew, 1999). Each year, this journal publishes a comprehensive listing of school districts that serve

[2] Fifty-one packets were returned by teachers, but one had too much missing information to be included in the study.

Table 1

Demographics of Participants

Number of Teachers = 50

Variable	Category	Number of Teachers	Percent of Teachers
Gender	Female	47	94
	Male	3	6
Mean Age of Teachers		40.1	
Standard Deviation		9.9	
Range		25-67	
Mean Years of Teaching Experience		13.8	
Standard Deviation		8.4	
Range		2-30	
Race of Teachers	African-American	4	8
	Caucasian	45	90
	Did not identify	1	2
Grade Level	First Grade	12	24
	Second Grade	10	20
	Third Grade	6	12
	Fourth Grade	11	22
	Fifth Grade	11	22
State	Florida	2	4
	Georgia	4	8
	Illinois	8	16
	Maryland	4	8
	Michigan	2	4
	Missouri	8	16
	New York	4	8
	North Carolina	6	12
	Ohio	7	14
	Virginia	1	2
	West Virginia	4	8

Table 2

Frequency and Quality of Teachers' Previous Experience with Deaf and Hard of Hearing People

Number of Teachers = 50

	Number/Frequency		Teachers' Reported Quality of Experience
Deaf and Hard of Hearing Students Previously Taught	0	23 Teachers (46%)	--
	1-5	17 Teachers (34%)	16 Positive; 1 Negative
	6-10	3 Teachers (6%)	2 Positive; 1 Neutral
	11-15	2 Teachers (4%)	2 Positive
	25-50*	5 Teachers (10%)	4 Positive; 1 Neutral
Other (non-teaching) Previous Interactions with Deaf and Hard of Hearing People (e.g., relative, childhood friend)	0	37 Teachers (74%)	--
	1-5	12 Teachers (24%)	11 Positive; 1 Neutral
	25**	1 Teacher (2%)	1 Positive

* Among these five teachers who had extensive prior experience teaching deaf children, three had previously been special education, self-contained classroom teachers for deaf children, and two worked at a school, for more than 25 years, that served many mainstreamed deaf students.

** This teacher had previously been trained as a sign language interpreter.

Table 3

Demographic Information and Other Characteristics of Rated Deaf and Hearing Students

Number of Deaf Students = 50
Number of Hearing Students = 50

		Deaf Students		Hearing Students	
Variable	Category	Number	Percent	Number	Percent
Gender	Female	30	60	30	60
	Male	20	40	20	40
Mean Age		8.4		8.5	
SD		1.5		1.5	
Range		6-11		6-11	
Race	African-American	12	24	10	20
	Asian	3	6	3	6
	Hispanic	3	6	3	6
	Caucasian	32	64	34	68
Grade	First Grade	12	24	12	24
	Second Grade	10	20	10	20
	Third Grade	6	12	6	12
	Fourth Grade	11	22	11	22
	Fifth Grade	11	22	11	22
Amount of Parental Involvement	Daily	8	16	6	12
	Weekly	18	36	14	28
	Monthly or Less	24	48	30	60

Table 4

Characteristics of Rated Deaf or Hard of Hearing Student

Variable	Category	Number	Percent
Degree of Hearing Loss	Moderate	12	24
	Severe	20	40
	Profound	14	28
	Unknown	4	8
Students with Cochlear Implant		9	18
Additional Diagnosed Disability (other than deafness)	No additional diagnosis	47	94
	Learning Disabled	1	2
	ADHD	2	4
Students Partaking in Statewide Testing	Yes	30	60
	No	5	10
	Not Sure	15	30
Mean Number of Hours Student Is In This Teachers' Class Each Day		4.74	
Standard Deviation		1.91	
Range		1-7	
Subjects for Which Student Is Mainstreamed	Language Arts	36	72
	Math	44	88
	Social Studies	37	74
	Science	41	82
	Other (art, health, computers)	11	22
Services Student Receives*	Interpreter (Sign or Oral)	21	42
	Audiological Services	23	46
	Educational Resource	24	48
	Itinerant Teacher	23	46
	Speech/Language	38	76
	Instructional Assistant	5	10
	Mental Health Services	2	4
	No Reported Services	1	2

* 40 teachers (80%) reported that their deaf student received two or more of these services.

mainstreamed deaf students. Using this listing, the investigator arbitrarily selected schools and districts in various states, most of which served between 25 and 200 mainstreamed deaf students. These numbers were chosen in an attempt to obtain participants who had varied levels of familiarity with deaf students, and who received a range of school-based support services to facilitate working with these students. A total of 52 program directors in 15 different states were called. Of those initial contacts, 23 schools (44.2%) in 13 states met criteria for this study and gave approval for the research to be conducted in their schools.

Procedures for obtaining approval varied. Some districts required the investigator to complete comprehensive applications detailing the project, other districts requested a letter of explanation to the school principals and eligible teachers (see Appendices L and M), and in other districts, the investigator was able to proceed with the study with verbal approval by the program director. The 29 schools that were eliminated from the study at this initial step were ineligible for one of the following reasons: they did not have any mainstreamed deaf/hard of hearing students; they had classes in which a large number of deaf students were mainstreamed together; or the investigator did not receive permission for the study to be conducted.

A total of 294 packets of questionnaires were sent to the 23 program directors (see Appendix N). Thirty-four packets were the most that were sent to any one director. These directors then distributed the packets to all eligible teachers (i.e., first through fifth grade regular education teachers who currently

taught one or two mainstreamed deaf students for some portion of the day). The purpose of the study was explained to each teacher in a cover letter written by the investigator (see Appendix A). Teachers were informed that packets would require approximately one hour to complete, that their names would be kept confidential, that they would receive $20 for completing the packet, and that their participation was voluntary. At no time were the names of the rated students requested. Based on each program director's preference, completed packets were returned either directly to the investigator, or back to the program director who then returned all completed packets to the investigator. Prepaid, self-addressed envelopes were provided to return all packets. Teachers were given a three week period to complete and return the packets. If the investigator did not receive any, or received only a small percentage, of packets from a particular school four weeks after sending them, a follow-up call was made to the program director. Fifty teachers completed the packets (17% response rate). Upon receiving completed packets, the investigator paid participating teachers $20 (see Appendix O).

Measures

Overview

Participating teachers completed three questionnaires pertaining to two students, one set relating to a deaf or hard of hearing student and one to a hearing student in their classroom. They also completed a brief communication competency scale pertaining to the deaf/hard of hearing student, and brief

demographics/background forms about themselves and the two rated students. The three questionnaires which the teachers completed for each student were the Social Skills Rating System – Teacher Form, the Student-Teacher Relationship Scale, and the Index of Teacher Stress. These questionnaires, each requiring approximately 5-10 minutes per child to complete, were used to examine teachers' perceptions of these two students' social skills, behavioral functioning, and academic performance, as well as the quality of the teacher-student relationship and teachers' reports of stress in relation to each rated student. The communication competency scale added additional information about the teachers' perceptions of the deaf/hard of hearing students' communicative strengths and weaknesses. Finally, the background forms generated demographic information about the teachers and the two students whom they rated.

The Social Skills Rating System

The Social Skills Rating System – Teacher Form (SSRS) (Gresham & Elliott, 1990), measures functioning in the three areas of social skills, problem behaviors, and academic competence. For the Social Skills and Problem Behaviors scales, teachers rate individual students on a scale of 0 (never occurs), 1 (sometimes occurs), or 2 (very often occurs). The Social Skills domain consists of three subscales: Cooperation (e.g., sharing, following rules and instructions, assisting others); Assertion (i.e., initiating social interactions); and Self-Control (ability to behave appropriately in conflictual situations). In

addition to ratings of frequency, the Social Skills domain also asks teachers to rate the importance of each skill for success in the classroom (i.e., 0 = not important, 1 = important, 2 = critical). Because the Importance ratings were not pertinent to this study and completing them takes several minutes, permission was obtained from the American Guidance Service (publisher of the SSRS) to eliminate the Importance ratings from this study (see Appendix P).

The Problem Behaviors domain measures Internalizing and Externalizing Problems and Hyperactivity. The Internalizing Problems subscale inquires about such child characteristics as loneliness, self-esteem, embarrassment, and sadness. Behaviors included in the Externalizing Problems subscale are fighting, bullying, and arguing. Finally, the Hyperactivity subscale of the Problem Behaviors domain assesses such characteristics as distractibility and excessive movement.

A five-point scale is used to rate the Academic Competence of the student, with a rating of one indicating that, academically, the student is in the lowest 10% of the class, and a rating of five indicating that the student is in the highest 10% of the class. Ratings of Academic Competence include performance in reading and mathematics, general cognitive functioning, motivation, and parental support. Raw scores on each scale are converted into standard scores, with a mean of 100 and a standard deviation of 15. The SSRS has been found to have high test-retest reliability and construct validity. Internal consistency data reported by the authors revealed an average coefficient alpha

of .90 for the Social Skills Scale, .84 for the Problem Behavior Scale, and .95 for the Academic Competence Scale (Gresham & Elliot, 1990).

Student-Teacher Relationship Scale

The Student-Teacher Relationship Scale (STRS) was developed by Pianta (1992) to assess teachers' thoughts, feelings, and observations of their relationship with an individual student, the student's interactions with the teacher, and the teacher's beliefs about the student's feelings toward the teacher. Teachers use a five-point Likert scale to rate an individual student on 28 items. The most recently derived factor structure of the STRS yielded three factors: Conflict (power struggles, student disobedience, and mutual negative feelings); Closeness (feelings of warmth, emotional closeness, and the perceived importance of the relationship to the student); and Dependency (student's neediness and overdependence) (Saft, 1994). Using Cronbach's alpha, high levels of internal consistency were calculated for the STRS Total scale (.89), the Conflict scale (.86), and the Closeness scale (.86). Moderate internal consistency was found for the Dependency scale (.64), due primarily to the small number of STRS items comprising this scale (Pianta et al., 1995; Saft, 1994). STRS validity studies indicate that this measure correlates with concurrent measures of peer relations (Birch & Ladd, 1997) and behavior problems in elementary school students (Pianta, 1994) (see Appendix J for STRS).

Index of Teacher Stress

The Index of Teacher Stress (ITS) (Greene & Abidin, 1994) assesses teachers' levels of perceived stress associated with child behavioral characteristics and teacher characteristics. It consists of a Student Characteristics Domain and a Teacher Related Domain. In the Student Characteristics Domain, teachers are asked to rate, using a five-point Likert scale, the degree to which they find a specific child's behaviors to be stressful or frustrating to them. This Domain consists of five subscales (ADHD behaviors, Emotional Lability/Low Adaptability, Anxiety and Withdrawal, Low Ability/LD Characteristics, and Aggression/Conduct Disorder). The Student Characteristics Domain of the ITS is comprised of 47 items. To reduce the amount of time required to complete the ITS for this study, the investigator received permission from Abidin to select and use the three items in each subscale of the original data with the highest internal consistency. The Student Characteristics Domain, therefore, was reduced to 15 items.

In the Teacher Related Domain, teachers are asked to assess, again using a five point Likert scale, their perceptions of how a student affects the teacher and the teaching process. The Teacher Related Domain is comprised of 43 items across four subscales (Self-Doubt/Need for Support, Loss of Satisfaction from Teaching, Disruption of the Teaching Process, and Frustration Working with Parents). The authors report that the internal consistency of the Total Scale and Domain Scores are high, ranging from .96 to .98. The ITS,

therefore, appears to be a reliable measure of the construct of stress associated with teaching individual students (see Appendix K for ITS).

Communication Competency Scale

In addition to these three questionnaires, teachers completed a communication competency scale. This scale was developed by the investigator for the purpose of this study, to assess teachers' perceptions of their deaf and hard of hearing students' receptive and expressive communication skills. Teachers were asked to rate the communication skills of the deaf/hard of hearing student, according to typical classroom patterns. Therefore, if a student generally used a hearing aid or had an interpreter in the classroom, the teacher was instructed to rate this student's communication skills while wearing the aids or using the interpreter. A five-point Likert scale was used to rate specific skills, ranging from 0 (almost never) to 4 (almost always). Receptive communication items inquired about the frequency that the child seemed to understand spoken language when the teacher was giving instructions/talking to the entire class, and when the child was a part of a large group discussion, a small group discussion, and in a one-on-one situation. Expressive communication questions were: "How well did/do you understand this child's speech in the beginning of the school year? Currently?" (see Appendix G for Communication Competency Scale).

Demographic/Background Information

Finally, teachers completed brief demographics/background information forms regarding the two rated students and themselves. These forms were developed by the investigator for the purpose of this study. The form pertaining to the deaf/hard of hearing student inquired about the students' sex and race, degree of hearing loss (if known), whether the child had additional diagnosed disabilities (e.g., ADHD, LD), and if he or she would be partaking in statewide testing (e.g., Standards of Learning in Virginia, Regents in New York, etc.). This form also asked what services the student and teacher received (e.g., interpreter, educational resource, in-service training, etc.), and services perceived as being most and least helpful/desired. Finally, teachers were asked to indicate any particular challenges they experienced in their work with this deaf or hard of hearing student (see Appendix F). The form pertaining to the hearing child asked only about this child's sex, race, degree of parental involvement, and specific challenges this student raised for his or her teacher (see Appendix I). The names of these students were not disclosed to the investigators, ensuring these students' confidentiality. The teacher background form inquired about such demographic information as the teacher's age, sex, race, and years of teaching experience, as well as prior experience with deaf people (see Appendix D). To ensure the confidentiality of the participating teachers, a code number was assigned to each teacher, and only the investigator had access to a list that linked the codes to the personal identifiers of the participants.

Procedures

The investigator identified 294 teachers eligible to participate in the study using the criteria described earlier. Packets of questionnaires were sent to program directors, who distributed the packets to teachers, between October 1999, and March 2000. The purpose of the research and the role of participants were described to teachers in a cover letter. Teachers who volunteered to participate signed an Informed Consent Agreement (see Appendix C), and completed the questionnaires, which pertained to a deaf/hard of hearing child and a hearing child in the classroom.

The deaf and hard of hearing students who were rated by participating teachers were those children who received special education services under the category "Hearing Impaired," and who were mainstreamed into a regular education classroom for any portion of the school day. If a teacher taught more than one mainstreamed deaf or hard of hearing student, he or she was asked to select the one whose name appeared first on the alphabetical attendance/class list. Teachers were instructed to include only their own names, and not the students' names, on the forms (see Appendix E). The hearing student who was rated was matched with the deaf/hard of hearing student on sex and race and did not receive special education services. This child was selected by each teacher according to following guidelines: the child was the first student on the alphabetical attendance/class list who matched the deaf/hard of hearing student according to sex and race, and who did not have a disability for which he or she

received special education services. If such a match did not exist, teachers were advised to rate a hearing student who did not receive special education services and was the same sex as the deaf/hard of hearing child, but was not the same race. Again, teachers were instructed not to include the students' names on the forms (see Appendix H). Completed packets were returned, by either the teacher or the program director, in prepaid envelopes provided by the investigator.

Research Hypotheses

Three sets of hypotheses were tested in this study. In the first set, teachers' perceptions their deaf/hard of hearing student were compared with their perceptions of the rated hearing (control) student. It was predicted that:

1. Regular education teachers would rate deaf/hard of hearing students as having weaker academic performance than hearing students.

2. Regular education teachers would rate deaf/hard of hearing students as having more internalizing problems than hearing students.

3. Regular education teachers would rate deaf/hard of hearing students as having poorer social skills than hearing students.

The second set of hypotheses tested teachers' perceived experiences working with these two groups of students. These hypotheses predicted that:

4. Based on teachers' reports of weaker academic performance and poorer social skills among deaf students, they would report greater stress when

working with mainstreamed deaf/hard of hearing children than when working with hearing children.

5. Teachers would report a more positive relationship with their hearing students than with their deaf/hard of hearing students.

The third set of hypotheses focused on teachers' perceptions of their mainstreamed deaf students, and factors linked to these teachers' experiences working with these children. It was predicted that:

6. Teachers' experiences of stress with respect to their deaf/hard of hearing student would be higher when these students had weaker communication skills, as perceived by the teachers.

7. Communication skills also would be a predictor of academic performance, internalizing problems, social skills, and the teacher-student relationship, with weaker communication skills correlating with greater difficulties in these areas.

8. Teachers who received a greater number of school-based support services for themselves (e.g., in-service training), and whose deaf/hard of hearing students received more hours of special education services, would experience less stress than their colleagues who received fewer numbers and hours of services for themselves and their deaf students.

9. Teachers who had positive prior experiences with deaf individuals would report less stress than their colleagues who had either no previous experience with deaf people, or had experiences that were not positive.

Exploratory Questions

Because only scarce information currently exists in this area of research, in addition to the research hypotheses, several exploratory questions were posed. Of particular interest were teachers' perceptions of the services and resources (e.g., in-service training, interpreters, itinerant teachers, etc.) that they found to be the most helpful with mediating and mitigating feelings of stress, as well as the services that were least helpful. In addition, teachers were asked open-ended questions about any specific services that they wished they had received (e.g., in-service training on deafness) or were currently receiving (e.g., more guidance from/collaboration with special education teachers of deaf/hard of hearing specialists). Finally, by asking teachers about the most challenging aspects of working with the rated deaf student and the rated hearing student, this study explored, more generally, teachers' perceptions of the challenges associated with teaching these two groups of students.

CHAPTER 4

RESULTS

Scoring Rules

Raw scores for each scale of the SSRS, STRS, and ITS were computed as dictated by the manual for each measure. For the SSRS, the scores on specific items were added to obtain subscale scores. The Cooperation, Assertion, and Self-Control subscales were added together to obtain a Social Skills raw score, which was converted to a standard score according to the manual. Similarly, specific item scores were added to yield Internalizing, Externalizing, and Hyperactivity subscale scores, which were summed to produce the Problem Behaviors scale raw score. This raw score was then converted to a standard score. Finally, scores for relevant items on the Academic Competence domain of the SSRS were added and converted into a standard score.

For the STRS, the scores on specific items were added to yield the Closeness, Conflict, and Dependency subscale scores, and the scores of all items were added to generate a Total score. Reverse coding for several items on the STRS was conducted to reflect an overall positive relationship.

For the ITS, specific item scores were summed to produce the subscale scores within the Student Characteristics Domain (i.e., ADHD behaviors, Emotional Lability/Low Adaptability, Anxiety and Withdrawal, Low Ability/LD Characteristics, and Aggression/Conduct Disorder), and the Teacher Related

Domain (Self-Doubt/Need for Support, Loss of Satisfaction from Teaching, Disruption of the Teaching Process, and Frustration Working with Parents). Because the number of items on the Student Characteristics Domain was reduced from 47 to 15, each subscale score was multiplied by a specific number to adjust the difference. For example, the ADHD subscale was collapsed from 16 items to 3 items. When calculating this subscale score, the sum of the 3 items was multiplied by 5.33, to reflect the original value of the subscale. Similarly, the Aggressive/Conduct Disorder subscale was reduced from six items to three. When it was scored, the sum of the three items was multiplied by two. The adjusted subscale scores within the Student Characteristics Domain were summed to yield this Domain score, and the Teacher Related subscale scores, left in their original form, were summed to yield that Domain score. These two Domain scores were added to produce a Total Score. Coding was reversed when scoring several items on the ITS, to reflect an overall positive effect. Because the two Domain scores correlated so highly with each other and with the ITS Total score (r = .86 to .98), only the ITS Total score was included in most of the analyses in this study.

The six questions on the Communication Competency questionnaire were scored on a scale of zero (minimal receptive/expressive communication skills) to four (strong receptive/expressive communication skills). An overall Receptive Communication score was calculated by summing the scores of the four questions pertaining to receptive language ability, and an overall Expressive Communication score was generated by adding together the two items pertaining

to expressive language. For the Receptive Communication score, the corrected item total correlation ranged from .52 to .78, and the internal consistency of the overall scale was .81 (coefficient Alpha = .81). For the Expressive Communication score, the correlation of the two items was .80 (coefficient Alpha = .81). Interestingly, receptive and expressive communication scores were not significantly correlated with one another. Therefore, a Total Communication score (sum of Receptive and Expressive scores) was not used.

Hypothesis Testing

Three sets of hypotheses were tested in this study. To test the first set, teachers' perceptions of deaf/hard of hearing students' characteristics were compared with their perceptions of hearing students' characteristics. In the second set of hypotheses, teachers' perceptions of their experiences working with these two groups of students were tested. For the third set of hypotheses, teachers' perceptions of their mainstreamed deaf/hard of hearing students' abilities and communication competency, and the factors associated with the teachers' experiences working with these children, were tested.

Teachers' Perceptions of Deaf and Hearing Students

To test the first set of hypotheses, means and standard deviations were computed for teachers' ratings of deaf/hard of hearing students and hearing students, on variables of academic performance (derived from the SSRS), internalizing behaviors (SSRS), and social skills (SSRS). To determine if differences in means were significant, one-tailed paired t-tests were conducted.

Results of these analyses are shown in Table 5.

1. According to the first hypothesis, regular education teachers would rate their deaf/hard of hearing student as having weaker academic skills than the hearing (control) student whom they rated, as measured by the Academic Competence standard score of the SSRS. Results, which are shown in Table 5, reveal that significant differences were found ($p < .01$). Although this finding was statistically significant and in the predicted direction, scores of Academic Competence for both the deaf students and the hearing students were in the average range.

2. In this hypothesis, it was predicted that teachers would rate their deaf/hard of hearing student as having more internalizing problems than the rated hearing student. A significant difference between the SSRS Internalizing subscale raw scores (conversions to standard scores were not provided for subscales) for deaf students and for hearing students was not found, as can be seen in Table 5.

3. In the third hypothesis, it was predicted that teachers would rate their deaf/hard of hearing student as having poorer social skills than the hearing student whom they rated, as measured by the SSRS Social Skills standard score. As Table 5 indicates, a significant difference, in the predicted direction, exists between the two groups on this variable ($p < .05$). Despite this finding, however, mean scores for both hearing and deaf students were in the average range. The Social Skills scale of the SSRS incorporates three subscales: Cooperation (e.g., sharing, following rules, assisting others); Assertion (initiating

Table 5

Teachers' Perceptions of Deaf and Hearing Students on Measures of Academic Competence, Internalizing Behaviors, and Social Skills

	Deaf/Hard of Hearing Student	Hearing (Control) Student	
	Mean SD	Mean SD	t-ratio
Academic Competence (SSRS Academic Competence Standard Score)	93.42 10.55	99.30 11.80	-3.05**
Internalizing Behavior (SSRS Internalizing Subscale Raw Score)	2.34 1.89	2.14 2.38	.51
Social Skills (SSRS Social Skills Standard Score)	100.98 14.53	107.06 13.07	-2.90**

* $p < .05$

** $p < .01$

social interactions); and Self-Control (behaving appropriately in conflictual situations). Teachers rated deaf students lower (i.e., reported that deaf children had less/fewer of these qualities), than hearing students on all three of these subscales. The only significant difference between deaf and hearing children on these three subscales was found on the Assertion subscale, where teachers indicated that their deaf students were significantly less assertive than their hearing students ($t = -4.03$, $p < .01$) (see Table 13 for scale and subscale means and t-ratios).

Teachers' Experiences Working with Deaf and Hearing Students

The second set of hypotheses was tested in a manner similar to the previous analyses. Means and standard deviations were computed for teachers' ratings of deaf/hard of hearing students and hearing students, on variables of teacher stress (ITS) and the quality of the teacher-student relationship (STRS). One-tailed paired t-tests were conducted, to ascertain if differences between the means of these two groups were significant. Results are shown in Table 6.

4. In the fourth hypothesis, it was predicted that teachers would report greater stress in relation to working with their mainstreamed deaf/hard of hearing student than in relation to working with their hearing (control) student. As can be seen in Table 6, although teachers reported that they experienced slightly more stress when working with deaf students than when working with hearing students, as indicated by the ITS Total scores, differences in means were not significant. It is important to note that teachers' stress levels in relation to both sets of students were not in the clinical range, according to the ITS Manual. ITS Total

Table 6

Teachers' Experiences Working with Deaf/Hard of Hearing and Hearing Students on Measures of Stress and the Perceived Quality of the Student-Teacher Relationship

	Deaf/Hard of Hearing Student	Hearing (Control) Student	
	Mean SD	Mean SD	t-ratio
Teacher Stress (ITS Total Score)	125.44 36.22	117.26 39.19	1.40
Quality of the Student-Teacher Relationship (STRS Total Score)	117.84 12.38	119.12 11.63	-.72

scores of 207 are believed to be indicative of problematic stress levels in teachers. Eighty-four percent of teachers reported total stress levels at the 50th percentile or lower in relation to their deaf students, and 88% of teachers reported stress levels at or below the 50th percentile in relation to their hearing students. The mean teacher stress levels were at the 40th percentile for the deaf group, and at the 30th percentile for the hearing group.

5. According to this hypothesis, teachers would report a more positive relationship with the rated hearing student than with the deaf/hard of hearing student. Table 6 shows that a significant difference between the STRS Total scores for deaf students and hearing students was not found. Therefore, there was not sufficient evidence to support a difference in ratings beyond chance.

Teachers' Perceptions of Their Deaf Students and Their Experiences Working With Them

To test the third set of hypotheses, series of correlations, regression analyses, and analyses of variance and covariance, were computed to assess the degree of relationship between variables.

6. According to this hypothesis, teachers' experiences of stress with respect to their deaf/hard of hearing students would be higher when these students had weaker communication skills.[3] To assess the degree and direction

[3] Teachers who participated in this study were asked to rate their deaf students' communication competency based on how they generally communicated. Therefore, if a student typically had an interpreter in the classroom, the teacher rated this student's communication competency while using the interpreter. If the student did not usually use an interpreter, the teacher rated the student's communication without an interpreter.

of the relationship between communication competency and teacher stress, correlations were computed. The ITS Total score was intercorrelated pairwise with the Receptive and Expressive scores of the Communication Competency scale. The magnitudes of the correlations were computed using one-tailed tests. As can be seen in Table 7, a significant correlation was found between the ITS Total score and Receptive Communication ($p < .05$), but not between the ITS Total score and Expressive Communication.

As a follow-up to this hypothesis, independent t-tests were conducted to determine if teachers' ratings of communication differed as a function of whether or not students used interpreters. Results of these analyses reveal that ratings of receptive communication did not differ significantly between students who used interpreters and those who did not ($t = 1.16$, $p > .05$). Ratings of expressive language, however, were found to be significantly stronger among children who did not use interpreters than among children who did use interpreters ($t = 4.42$, $p < .01$)

7. In the seventh hypothesis, the relationships between communication skills and academic performance, internalizing problems, social skills, and the quality of the student-teacher relationship were tested. It was expected that weaker communication skills would be associated with greater difficulties in these areas. A series of correlations was computed between the Receptive and Expressive scores of the Communication Competency scale and the SSRS Academic Competence score, SSRS Internalizing score, SSRS Social Skills score, and the STRS Total score, to assess the degree and direction of these

Table 7

Correlation Summary For Communication Competency Scores of Deaf/ Hard of Hearing Students and ITS, SSRS, and STRS Scores

	Receptive Communication	Expressive Communication
ITS Total	-.25*	-.10
SSRS Academic Competence	.33*	.27*
SSRS Internalizing Behavior	-.02	.15
SSRS Social Skills	.34**	.29*
STRS Total	.25*	.23

* $p < .05$
** $p < .01$

relationships. Table 7 shows that significant correlations were found between Receptive Communication and the STRS Total score ($p < .05$), Academic Competence ($p < .05$), and Social Skills ($p < .01$). Expressive Communication correlated significantly with Academic Competence ($p < .05$) and Social Skills ($p < .05$). With the exception of Expressive Communication and Internalizing Behavior, all correlations, although small, were in the predicted direction.

8. According to this hypothesis, teachers who received a greater number of school-based support services for themselves (e.g., in-service training), and whose deaf/hard of hearing students received more hours of support services, would report less stress than their colleagues who received fewer numbers and hours of services for themselves and their deaf students. To test this hypothesis, a multiple regression analysis was conducted in which teacher stress was predicted from the number of services teachers received and the hours of services their deaf students received. The results were not significant ($R = .30$, $p > .05$). Thus, number and hours of services accounted for only a small, and not significant, portion of the variance (about 9%). Although this hypothesis entailed including both variables in one test, when considered individually, the hours of services that students received was significantly correlated, in a negative direction, with teacher stress ($r = -.25$, $p < .05$). In contrast, the number of services that teachers received was not significantly correlated with stress ($r = -.15$, $p > .05$).

9. In the last hypothesis, it was predicted that teachers who had positive prior experiences with deaf individuals would report less stress than their

colleagues who had either no previous experience with deaf people, or experiences that were not positive. Of the 50 participants in this study, 32 reported having had previous interactions with deaf people. Twenty-nine of these teachers described these experiences as having been generally positive. Two teachers reported that these were neutral experiences, and only one teacher reported having had a negative experience with a deaf or hard of hearing person. Overall, therefore, 29 teachers had positive previous experiences with deaf people, while 20 teachers reported having had either neutral or no prior experiences with this population, and only one teacher reported having had a negative experience with deaf people.

Means and standard deviations were computed for the level of stress reported by the teachers who had positive prior experience (M = 119.97, SD = 25.59), neutral or no prior experience (M = 126.65, SD = 37.66) and negative prior experience (M = 260).[4] An analysis of variance (ANOVA) was conducted. Results revealed significant between group differences ($F = 9.87$, $p < .01$). In order to control for the effects of teacher stress in general, the analysis was repeated with the stress associated with hearing students statistically controlled. The results of this analysis of covariance were nearly identical to the previous ANOVA ($F = 4.96$, $p < .01$). These results suggest, therefore, that regardless of whether teacher stress toward hearing students was controlled, previous

[4] Because only one teacher comprised the group that reported negative prior experience with deaf people, a standard deviation could not be computed.

experience with deaf people influenced the stress these teachers felt in relation to their current deaf students.

Because this finding was so strongly influenced by the only teacher who reported a negative experience, the entire analysis was repeated with two groups. This time, when the teacher with the negative experience was categorized with the group with neutral or no previous experience with deaf people, the result was not significant ($t = 1.26$, $p > .05$).

Exploratory Analyses

Several exploratory questions were posed in this study. To gain information about the services that teachers and their deaf students received, and to determine which of these services were perceived as being the most and least beneficial, teachers were asked to describe the services that they received and to indicate which were the most and least helpful/supportive to them in relation to the rated deaf or hard of hearing students (see Appendix F for Background Information form on Deaf Student). All of the teachers except for one reported that their deaf student received at least one form of special education service (e.g., interpreter, educational resource), and that they, themselves, received some form of support in relation to working with this student.

As can be seen in Table 8, the majority of students received speech and language services (76%), and many also had audiological intervention (46%), educational resource (46%), involvement of an itinerant teacher (46%), and/or an interpreter (42%). Parental support and in-service training on deafness also

Table 8

Frequencies of Services Teachers Received and Reported as Most Helpful/Supportive and Least Helpful/Supportive

	Number of Teachers Who:		
Service/Support	Received This Service/ Support	Reported This Service to be Most Helpful *	Reported This Service to be Least Helpful
Interpreter	21 (42%)	14 (67%)**	1 (5%)**
Itinerant Teacher	23 (46%)	13 (57%)	--
Resource/Deaf Ed. Teacher	23 (46%)	11 (48%)	--
Instructional Assistant	5 (10%)	2 (40%)	--
Parents	31 (62%)	6 (19%)	--
Speech/Language Teacher	38 (76%)	3 (8%)	--
In-Service Deafness Training	17 (34%)	1 (6%)	3 (18%)
Audiological Services	23 (46%)	1 (4%)	1 (4%)
Students' Other Teachers	***	3	--
School Psychologist	***	1	--
Teachers' Own Schooling/Training	***	2	2

* Six teachers reported that two different services were the most helpful, and three teachers reported that three different services were the most helpful.

** Percentage of teachers reporting that a particular service was most or least helpful is out of the number of teachers who received that service, and not out of the total (50) number of teachers.

*** Teachers were not asked whether they received support from these individuals.

were provided to many of the teachers. Most of the teachers who had interpreters in the classroom reported that this was the most helpful service they received in relation to their deaf student (67%). Similarly, 57% of the teachers who worked with an itinerant teacher felt that this support was the most helpful. Teachers also found resource and deaf education teachers, as well as instructional assistants, to be quite supportive. Every teacher indicated that at least one of the services that he or she received was helpful, and nine teachers noted that more than one service was highly beneficial. Only seven of the teachers indicated that a particular service was not helpful, or was least helpful among all the services received (i.e., interpreter, in-service training on deafness, audiological services, and teachers' own schooling/training).

Another exploratory question inquired about the services that teachers wished they had received or were receiving. Responses to this open-ended question can be seen in Table 9. Forty-four percent of teachers either did not respond to this question or wrote that they wished for no other service. The majority of teachers who indicated desired services reported that they wished they had received some form of training on deafness (28%). Teachers also wished they had received sign language classes (14%), training on strategies to teach deaf children (6%), more support from resource teachers (4%), and training on working with children with cochlear implants (4%).

The last set of exploratory questions in this study inquired about the challenges that teachers perceived in relation to working with the rated deaf child, as well as the challenges associated with teaching the rated hearing child.

Table 9

Services Teachers Reported They Wished They Had Received or Were Receiving

Service	Number of Teachers	Percent of Teachers
Training on Deafness	14	28
Sign Language Classes	7	14
Learning Specific Teacher Strategies for Deaf Children	3	6
Training on Working with Children with Cochlear Implants	2	4
More 1:1 Instruction for the Student (resource teacher)	2	4
Reported wishing for no other services	22	44

Teachers were asked whether the deaf child was one of the three most challenging students in their classroom. The same question was posed in relation to the rated hearing student. Fourteen teachers reported that the rated deaf student was one of the three most challenging children, while seven teachers reported that this was the case for the rated hearing student. Although a statistical test of an exploratory hypothesis would be non-directional, it seems reasonable to expect deaf children to be more challenging to regular education teachers than hearing children. A chi square test of independence was computed and the result was significant under the assumption of a one-tailed test ($p < .05$), but not when a two-tailed test was assumed.

The most challenging aspects of teaching the two rated students, as reported by teachers, are shown in Table 10. As can be seen in this table, teachers noted numerous student characteristics and other factors that contributed to the challenge of teaching the two sets of students. The most common area of challenge for teachers in relation to their deaf student was understanding one another/communication, whereas weak academic skills were the most commonly reported challenge for teachers in relation to the rated hearing student.

Table 10 also reveals that of the 21 various challenges cited by teachers, only five overlapped across the two sets of students (i.e., student does not study at home; student has difficulty staying on task/paying attention; student is disorganized; student rushes through work/is inconsistent; and student does not feel confident). The remaining 16 responses pertained either to the deaf

Table 10

Teachers' Reports of Most Challenging Aspect of Working with the Rated Deaf Student and the Rated Hearing Student

Challenge	Deaf Students**	Hearing Students
*Understanding One Another/Communication	28 (56%)	--
*Getting Student to Wear FM System or Hearing Aids	4 (8%)	--
*Determining Appropriate Expectations of Student	3 (6%)	--
Difficulty Following Rules	3 (6%)	--
Student Does Not Study at Home	3 (6%)	1 (2%)
*Teaching Reading/Vocabulary	2 (4%)	--
Student Has Difficulty Staying on Task/Paying Attn.	2 (4%)	3 (6%)
*Paperwork Associated with Student	1 (2%)	--
Student is Disorganized	1 (2%)	1 (2%)
Student Rushes Through Work/Inconsistent	1 (2%)	4 (8%)
*Showing Films to Enhance Curriculum	1 (2%)	--
Student Does Not Feel Confident	1 (2%)	2 (4%)
Weak Academic Skills	--	8 (16%)
Student is Easily Frustrated	--	1 (2%)
Student Doesn't Take Education Seriously	--	2 (4%)
Student Has Few Friends/Too Quiet	--	5 (10%)
*Keeping Student Academically Challenged	--	5 (10%)

Table 10 (continued)

Teachers' Reports of Most Challenging Aspect of Working with the Rated Deaf Student and the Rated Hearing Student

Challenge	Deaf Students**	Hearing Students
Student is Rowdy/Aggressive	--	3 (6%)
Student Too Social/Distracted by Friends	--	1 (2%)
*Parents	--	2 (4%)
Works Too Slowly/Too Much Time on One Topic	--	1 (2%)
Nothing, or no response by teacher	5 (10%)	11 (22%)

* These challenges are associated with the situation or the teacher, and are not solely related to student characteristics.

** Five teachers reported two different qualities that were most challenging about their deaf student.

children or to the hearing children, but not to both. In addition to citing different challenges for deaf and hearing students, the quality of these challenging factors differed between the deaf and hearing students. Six of the 12 challenges (50%) attributed to working with deaf students related to qualities of the student (e.g., student has difficulty following rules; student has difficulty staying on task; student is disorganized), and the other six challenges pertained to the situation or to the teacher (e.g., understanding one another/communication; determining appropriate expectations; teaching reading/vocabulary).

In contrast, 12 out of 14 factors (86%) cited as most challenging about working with hearing students pertained to student characteristics and qualities. Of the 45 teachers who reported the most challenging aspect of working with a deaf student, 39 cited factors that related to themselves or to the situation.[5] Of the 39 responses regarding the most challenging aspect of working with a hearing child, only seven pertained to the teacher or the situation (i.e., keeping student academically challenged; the student's parents).[6] In sum, 18% of the challenges cited by teachers in their work with deaf students related to the students themselves, whereas 87% of the challenges reported by teachers in relation to their hearing students were based on qualities of these students.

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[5] Five teachers did not respond to this question or stated that nothing was challenging about working with the rated deaf student.

[6] Eleven teachers did not respond or stated that nothing was challenging about working with the rated hearing student.

Post Hoc Analyses

Several post hoc analyses were conducted, in an attempt to gain additional information from the data that were collected in this study. Because the amount of time that the deaf/hard of hearing students were mainstreamed ranged from one to seven hours a day, this variable was correlated with the other relevant measures to determine if it was a confounding variable. Correlations ranged from -.10 to +.26, and were not significant, indicating that the amount of time a student spent in the regular education classroom was not significantly related to teachers' ratings of social skills, internalizing behaviors, academic competence, the quality of the student-teacher relationship, or teacher stress. A partial correlation was then computed, to assess if the same results would be obtained if the amount of time the deaf student was mainstreamed was controlled statistically. Results of these computations were similar to the previous correlations, and suggest that the relationships between these variables (i.e., social skills, internalizing behaviors, academic competence, student-teacher relationship quality, and teacher stress) did not change when the effects of hours mainstreamed were held constant.

Correlations also were computed among the different variables for the deaf students, as well as for the hearing students, to assess the degree and direction of the relationship between the variables for each group of students. As Tables 11 and 12 show, significant correlations were found between most of these variables for both the deaf students and the hearing students (r = .29 to .98). In almost all cases, correlations between variables were in the same

Table 11

Correlation Summary of SSRS, STRS, and ITS Scores for Deaf/Hard of Hearing Students

	Social Skills Rating System			Student-Teacher Relationship Scale				Index of Teacher Stress	
	Academic Skills	Behaviors	Social Skills	STRS Total	Closeness	Conflict	Depen-dency	ITS Total	Student Domain
Behaviors	-.64**								
Social Skills	.77**	-.67**							
STRS Total	.41**	-.42**	.56**						
Closeness	.24	-.15	.40**	.68**					
Conflict	-.45**	.48**	-.48**	-.86**	-.31*				
Dependency	-.21	.22	-.32*	-.20	.13	.29*			
ITS Total	-.54**	.57**	-.54**	-.70**	-.29*	.83**	.18		
Student Domain	-.56**	.59**	-.57**	-.67**	-.29*	.79**	.19	.98**	
Teacher Domain	-.44**	.49**	-.45**	-.69**	-.27	.82**	.14	.95**	.87**

* $p < .05$
** $p < .01$

Table 12

Correlation Summary of SSRS, STRS, and ITS Scores for Hearing Students

	Social Skills Rating System			Student-Teacher Relationship Scale				Index of Teacher Stress	
	Academic Skills	Behaviors	Social Skills	STRS Total	Closeness	Conflict	Depen-dency	ITS Total	Student Domain
Behaviors	-.57**								
Social Skills	.55**	-.79**							
STRS Total	.42**	-.75**	.66**						
Closeness	.35*	-.54**	.38**	.73**					
Conflict	-.40**	.73**	-.60**	-.86**	-.49**				
Dependency	-.14	.13	-.14	.33*	.15	.30*			
ITS Total	-.48**	.63**	-.56**	-.48**	-.41**	.50**	-.01		
Student Domain	-.47**	.65**	-.59**	-.50**	-.39**	.52**	.01	.98**	
Teacher Domain	-.45**	.54**	-.44**	-.42**	-.40**	.43**	-.04	.94**	.86**

* $p < .05$
** $p < .01$

direction for both the deaf students and the hearing students. Five of the correlations were significant for one group but not for the other, but no distinct pattern emerged.

Finally, for completeness, means and standard deviations were computed for ratings of deaf students and hearing students on all of the SSRS, STRS, and ITS scales and subscales. T-ratios were computed, and tested for significance. Results of these two-tailed analyses are shown in Tables 13-15. Significant correlations between ratings of deaf and hearing students were found on the SSRS measures of Social Skills, Assertion, and Academic Competence ($p < .01$), with hearing children rated higher on these skills and behaviors than deaf children. Significant differences also were found on the ITS measures of ADHD Behaviors and Disruption of the Teaching Process ($p < .05$), with greater teacher stress associated with these qualities in their deaf students than in their hearing students. Significant differences between the ratings of deaf and hearing students were not found with any other SSRS or ITS variable, or with any of the STRS scales.

Table 13

Teachers' Perceptions of Deaf and Hearing Students on SSRS Scales and Subscales

	Deaf/Hard of Hearing Student	Hearing (Control) Student	
	Mean SD	Mean SD	t-ratio
SSRS Social Skills	100.98 14.53	107.06 13.07	-2.90**
Cooperation	15.56 3.96	16.56 3.92	-1.50
Assertion	12.48 4.12	14.92 3.10	-4.03**
Self-Control	15.26 3.28	15.62 3.26	-.71
SSRS Problem Behaviors	97.78 10.87	94.72 11.25	1.60
Internalizing	2.34 1.89	2.14 2.38	.51
Externalizing	1.62 2.10	1.38 1.86	.69
Hyperactivity	2.94 2.58	2.24 2.39	1.84
SSRS Academic Performance	93.42 10.55	99.30 11.80	-3.05**

* $p < .05$
** $p < .01$

Table 14

Teachers' Perceptions of Deaf and Hearing Students on STRS Scales

	Deaf/Hard of Hearing Student	Hearing (Control) Student	
	Mean SD	Mean SD	t-ratio
STRS Total Score	117.84 12.38	119.12 11.63	-.72
Closeness	42.70 6.80	43.74 5.05	-.94
Conflict	17.58 6.56	17.00 6.12	.59
Dependency	9.74 5.75	10.16 8.92	-.29

Table 15

Teachers' Perceptions of Deaf and Hearing Students on Index of Teacher Stress Domains and Subscales

	Deaf Student Mean (SD)	Hearing Student Mean (SD)	t-ratio
ITS Total Score	125.44 36.22	117.26 39.19	1.40
ITS Student Characteristics Domain	71.14 23.82	65.40 25.34	1.41
ADHD Behaviors	27.49 12.41	22.82 11.45	2.19*
Emotional Lability/ Low Adaptability	14.73 6.70	14.19 5.74	.45
Anxiety and Withdrawal	13.72 4.88	13.87 6.17	-.15
Low Ability/LD Characteristics	8.49 3.80	7.38 3.28	1.58
Aggressive/Conduct Disorder	6.88 3.62	7.12 3.84	-.34
ITS Teacher Related Domain	54.38 13.46	51.86 15.19	1.26
Self Doubt/Need for Support	22.88 5.35	21.40 6.24	1.57
Loss of Satisfaction	15.14 4.40	14.66 4.11	.77
Disruption of the Teaching Process	8.92 3.19	7.88 2.83	2.34*
Frustration Working with Parents	7.38 3.43	7.92 4.01	-1.08

* $p < .05$

CHAPTER 5

DISCUSSION

The purpose of this study was to develop an understanding of regular education, elementary school teachers' perceptions of mainstreamed deaf and hard of hearing students, and their experiences working with these students. Review of the relevant literature reveals that teacher stress and burnout are critical concerns in education, and that a number of factors are associated with elevated levels of teacher stress (Blase, 1986; Boyle et al., 1995; Kyriacou & Sutcliffe, 1978b; Phillips, 1993; Saville, 1981). Among these factors are students' academic competence, behavioral functioning, and social interactions with peers and teachers (Blase, 1986; Friedman, 1995; Lloyd & Kauffman, 1995; Makinen & Kinnunen, 1986; Pianta, 1994). The increase in educational inclusion in recent decades also has been cited as a factor linked to teachers' experiences of occupational stress (Farber, 1991). Inclusion has been associated with a reduction in time that teachers can spend with individual students, an increase in paperwork, and the challenge of teaching students with varying academic abilities and a broad range of educational needs (Trendall, 1989).

Many researchers have examined the experiences of deaf children who are mainstreamed into regular education classrooms (Greenberg & Kusche, 1989; Lane, 1995). Deafness is typically associated with communication difficulties (Meadows, 1980; Neisser, 1983; Paul & Quigley, 1994), and studies have shown that in regular education classrooms, where communication with

hearing peers and teachers may be a challenge, deaf students often feel lonely and isolated (Cappelli et al., 1995; Foster, 1989; Mertens, 1989). Minimal information currently exists, however, regarding the experiences of regular education teachers who work with mainstreamed deaf and hard of hearing children, and their perceptions of these children. The major objective of the current study was to begin to gather empirical information about these issues.

The principal findings of this study indicate that the teachers in this sample did not experience elevated levels of stress in relation to their deaf students, although they did perceive some differences between their deaf and hearing students. In addition, the communication abilities of the deaf students were found to be significantly related to teachers' perceptions of these students' social and academic abilities, and their own experiences of stress working with these students. The results of hypothesis testing, and findings associated with the exploratory questions and post hoc analyses, are discussed below. A description of the limitations of this study, suggestions for future research, and concluding remarks close this chapter.

Hypothesis Testing

Teachers' Perceptions of Deaf and Hearing Students

The first objective of this study was to determine whether regular education teachers who serve mainstreamed deaf or hard of hearing students perceive differences between these students and hearing students in the areas of academic performance, internalizing behaviors, and social skills. As predicted,

the teachers in this study perceived their deaf students as having weaker academic abilities and poorer social skills than their hearing students. These results are consistent with the results of numerous previous studies, which have demonstrated that deaf children often lag behind their hearing peers academically and socially (Allen, 1986; Antia, 1982; Brackett & Maxon, 1986; Lederberg, 1991; Vandell & George, 1981; Wolk & Allen, 1984).

It is likely that these findings are associated with the language acquisition patterns and linguistic development of deaf children. Because the majority of deaf children grow up with hearing parents who do not sign, they typically are unable to acquire English, or any other language that is spoken in the home. This early language deprivation has been found to interfere with the acquisition of knowledge, the ability to read and write, and the development of age-appropriate social skills (Kluwin & Stinson, 1993; Meadows, 1980). Although significant differences were found between deaf and hearing children on measures of academic achievement and social skills, it is important to note that scores for both groups were in the average range.

Of the three subscales of the SSRS Social Skills scale (Cooperation, Assertion, and Self-Control), significant differences in means between ratings of deaf children and ratings of hearing children were found only on the Assertion subscale (see Table 13). This subscale measures a child's ability to initiate social interactions, such as introducing him or herself, asking others for information, and responding to others. This finding is consistent with previous empirical evidence that deaf children in mainstreamed classes are unlikely to

initiate interactions with their hearing peers (Antia, 1985; Levy-Schiff & Hoffman, 1985; Vandell et al., 1981), and are more likely to spend time in solitary play (Antia, 1982; Lederberg, 1991).

The hypothesis that tested whether deaf children exhibited more internalizing behaviors than hearing children was not supported in this study. The teachers in this study, therefore, did not perceive their deaf students as being more lonely, withdrawn, or having lower levels of confidence than their hearing students. These results, while unexpected, are not too surprising in light of the inconsistent findings in the literature regarding the behavioral functioning of deaf children (Furstenberg & Doyal, 1994; Pearson & Altshuler, 1982; Vernon & Andrews, 1990). Overall, it is an encouraging finding that the deaf children who were rated in this study did not appear to their teachers to be particularly lonely or sad, especially given that these children had weaker social skills as rated by teachers.

Teachers' Reported Experiences Working with Deaf and Hearing Students

This study also sought to assess whether differences exist between teachers' reported experiences of stress in relation to their deaf students and their hearing students, and their perceptions of the quality of their relationships with these two groups of students. Meaningful differences in the levels of stress that teachers reported in relation to their deaf students and their hearing students were not found. In addition to the insignificant differences in reported stress, the mean total stress scores on the ITS were at approximately the 30th and 40th

percentiles for the hearing and deaf students, respectively. These results suggest that the teachers in this study experienced low levels of stress in relation to both groups of students.

Thus, although the teachers reported that their deaf students had significantly lower academic abilities and weaker social skills than their hearing students, these findings were not associated with substantially higher levels of stress in these teachers. While academic and social variables have been linked to teachers' experiences of stress (Blase, 1986; Makinen & Kinnunen, 1986), it also has been suggested that externalizing behaviors and discipline problems are the factors most highly associated with teacher stress (Blase, 1986; Friedman, 1995; Lloyd & Kauffman, 1995). It is possible that although the deaf students were rated as having weaker academic and social skills, these factors were not enough, on their own, to contribute significantly to teacher stress, especially since these scores were still in the average range. Regarding behavioral functioning, teachers did not rate either group of students as having problems with behavior. Ratings of behavioral functioning (SSRS Problem Behaviors scale), which include internalizing behaviors (e.g., sadness, loneliness, poor self-esteem), externalizing behaviors (e.g., teasing, arguing, fighting) and hyperactivity (e.g., distractibility, impulsivity, excessive movement), resulted in mean scores that were in the average range for both deaf and hearing children (see Table 13). Therefore, teacher stress may have been relatively low in this sample largely because the rated students exhibited few, if any, externalizing behaviors.

The prediction that teachers would report a more positive relationship with their hearing students than with their deaf students was not supported in this study. Based on the literature, it was expected that weaker academic abilities and poorer social skills would be associated with a more negative relationship quality (Birch & Ladd, 1997). While ratings of social skills, academic abilities, and student-teacher relationship quality were, indeed, significantly correlated for the deaf children, as well as for the hearing children, differences between the perceived quality of the relationship with deaf students and with hearing students did not exist. Again, it is possible that because the ratings of academic competence and social skills in the deaf children were in the average range, these ratings were not associated with diminished quality of the student-teacher relationship. This is a particularly favorable finding, since the quality of the student teacher relationship in the elementary school years has been identified as a critical factor in students' educational progress and outcomes, and teachers' feelings of competence and stress (Pianta, 1994; Pianta et al., 1995).

Communication Competency, Student Characteristics, the Student-Teacher Relationship, and Teacher Stress

Another objective of this study was to assess whether a relationship exists between deaf students' communication abilities and the following: their academic, behavioral, and social functioning, as perceived by teachers; the perceived quality of student-teacher interactions; and teachers' reported experiences of stress relating to the characteristics of these students, their own feelings of

competence, and the overall teaching process. Results of these analyses revealed that receptive communication was significantly related to most of these variables, while expressive communication was substantially associated with only two of the variables. More specifically, as teachers rated the deaf students' receptive communication abilities as stronger, they also reported lower levels of teaching stress and a more positive relationship with these students, as well as stronger academic abilities and social skills in these students. Interestingly, expressive communication was significantly correlated with only academic competence and social skills.

Thus, while a deaf child's ability to understand spoken language in the classroom was strongly associated with teachers' feelings of stress in relation to that child, the student's ability to intelligibly express himself or herself was not significantly associated with teacher stress. On the other hand, both receptive and expressive communication abilities in these deaf children directly related to teachers' perceptions of the students' academic competence and social skills. These results suggest that, in terms of teacher stress and the quality of the student-teacher relationship, a child's ability to comprehend may be more important than his or her ability to speak or otherwise express his or her thoughts clearly (i.e., through a sign language interpreter). It is probable that students with weak expressive language skills (i.e., unintelligible speech) tend to be relatively quiet in the classroom. This quality generally has not been cited in the literature as strongly linked to teacher stress or student-teacher relationship quality.

It makes sense, however, that both receptive and expressive language are significant correlates of social skill. Intuitively, it would be expected that deaf children who can comprehend their peers as well as express themselves would engage more with their peers than children with weak communication skills. Indeed, research has shown that communication is a critical element associated with the quality of social interactions, for both deaf as well as for hearing children (Gresham, 1982; Kluwin & Stinson, 1993; Lederberg et al., 1986). It also makes sense that receptive language is significantly associated with academic competence, as the ability to understand a teacher is critical to the learning process. The significant correlation between expressive language and academic competence, on the other hand, is surprising. It seems that a student's ability to express himself or herself would not necessarily be associated with academic skills, since there are many ways of demonstrating intellectual and scholastic ability aside from participating in class discussion and answering teachers' questions (e.g., taking tests, writing reports, completing projects). It should be remembered, however, that the correlation between expressive language and academic competence, like the other correlations pertaining to communication skills, are of low magnitude ($r < .27$).

Regarding the use of interpreters, because teachers were instructed to rate students' communication competency based on how they generally communicated (i.e., either with an interpreter or without one), it might be expected that teachers would rate those deaf students who used interpreters in the classroom as having stronger communication skills than those students who

did not. This assumption was not supported in the present study. No differences in receptive communication as a function of interpreter use were found. Although speculative, this may suggest that the students who needed interpreters, in order to understand their teachers and classmates, had them. The deaf students who did not work with an interpreter may have had adequate receptive communication skills to function in the regular education classroom without one.

Interestingly, it was found that expressive language was weaker among students who did not use interpreters. It is possible that, despite the instructions, it may have been difficult for teachers to assess expressive language skills without evaluating the student's ability to speak clearly. Thus, even though a student may have been able to clearly express his or her ideas through an interpreter, teachers may have honed in on the student's speech when evaluating and rating expressive communication ability. If, indeed, this was the case, this finding may suggest that children with weaker expressive communication skills were more likely to have interpreters. Again, therefore, it is possible that those students who most needed interpreters to best function in the regular education classroom, were, in fact, working with them.

Teacher Stress, Current Support, and Previous Experiences with Deaf People

Another goal of this study was to ascertain if relationships existed between teachers' own experiences of stress and the school-based support services they and their deaf students received, and between their stress and

their previous experiences with deaf people. Surprisingly, the hypothesis that teachers who received greater numbers and hours of services for themselves and their deaf students would report less stress than those who were less supported was not confirmed in this study, at least not statistically. Thus, although the teachers in this sample were experiencing relatively low levels of stress in relation to their deaf students, the services that they and their students received, collectively, were not significantly predictive of stress levels. It is interesting to note that when looked at individually, the hours of services deaf students received and teacher stress were significantly correlated, in a negative direction. The magnitude of this association, however, was surprisingly low ($r = -.25$), and accounted for only 6% of the variance. A significant relationship between number of services that teachers received and their experiences of stress was not found.

One plausible explanation for these unexpected results relates to the generally low levels of stress experienced by the teachers in this study. As previously discussed, only a self-selected, 17% of all teachers who were asked to be involved in this study participated, and it is possible that because their stress levels already were low, services were not buffers against their stress (i.e., they did not need services to mitigate their stress). Therefore, among teachers who generally experience low levels of stress (i.e., in the present study, those who reported low stress associated with both their deaf and hearing students), school-based services may not be an important component of their low stress.

For teachers who experience more stress, however, it is possible that services may be strongly associated with how stressed they feel.

In addition, the majority of the teachers in this study reported having had previous positive experiences with deaf people, and a few had even been trained to work with this population. These experiences, which may have been associated with lower stress levels in teachers, also may have reduced teachers' need for and dependency on services to mediate their stress. Furthermore, many of the teachers worked in schools in which large numbers of mainstreamed deaf students attended. This exposure to and familiarity with these students, in and of itself, may have been an important component contributing to teachers' comfort and low stress levels.

The final research hypothesis of this study may or may not have been supported. The results of one analysis suggest that teachers' previous experiences with deaf people, and the quality of these experiences, were associated with their current stress in relation to their deaf students. In a follow-up analysis, however, when the one teacher who reported having had a negative previous experience was grouped with those teachers who had had either neutral or no previous experiences with deaf people, a significant difference between the two groups was not found.

It is interesting that of the entire sample, only one teacher reported having had a negative prior experience with a deaf person, while 29 had had previous positive experiences with this population. The teacher with the negative experience wrote that she had previously taught a deaf student who "was angry

because he could not communicate. His parents had made no effort to learn sign language. He used very aggressive behavior to get what he wanted." Interestingly, this teacher also stated that both of the students whom she rated were among the three most challenging students in her classroom. Specifically, she reported that her deaf student had the weakest social skills and lowest academic ability when compared to all of the other deaf students who were rated in this study. Also compared to the other rated deaf students, this teacher reported the poorest student-teacher relationship quality and the single highest stress score, which was at the 90th percentile according to ITS Manual. Although this deaf student had an interpreter and received speech and language services, and the teacher received support from the mainstream coordinator, this teacher reported that she was most challenged by the student's behaviors and the student's permissive parents.

In addition to the negative ratings of the deaf student, this teacher's ratings of her hearing student's social and academic skills, as well as the student-teacher relationship quality, were relatively low. She also reported the second highest stress score when compared to all of these scores pertaining to hearing students (75th percentile according to the ITS Manual). It is clear, therefore, that this one teacher, unlike every other participant in this study, perceived substantial problems with the two students whom she rated and experienced high levels of stress associated with them. No other teacher reported such overall difficulties with both the rated deaf student, regardless of

whether these teacher had positive previous experiences or no previous experiences with this population, and the rated hearing student.

Although not completely supported by the current results, it is interesting to speculate about why teachers' previous experiences may be associated with their current stress. It is possible that prior positive experiences help teachers to generate a favorable perception of deaf people, which then influences their current beliefs, expectations, and experiences. Similarly, a negative prior interaction with a deaf person may cause the teacher to become skeptical or pessimistic about the abilities and qualities of a current deaf student. It is also possible that teachers who report positive previous experiences may generally tend to perceive many situations positively, and enjoy and appreciate challenges, while teachers with negative prior experiences may tend to have a generally pessimistic or cynical perspective. To better understand this issue, additional research with a more heterogeneous sample of teachers, in terms of the quality of their previous experiences with deaf people, is needed.

Exploratory Questions

Teachers were asked several open-ended questions, in an effort to obtain additional information. The first of these questions inquired about the services that teachers received, and the ones that they found to be the most and least helpful in their work with their deaf students. Responses reveal that all but one of the teachers received support for themselves and/or for their deaf student. Participating teachers considered interpreters to be the most helpful

service to them, followed by itinerant teachers, resource and deaf education teachers, instructional assistants, and parents. The majority (86%) of teachers did not indicate that any services were unhelpful.

While this finding suggests that almost none of the services received seemed to be superfluous or unhelpful to teachers, it should be interpreted with caution. It may indeed indicate that the majority of teachers were highly satisfied with the quality and availability of all the services that they and their deaf student received; It is also possible, however, that the teachers may have been reluctant to provide responses that could reflect negatively on their schools and/or on themselves. Although teachers were informed repeatedly that their responses would remain confidential and would not be disclosed to school administrators or any other school personnel, some, nonetheless, may not have been forthcoming about areas of dissatisfaction.

Taken together with the previously discussed results, these findings present an interesting and somewhat perplexing picture. On the one hand, the results suggest that teachers and their deaf students were receiving appropriate services, and that the teachers valued these services. Many teachers responded to open-ended questions by writing that they felt supported by various school personnel, and that they were satisfied by the services that they and their deaf students were receiving. On the other hand, results of statistical analyses reveal that the support teachers received did not predict their experiences of stress. It is possible that while teachers did, in fact, feel supported by the services provided, this support was not associated with stress

reduction. In other words, these teachers may have appreciated the services, but may not have needed them.

When asked what services, if any, teachers wished they had received or were receiving, 14 teachers indicated that they wished they had received training on deafness. Interestingly, only one teacher out of the 17 who had received such training reported that this was the most beneficial service. Furthermore, three of these teachers who had received training on deafness (18%) reported that this intervention was the least helpful service to them. It appears, therefore, that while many teachers in this study expressed interest in receiving additional training on deafness and on working with deaf students, some of the teachers who did receive such training did not seem to find it to be especially useful. The actual content of such training is likely an important component of its perceived value and benefit. It may be useful for school administrators and teachers working with deaf and hard of hearing students to evaluate the effectiveness and perceived value of the actual content and format of such training, to maximize its benefit to teachers.

Teachers provided a long list of factors that they perceived as being the most challenging aspect of teaching the deaf student as well as the hearing student. Teachers overwhelmingly reported that communication presented the greatest challenge to working with their deaf students. Many of the teachers commented that they felt frustrated that they did not know sign language and had difficulty communicating with the student. It is interesting, however, that although many teachers found communication to be among the greatest

challenges in their work with their deaf students, this challenge did not correspond to elevated levels of stress. That is, while the teachers found communication with their deaf students to be relatively challenging, this challenge was not particularly stressful for them. It should be noted that teachers were only asked *what* the most challenging aspect of working with the deaf student was; they were not asked to rate *how* challenging that factor was. As such, it is possible that although communication was considered by many teachers to be most challenging, the degree of this challenge was not large enough to be associated with their experiences of stress.

Of additional interest were the different responses that teachers provided for their deaf students and their hearing students. Of the 21 various challenges cited by teachers, only five overlapped across the two groups (i.e., student does not study at home; student has difficulty staying on task/paying attention; student is disorganized; student rushes through work/is inconsistent; and student does not feel confident). The remaining 16 responses pertained either to the deaf children or to the hearing children, but not to both. Furthermore, the finding that 13% of the challenges cited by teachers in their work with deaf students related to the students themselves, whereas 86% of the challenges reported by teachers in relation to their hearing students were based on qualities of these students, is intriguing. While the teachers in this study were more likely to attribute challenges with deaf children to factors external to the children, they overwhelmingly attributed challenges with hearing children to qualities of the children.

This finding is based on often subtle wording that teachers provided in response to this question. For instance, rather than saying, "I cannot understand this student," or "this student has difficulty communicating," most teachers identified understanding *one another,* or communicating *with each other* as challenging. Many teachers described their frustration about not knowing sign language, as can be seen in the following statements written by teachers: "I have difficulty communicating with her because I know very little sign language, although we are trying!"; "Being unable to sign inhibits direct communication with the child"; "[The most challenging aspect of working with this student is] not having enough signing skills to communicate with him." Other responses that teachers provided regarding the challenges of communicating with their deaf students were: "Sometimes I don't feel like I clarify the information enough for my student"; "...positioning myself in the classroom"; "When I teach from the chalkboard or 'lecture,' I need to be aware not to turn my back." Similarly, when teachers described the challenge associated with their students' hearing aids, they tended to write, "I have difficulty getting this student to wear his/her hearing aids" as opposed to "this student will not wear his/her hearing aids."

At the present time, it is unclear why teachers tended to attribute the challenges of working with deaf students to external, non-student-related factors, and the challenges associated with hearing students to internal, student-related factors. It appears, however, that the teachers in this study may have been reluctant to attribute negative qualities or blame to deaf students. This finding is

consistent with the literature on the experiences of teachers who were trained to work with deaf students. Researchers in this area have found that factors associated with teacher stress relate less to student-related qualities, like social skills or academic ability, and more to such factors as excessive paperwork, inappropriate school-mandated curricula, and inadequate administrative support (Johnson, 1983; Meadows, 1981; Moores, 1991).

Post Hoc Analyses

To gather additional information on the data that were collected, several post hoc analyses were conducted. First, the relationships between the number of hours that a deaf student was mainstreamed and teachers' perceptions of this student's social and academic skills, student-teacher relationship quality, and teaching stress associated with this student, were examined. It was found that the amount of time a deaf student spent in the regular education classroom was not significantly associated with any of these variables. At first glance, this finding may seem unexpected, since teachers would likely experience less stress in relation to many students, deaf or hearing, who were in their classroom for one versus seven hours a day. Upon reflection, however, it makes sense that significant differences in variables as a function of time would not necessarily be found. If students are mainstreamed according to their ability to function well in the regular education classroom, those who perform better would logically spend more time in the classroom. On the other hand, for students who are substantially more challenging, simply knowing that they are

mainstreamed for only a short duration each day may serve to reduce or even preclude regular education teachers' stress associated with these students.

Second, correlations were computed among the various scales and subscales for both the deaf and hearing students. It was found that most of the variables correlated significantly with one another. Furthermore, correlations were generally in the same direction and of a similar magnitude for the two groups of students.

In the final post hoc analysis, t-tests were conducted to determine if differences existed between the deaf students and the hearings students on each of the SSRS, STRS, and ITS scales and subscales. Results revealed that overall, teachers' ratings of their deaf and hearing students were remarkably similar. Of the 25 t-tests conducted on the various and scales and subscales, only 5 significant differences between ratings of deaf and hearing students were found. As previously discussed, teachers perceived deaf children as having weaker social skills, less assertion, and lower academic abilities than their hearing peers. Again, however, although these scores were lower, they were still in the average range. Teachers, therefore, did not perceive these qualities as being weak in their deaf students; they were simply not as strong as these qualities in their hearing students.

Teachers also reported significant differences between their deaf and hearing students on the ITS ADHD Behaviors subscale, indicating that they perceived their deaf students as being more demanding than most other students and as having more difficulty paying attention. Again, however, these

scores for both groups of students were in the average range. Interestingly, significant differences between deaf and hearing students were not found on the SSRS Hyperactivity subscale, although the direction of means on this subscale was consistent with the ITS ADHD Behaviors results (i.e., teachers in this study perceived their deaf students as having more difficulties in these areas than their hearing students). Finally, teachers reported significant differences between their deaf and hearing students on the ITS Disruption of the Teaching Process subscale. The questions on this subscale pertain to the time and energy it takes to monitor and meet the needs of the child, the degree to which the child takes the teacher's attention away from other students in the class, and frustration over the degree of success that the student is obtaining in the classroom. Many of these factors likely relate to the ability of teachers and students to communicate with one another. It makes sense, therefore, that teachers perceived deaf students as more disruptive to the teaching process than hearing students, since so many teachers reported that communication was their greatest challenge in relation to their deaf students.

Limitations of the Present Study

This study has several important limitations that should be considered when reviewing the results. The most notable limitations pertain to the characteristics of the sample. Of the 52 program directors who were initially contacted, only 23 (44.2%) gave approval for this research to be conducted in their schools. Furthermore, the teachers in the participating schools were asked

to volunteer to be involved in this study; they were not required to do so. With only a 17%, self-selected, participant response rate among these teachers, the likelihood of sampling bias is high. While it was found that the participants were experiencing relatively low levels of stress in relation to the two rated students, how these teachers may have differed from those who did not participate is unknown. It could be argued that the 50 teachers who agreed to take an hour to complete forms for a doctoral student whom they did not know, for $20 compensation, were generally experiencing lower levels of stress than the 244 teachers who chose not to participate. It is possible that many of the teachers within this latter group did not feel that they could devote an hour of their time to this study, possibly because they were already feeling overwhelmed or stressed. Without knowing about the 83% of teachers who did not volunteer to participate, the generalizability of these findings is questionable. The generalizability of these findings is also limited because less than half of those program directors initially contacted agreed to allow the teachers in their schools to participate in this study.

Furthermore, most of the school administrators who granted permission for teacher participation, worked in schools or districts which enrolled large numbers of deaf students and had relatively well established programs to serve these students in a mainstreamed setting. Consequently, it is likely that for many of the participating teachers, serving a mainstreamed deaf or hard of hearing child was not a unique experience to that teacher or within that school. Indeed, 27 of the participating teachers (54%) had previously taught a deaf

student, and all but three of these teachers reported that this experience had been a positive one. Again, this profile may limit the generalizability of the study to teachers from schools and districts that provide a range of services to a large number of mainstreamed deaf students and their teachers.

In addition to limitations due to the sample, this study is also limited by some of measures that were, and were not, utilized. All of the data that were collected were self-report information obtained only from teachers. Although teachers were informed that their responses would remain confidential and would not be shared with any school personnel, some teachers may have been apprehensive about disclosing information that may have reflected negatively upon themselves or their schools. Therefore, there may have been a positive bias associated with teachers' reports. Additionally, there was no mechanism for verifying or corroborating teachers' responses, such as reviewing rated students' school records or comparing the reports of more than one teacher. However, because this study examined only teachers' perceptions, obtaining data from additional sources, while potentially useful, was beyond the scope of this project.

Another important limitation of this study is that teachers were not asked to rate and comment on their perceptions of each of the services that they and their deaf students received, or to rank order services from most to least beneficial. Instead, teachers were asked only which services they found to be most and least helpful. By not rating the strengths and weakness of each

service received, a great deal of information regarding the overall value of each service was lost.

Directions for Future Research

There are many ways in which additional research can improve upon and expand the present study. To reduce sampling bias, investigators would benefit from a strong focus and effort on attaining a substantial response rate. By meeting with administrators and teachers, it may be possible to obtain more participants. Ideally, a well-funded, large-scale study would be conducted, in which teacher participation could be required, and teachers would be well-compensated. It also would be useful to include a more varied selection of schools and districts, especially those with few numbers of deaf or hard of hearing students and minimal services available to these students and their teachers.

Such studies, with high participation rates of teachers from more varied schools, would likely include teachers with a broader range of perceptions of their deaf students and feelings of stress than the participants in the current project reported. In the present study, there is little range in scores; the majority of the rated students, both hearing and deaf, were reported to be in the average to above average range on most of the variables, and teachers' stress levels associated with both groups of students were below average. To expand upon these results, it would be interesting to explore the experiences of teachers from schools at which only one or two deaf children attended, versus the experiences

of teachers like those in the current study, who worked in schools that served many deaf students. Would teachers in the former group experience more stress than teachers in the latter group? Moreover, by conducting research on teachers who experience more stress than those in the present study, it is possible that the services they and their deaf students receive would, in fact, be stronger predictors of teacher stress.

In addition, because the number of support services that teachers received was not significantly associated with their experiences of stress, further research is needed to gain a better understanding of the perceived strengths and weaknesses of services that they are provided. It would be useful, therefore, to request that teachers evaluate each of the services they receive. There is an indication in the current study that while many teachers wished they had received in-service training, those who did receive it did not find it to be especially helpful. The actual content and format of such training is likely an important component of its effectiveness and perceived value. It would be interesting to investigate the content and structure of training seminars (e.g., specific topics, time of year when they are offered) that teachers find to be the most helpful, in an effort to maximize appropriateness and benefit to teachers.

Along with exploring teachers' perceptions of the services they receive, it also would be beneficial to include teacher observations and other sources of information, in addition to teacher self-report measures, in future research. While the present study examined only teachers' perceptions, much can be learned about potential teacher biases and areas of particular challenge by

assessing the relationship between teachers' perceptions of their deaf students and more objective data.

Finally, the results of this study suggest that the quality of teachers' previous experiences with deaf people may be associated with their current levels of stress related to their deaf students. However, only one teacher in this study reported having had a negative prior experience with a deaf person. Exploring this issue further, among teachers who had positive as well as negative previous experiences with deaf individuals, may shed more light on the strength of the relationship between previous experiences and current perceptions and functioning associated with deaf students. Acquiring this information may assist school administrators when placing deaf students, and may also provide them with insight regarding the kinds of services and support a particular teacher might need to help him or her feel most competent and feel most effective.

Conclusion

In closing, participating teachers reported that their deaf students were doing very well in general. They were rated as average in many areas in which deaf children often struggle, such as social skills and academic abilities. In addition to these ratings, other factors suggest that this was, overall, an impressive, though not necessarily representative, group of deaf students. Thirty-eight (76%) of these students were mainstreamed for language arts, which has been found to be the academic area of greatest challenge for deaf

people (Allen, 1986; Brackett & Maxon, 1986; Maxon & Brackett, 1987; Wolk & Allen, 1984). Furthermore, only three (6%) of the rated deaf students had an additional diagnosis (two were diagnosed with ADHD and one was reported to have a learning disability). This figure is low, compared to numerous studies which have found that approximately 30% of deaf children have diagnoses in addition to deafness (Karchmer, 1985; U.S. Department of Education, 1983, as cited in Wolff & Harkins, 1986).

While the sample of teachers in this study, as well as the rated deaf students, may not be representative of many teachers and students, the results, nonetheless, are quite favorable. It is encouraging to know how well some deaf students, even if only a small percentage, are doing in mainstreamed classrooms. Similarly, the findings that the teachers in this study generally feel competent in relation to their deaf and their hearing students, and perceive their deaf students positively, are promising. Although there are many empirically supported problems and shortcomings with the inclusion of deaf children into regular education classrooms, this study provides evidence that at least some students appear to be doing very well in a mainstreamed educational setting.

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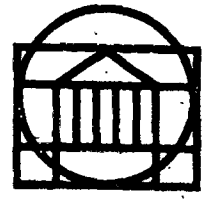
APPENDIX A

PACKET COVER LETTER TO TEACHERS

CURRY PROGRAMS IN CLINICAL AND SCHOOL PSYCHOLOGY
405 Emmet Street, 147 Ruffner Hall
Charlottesville, VA 22903-2495
(804) 924-7472 FAX (804) 924-1433
E-mail: clin-psych@virginia.edu



UNIVERSITY OF VIRGINIA

February 15, 2000

Dear Teacher:

I am a doctoral candidate in Clinical and School Psychology at the University of Virginia, and I invite you to participate in a very important, yet largely unexplored, area of research.

My research focuses on the experiences of **first through fifth grade regular education teachers** who serve a mainstreamed deaf or hard of hearing student. As a regular education teacher of a deaf or hard of hearing student, your experiences and insights are extremely valuable.

If you participate in this study, you will be paid $20 to complete the enclosed questionnaires, which will require approximately one hour of your time.

All of your responses will be kept confidential. Reference to individual teachers and individual schools will not be made in any discussions about or reports on this research. Furthermore, at no time will you need to disclose the names of the students.

I sincerely hope that you will take the time to participate in this important study. If you have any questions, please do not hesitate to call or email me (lsk4e@virginia.edu).

Thank you very much for your time.

Sincerely,

Lauren S. Kopans, M.A., M.Ed.
Principal Investigator

Enclosures

cc: Ronald E. Reeve, Ph.D., Program Director

APPENDIX B

GENERAL INSTRUCTIONS TO TEACHERS

Thank you for taking the time to participate in this study.

Summary:

This packet includes two sets of questionnaires, one set pertaining to a deaf or hard of hearing student in your classroom, and the other set pertaining to a hearing student in your classroom.

These questionnaires inquire about your perceptions of these two students, the quality of your relationship with each student, and your experiences working with these students. You also will be asked to complete brief demographics/background forms, pertaining to yourself and the two rated students.

Instructions regarding how to select the students whom you rate are provided in this packet.

Instructions:

Please complete the attached forms/questionnaires in the order in which they appear. Do not skip any pages or items.

The forms/questionnaires included in this packet are as follows:

- Informed Consent Agreement
- Teacher Background Form
- Forms pertaining to a deaf or hard of hearing student:
  - Student Background Form
  - Communication Competency Scale
  - Social Skills Rating System
  - Student-Teacher Relationship Scale
  - ITS (Index of Teacher Stress)
- Forms pertaining to a hearing student:
  - Student Background Form
  - Social Skills Rating System
  - Student-Teacher Relationship Scale
  - ITS (Index of Teacher Stress)

Return Information:

Please return completed packets in the enclosed prepaid, self-addressed envelope, **prior to Wednesday, March 8th.**

Payment Information:

Please print your name and preferred mailing address, to ensure timely receipt of payment for your participation.

_____

_____

_____

_____

APPENDIX C

INFORMED CONSENT LETTER TO TEACHERS

Informed Consent Agreement
Project Title: Teachers' Perceptions of Working with Mainstreamed Deaf and Hard of Hearing Students

Please read this consent agreement carefully before you decide to participate in the study.

Purpose of the research study:
The purpose of the study is to investigate regular education elementary school teachers' experiences of working with mainstreamed deaf students.

What you will do in the study:
You will complete four forms pertaining to a deaf student and to a hearing student.

Time required:
Approximately one hour.

Risks:
There are no anticipated risks of participating in this study.

Benefits:
There are no direct benefits to you of participating in this research study. The study may help to better understand what it is like for teachers to work with mainstreamed deaf students.

Confidentiality:
The information that you give in the study will be handled confidentially. Your information will be assigned a code number. The list connecting your name to this number will be kept in a locked file. When the study is completed and the data have been analyzed, this list will be destroyed. Your name will not be used in any report. Furthermore, the names of the students whom you rate will not be disclosed to the investigator.

Voluntary participation:
Your participation in the study is completely voluntary.

Right to withdraw from the study:
You have the right to withdraw from the study at any time without penalty.

How to withdraw from the study:
If you want to withdraw from the study, simply inform the investigator of your wishes to do so. There is no penalty for withdrawing. You will still receive payment if you choose to withdraw.

Payment:
You will receive $20 payment for participating in the study.

Who to contact if you have questions about the study:
Lauren Kopans, M.A., M.Ed., Curry Programs in Clinical and School Psychology, 405 Emmet Street, 147 Ruffner Hall, University of Virginia, Charlottesville, VA 22903. Telephone: (804) 924-7472
Email: lsk4e@virginia.edu

Ronald E. Reeve, Ph.D., Curry Programs in Clinical and School Psychology, 405 Emmet Street, 147 Ruffner Hall, University of Virginia, Charlottesville, VA 22903. Telephone: (804) 924-7472

Who to contact about your rights in the study:
Dr. Luke Kelly, Chairman, Institutional Review Board for the Behavioral Sciences, Washington Hall, University of Virginia, Charlottesville, VA 22906. Telephone: (804) 924-3606

Agreement:
I agree to participate in the research study described above.

Signature: _____ **Date:** _____
You will receive a copy of this form for your records.

IRB Project # 99-144
Approved from 9/15/99 *to* 9/

APPENDIX D

TEACHER BACKGROUND FORM

Teacher Background Form

Name: _____

School Name/Address: _____

_____

_____

Age: _____

Race: _____

Sex: Female__ Male__

Grade you currently teach _____

Number of years of teaching experience (including current school year):_____

Number of students in your current class who receive special education services:_____

Number of deaf or hard of hearing students in your current class (for any portion of the school day): _____

Have you taught a deaf or hard of hearing student prior to this year? Yes__ No__

If yes, approximately how many?_____

Was this experience generally positive, negative, or neutral? _____

Please briefly describe what made this experience positive, negative, or neutral:

_____

_____

_____

_____

Aside from teaching deaf and hard of hearing students, mentioned above, have you had any other experience with this population? Yes__ No__

If yes, approximately how many? _____

Was this experience generally positive, negative, or neutral? _____

Please briefly describe this experience, and what it made positive, negative, or neutral:

_____

_____

_____

_____

APPENDIX E

INSTRUCTIONS TO TEACHERS FOR COMPLETING FORMS ON DEAF OR HARD OF HEARING STUDENT

The following green forms pertain to a deaf or hard of hearing student in your class

Important: Please read these instructions carefully.

- Please complete the following green pages pertaining to a **deaf or hard of hearing student** who is in your classroom for any portion of the school day.
- This child should receive special education services under the category of "hearing impaired."
- If there is more than one mainstreamed deaf or hard of hearing child in your classroom, select the one whose name appears first on your alphabetical attendance/class list.
- Include only your own name on these forms. Do not write the student's name.

APPENDIX F

BACKGROUND INFORMATION FORM PERTAINING TO DEAF OR HARD OF HEARING STUDENT

COMPLETE THIS FORM PERTAINING TO THE **DEAF OR HARD OF HEARING STUDENT**

Student Background Form

School:_____

Grade: _____ Age: _____ Race:_____ Sex: Female__ Male__

Additional diagnosed disability (e.g., ADHD, LD):_____

Has the student been found eligible for special education services? Yes__ No__

Will this child partake in statewide testing this year (if applicable) or in later grades? Yes__ No__ Not sure__

Degree of hearing loss if known? (Please Circle) Moderate / Severe / Profound

Does this child have a cochlear implant? Yes__ No__

Number of hours this child is with your class each day: _____

For which subjects is this child in your class? (check all that apply):

- Language Arts ☐
- Math ☐
- Social Studies ☐
- Science ☐
- Other _____ ☐

Which of the following services and accommodations does your deaf/hard of hearing student currently receive? (check all that apply):

Type		Frequency (please fill in and circle)
Sign Language Interpreter (in your classroom)	☐	_____ hours per day / week / month
Oral Interpreter (in your classroom)	☐	_____ hours per day / week / month
Audiological services	☐	_____ hours per day / week / month
Educational resource	☐	_____ hours per day / week / month
Itinerant teacher	☐	_____ hours per day / week / month
Speech/language services	☐	_____ hours per day / week / month
Mental health counseling	☐	_____ hours per day / week / month
Instructional Assistant (in your classroom)	☐	_____ hours per day / week / month
Other (please describe)	☐	_____ hours per day / week / month

COMPLETE THIS FORM PERTAINING TO THE **DEAF OR HARD OF HEARING STUDENT**

Which of the following services do (have) you receive(d) in relation to your deaf/hard of hearing student?:

1) In-service training on deafness (please describe):

_____

_____

_____

2) Support from itinerant teacher (please describe):

_____

_____

_____

3) Support from other school personnel (please describe):

_____

_____

_____

4) Support from parents (please describe):

_____

_____

_____

5) Other (please describe):

_____

_____

_____

Please describe the services that have been the *most* helpful/supportive for you in relation to this deaf or hard of hearing student:

_____

_____

_____

COMPLETE THIS FORM PERTAINING TO THE **DEAF OR HARD OF HEARING STUDENT**

Please describe the services that have been the *least* helpful for you in relation to this deaf or hard of hearing student:

_____

_____

_____

What services/support do you wish you had received/were receiving to help you with this student?:

_____

_____

_____

How involved with you is(are) this student's parent(s)/guardian(s)? (please circle):

Daily contact / Weekly contact / Monthly contact or less

Hearing status of this student's parent(s) (please circle): Hearing / Deaf/hard of hearing:

What do you find most challenging about working with this student?:

_____

_____

_____

Is this student one of the three most challenging children in your classroom? Yes__ No__

Any additional comments regarding your work with this student:

_____

_____

_____

_____

_____

_____

APPENDIX G

COMMUNICATION COMPETENCY SCALE PERTAINING TO DEAF OR HARD OF HEARING STUDENT

COMPLETE THIS FORM PERTAINING TO THE **DEAF OR HARD OF HEARING STUDENT**

Communication Competency Scale

Please rate the *typical* communication skills of this deaf/hard of hearing student. If this student usually uses a hearing aid or other assistive listening device in your classroom, or has an interpreter, rate the child according to how he or she communicates *when using* these devices or working with an interpreter. If the child does not usually use a hearing aid/other assistive listening device or he or she does *not* generally have an interpreter, rate the child according to how he or she communicates *without* these devices or an interpreter.

How often does this child seem to understand spoken language when:	Almost never	Once in awhile	Some of the time	Most of the time	Almost always
You are giving instructions or talking to the entire class					
There is a class discussion					
The deaf/hard of hearing child is in a small group					
The deaf/hard of hearing child is in a one-on-one situation					

How well do you understand this child's speech:	Almost never	Once in awhile	Some of the time	Most of the time	Almost always
In the beginning of the school year					
Currently					

APPENDIX H

INSTRUCTIONS TO TEACHERS FOR COMPLETING FORMS ON HEARING STUDENT

The following yellow forms pertain to a hearing student in your class

Important: Please read these instructions carefully.

- Please complete the following yellow forms pertaining to a **hearing student** in your classroom.

- The hearing student whom you rate should **not** receive special education services and should be the **same gender and race** (when possible) as the rated deaf/hard of hearing student.

- It is very important that you follow these steps when selecting this hearing student:

  1. Select the first student on your alphabetical attendance/class list who is the same gender and race as the rated deaf student, and who does **not** receive special education services (including only speech and language services).

  2. If such a match does not exist, the hearing child who is rated should be of the same sex as the deaf/hard of hearing child and should not receive special education services, but does not have to be of the same race.

- For example, if the rated deaf child is a female, African-American student, the rated hearing child should be the first female, African-American student on your class list who does not receive special education services. If such a hearing student is not in your class, you should rate the first female student on your class list who does not receive special education services (i.e., the rated hearing student does not also have to be African-American, if no such match exists in your classroom).

- Include only your own name on these forms. Do not write the student's name.

APPENDIX I

BACKGROUND FORM PERTAINING TO HEARING STUDENT

COMPLETE THIS FORM PERTAINING TO THE **HEARING STUDENT**

Student Background Form

School: _____

Grade: _____

Age: _____

Sex (should be the same as the deaf/hard of hearing child you rated): Female__ Male__

Race (should be the same as the deaf/hard of hearing child you rated, if possible): _____

How involved with you is(are) this student's parent(s)/guardian(s)?: (please circle)

Daily contact / Weekly contact / Monthly contact or less

What do you find most challenging about working with this student?:

_____

_____

_____

Is this student one of the three most challenging children in your classroom? Yes__ No__

APPENDIX J

STUDENT-TEACHER RELATIONSHIP SCALE

STUDENT-TEACHER RELATIONSHIP SCALE
Robert C. Pianta

Child: _____ Teacher: _____ Grade: _____

Please reflect on the degree to which each of the following statements currently applies to your relationship with this child. Using the scale below, circle the appropriate number for each item.

Definitely does not apply 1	Not really 2	Neutral, not sure 3	Applies somewhat 4	Definitely applies 5

1.	I share an affectionate, warm relationship with this child.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.	This child and I always seem to be struggling with each other.	1	2	3	4	5
3.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4.	This child is uncomfortable with physical affection or touch from me.	1	2	3	4	5
5.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6.	This child appears hurt or embarrassed when I correct him/her.	1	2	3	4	5
7.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8.	This child reacts strongly to separation from me.	1	2	3	4	5
9.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10.	This child is overly dependent on me.	1	2	3	4	5
11.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12.	This child tries to please me.	1	2	3	4	5
13.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14.	This child asks for my help when he/she really does not need help.	1	2	3	4	5
15.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.	This child sees me as a source of punishment and criticism.	1	2	3	4	5
17.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18.	This child remains angry or is resistant after being disciplined.	1	2	3	4	5
19.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.	Dealing with this child drains my energy	1	2	3	4	5
21.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
22.	When this child is in a bad mood, I know we're in for a long and difficult day.	1	2	3	4	5
23.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
24.	Despite my best efforts, I'm uncomfortable with how this child and I get along.	1	2	3	4	5
25.	This child whines or cries when he/she wants something [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26.	This child is sneaky or manipulative with me.	1	2	3	4	5
27.	This child openly shares his/her feelings and experiences with me.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
28.	My interactions with this child make me feel effective and confident.	1	2	3	4	5

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APPENDIX K

INDEX OF TEACER STRESS (ADAPTED)

6/1/95
Clinical Form

ITS

Ross Greene, Ph.D.
Massachusetts General Hospital
Harvard Medical School

Richard Abidin, Ed.D
University of Virginia
Curry School of Education

Teacher _____ Date_____

Deaf Student ____ Hearing Student____ Grade___ Sex___ Race___

Directions: We are interested in determining the degree to which you find this student's behavior or your interactions with this student to be stressful or frustrating. **RESPOND BASED ONLY ON THE DEGREE TO WHICH YOU FIND THE SITUATION DESCRIBED TO BE STRESSFUL OR FRUSTRATING FOR YOU AND NOT HOW OFTEN IT OCCURS.**

For example: Even if the statement is true of the student, but you never find it stressful or frustrating to you, you would respond with #1.

1	2	3	4	5
Never Stressful	Rarely	Sometimes	Often	Very Often Stressful

STRESSFUL OR FRUSTRATING

___ 1. This child is not able to do as much as most other children in my class.
___ 2. This child is very moody and easily upset.
___ 3. This child reacts very strongly when something happens that he/she doesn't like.
___ 4. This child is much more of a problem than most of my other students.
___ 5. This child makes more demands on me than most of my other students.
___ 6. Compared to most, this student has more difficulty concentrating and paying attention.
___ 7. This child has significant learning disabilities.
___ 8. This child doesn't seem to learn as quickly as most children.
___ 9. When upset, this child is difficult to calm.

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1	2	3	4	5
Never Stressful	Rarely	Sometimes	Often	Very Often Stressful

___ 10. This student does not socialize well with other children.

___ 11. This child seems very worried and nervous.

___ 12. This child seems to feel worthless and unloved.

___ 13. This child steals and lies.

___ 14. This student can be very destructive.

___ 15. This child is very aggressive (e.g., hits, bites, kicks other children).

Directions Part B: We are interested in how you feel about the student named above. Please respond to the following statements using the following scale:

1	2	3	4	5
Never Stressful	Rarely	Sometimes	Often	Very Often Stressful

___ 1. I feel trapped by my responsibilities as this child's teacher.

___ 2. I feel that this child negatively affects my ability to enjoy my life outside of school.

___ 3. Nothing I do seems to help with this child.

___ 4. I feel that this child adversely affects my ability to enjoy teaching.

___ 5. This child does things for me that make me feel good.

___ 6. I feel that this child does not like me and does not want to be close to me.

___ 7. When I expend extra effort for this child I get the feeling that my efforts are not appreciated very much.

___ 8. I do not feel as close to or as warmly about this child as I would like.

___ 9. This child does things that bother me a great deal.

___ 10. This child prevents me from doing some of the things I would like to do with my whole class.

___ 11. I feel embarrassed by this child's behavior when I am in public.

___ 12. Having this student in my class is frustrating.

___ 13. Interacting with this child's parents is frustrating.

___ 14. I feel that I should be in better control of this child than I am.

___ 15. This student makes my school day less enjoyable than I would like.

___ 16. I feel that I need more help with this student than I am being provided.

1	2	3	4	5
Never Stressful	Rarely	Sometimes	Often	Very Often Stressful

___ 17. I have the feeling that I cannot handle this student very well.

___ 18. When it comes to this student, I feel that I am not being a very good teacher.

___ 19. I feel embarrassed by this child's lack of progress in my class.

___ 20. I have doubts about my ability to handle being this student's teacher.

___ 21. I am exhausted by the energy it takes to monitor and manage this child.

___ 22. Interacting with this child makes me question my decision to be a good teacher.

___ 23. I worry that this child will adversely affect the good reputation I have achieved as a teacher.

___ 24. I feel that this child would be more successful in my classroom if I were provided with an aide.

___ 25. I find myself giving up more of my time to meet this child's needs than most others in my class.

___ 26. Having this student in my class increases the problems I have with other students.

___ 27. I feel that I am not doing as well as other teachers with this child.

___ 28. I am intolerant of the challenges this student presents.

___ 29. When I am having a problem with this child, I do not feel that I can count on the principal (or assistant principal) supporting me.

___ 30. I feel frustrated about the way I act and feel toward this student.

___ 31. I wish I had someone to turn to for guidance in dealing with this student.

___ 32. I am constantly seeking new and creative ways to teach this student.

___ 33. I feel that I have received much less support/help with this student than I expected.

___ 34. I feel that I am handling this student about as well as any other teacher would.

___ 35. I feel frustrated that this student is not being successful in my classroom.

___ 36. I do not enjoy teaching this child.

___ 37. I feel embarrassed by this child.

___ 38. This student's parents call me to tell me they are unhappy about something I've done with their child.

___ 39. I feel harassed by this child's parents.

___ 40. This student's parents don't seem concerned by their child's behavior at school.

___ 41. I feel this child comes from a very poor home situation.

___ 42. I am unable to agree with this child's parents about how to best handle the child's behavior problems at school.

___ 43. This child takes my attention away from other children in my class.

APPENDIX L

COVER LETTER TO PRINCIPALS AND TEACHER CONTACT APPROVAL FORM

CURRY PROGRAMS IN CLINICAL AND SCHOOL PSYCHOLOGY
405 Emmet Street, 147 Ruffner Hall
Charlottesville, VA 22903-2495
(804) 924-7472 FAX (804) 924-1433
E-mail: clin-psych@virginia.edu

UNIVERSITY OF VIRGINIA

Dear Principal:

Per our phone conversation this afternoon, I am requesting permission to conduct my research study in your school. I am a doctoral candidate in Clinical and School Psychology at the University of Virginia, and my dissertation research focuses on a very important, yet largely unexplored, issue - the experiences of regular education teachers who serve a mainstreamed deaf or hard of hearing student.

It is currently unknown if serving a mainstreamed deaf student is associated with elevated levels of stress in teachers. It is my hope that this research will provide insights into the experiences of these teachers, and of utmost importance, the factors that enable teachers to feel the most supported and confident in their work with deaf/hard of hearing students.

Following your approval, I will send questionnaires to the Director of Special Education, who has agreed to distribute them to those teachers who serve a mainstreamed deaf or hard of hearing student, to request their participation. Teacher participation is voluntary. Teachers who agree to participate will be asked to complete two sets of questionnaires (one set pertaining to a deaf student and the other set pertaining to a hearing student, to provide a control group for the study). These questionnaires are widely used measures of students' behavioral functioning, social skills, and academic achievement, the quality of the teacher-student relationships, and teachers' feelings of stress. Teachers also will complete a brief demographics/background form pertaining to themselves and the two rated students. Questionnaires and forms will require a total time of approximately one hour to complete. If permitted to do so by school adminstrators, I will pay participating teachers $20 for their time.

Please note that all responses will be kept confidential. At no time will teachers disclose the names of their students and no reference to individual teachers or individual schools will be made in any reports of this research.

If you have any questions regarding this study, please do not hesitate to call or email me (lsk4e@virginia.edu).

Thank you for your time and consideration of this important study.

Sincerely,

Lauren S. Kopans, M.A., M.Ed.
Principal Investigator

Ronald E. Reeve, Ph.D.
Program Director

CURRY PROGRAMS IN CLINICAL
AND SCHOOL PSYCHOLOGY
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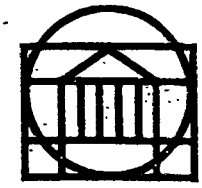

UNIVERSITY OF VIRGINIA

Teacher Contact Approval Form

In order to facilitate dissertation research focusing on a better understanding of the experiences of regular education teachers who serve a deaf or hard of hearing mainstreamed student,

I _____(please print full name) agree to allow Lauren Kopans to request voluntary participation from regular education teachers at _____ school (please print school name).

I understand that:

- this research will be limited to teachers who currently have at least one deaf or hard of hearing student in their classroom for any portion of the school day
- teacher participation is completely voluntary
- participating teachers will spend approximately one hour completing questionnaires
- participating teachers will be paid $20 for their time

_____
Please sign

____ No, you may not contact teachers at my school.

APPENDIX M

COVER LETTER TO TEACHERS, WHEN PERMISSION WAS REQUIRED PRIOR TO SENDING QUESTIONNAIRES

CURRY PROGRAMS IN CLINICAL AND SCHOOL PSYCHOLOGY
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Charlottesville, VA 22903-2495
(804) 924-7472 · FAX (804) 924-1433
E-mail: clin-psych@virginia.edu

UNIVERSITY OF VIRGINIA

Dear Teacher:

I am a doctoral candidate in Clinical and School Psychology at the University of Virginia. My dissertation research focuses on a very important, yet largely unexplored, issue: the experiences of regular education teachers who serve a mainstreamed deaf or hard of hearing student.

It is currently unknown if serving a mainstreamed deaf student is associated with elevated levels of stress in teachers. It is my hope that this research project will provide an understanding of these teachers' experiences, and of utmost importance, the factors that enable these teachers to feel the most supported and confident in their work with mainstreamed deaf students.

As a regular education teacher of a deaf or hard of hearing student, your experiences and insights are extremely valuable. Your participation is voluntary. If you agree to participate, you will be asked to fill out two sets of questionnaires (one set pertaining to a deaf student, and the other set pertaining to a hearing student, to provide a control group for the study). These questionnaires will inquire about your perceptions of these two students' behavioral functioning, social skills, and academic achievement, as well as the quality of your relationship with each student, and your experiences working with these students. You also will be asked to complete a brief demographics/background form, pertaining to yourself (e.g., gender, age, years teaching, prior experience with deaf individuals), and the two rated students.

Questionnaires will require a total time of approximately one hour to complete. You will be paid $20 for your time. If you agree to participate, you will receive the questionnaires, along with instructions, prior to March 2000. You will be given a two week period in which to complete the forms and will return them to me in a prepaid, self-addressed envelope that I will provide.

Please note that all of your responses will be kept confidential. At no time will you need to disclose the names of the students. Furthermore, reference to individual teachers and individual schools will not be made in any reports of this research.

I sincerely hope that you will take the time to participate in this study. I have enclosed an Informed Consent Agreement and a return envelope for your response. If you have any questions regarding this study, please do not hesitate to call or email me (lsk4e@virginia.edu).

Thank you for your time and consideration of this important study.

Sincerely,

Lauren S. Kopans, M.A., M.Ed.
Principal Investigator

Ronald E. Reeve, Ph.D.
Program Director

APPENDIX N

COVER LETTERS TO PROGRAM DIRECTORS

CURRY PROGRAMS IN CLINICAL AND SCHOOL PSYCHOLOGY
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Charlottesville, VA 22903-2495
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E-mail: clin-psych@virginia.edu

UNIVERSITY OF VIRGINIA

February 4, 2000

Dear Ms. Smith:

Per our phone conversation this afternoon, enclosed please find 10 packets, to be completed by **first through fifth grade regular education teachers** who serve at least one mainstreamed deaf or hard of hearing student for any portion of the school day.

In my instructions to teachers, I inform them to return their completed packets to you prior to Wednesday, March 8th. Please return their materials to me, in one mailing, in the enclosed prepaid self-addressed envelope.

Your assistance with this project is tremendously appreciated. If you have any questions, please do not hesitate to email me (lsk4e@virginia.edu). Thank you very much.

Sincerely,

Lauren S. Kopans, M.A., M.Ed.

Enclosures

cc: Ronald E. Reeve, Ph.D., Program Director

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Charlottesville, VA 22903-2495
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UNIVERSITY OF VIRGINIA

February 4, 2000

Dear Ms. Jones:

Per our phone conversation this afternoon, enclosed please find 12 packets, to be completed by **first through fifth grade regular education teachers** who serve at least one mainstreamed deaf or hard of hearing student for any portion of the school day.

In my instructions to teachers, I inform them to return their completed packets to me, prior to Wednesday, March 8th, in the enclosed prepaid self-addressed envelope.

Your assistance with this project is tremendously appreciated. If you have any questions, please do not hesitate to email me (lsk4e@virginia.edu). Thank you very much.

Sincerely,

Lauren S. Kopans, M.A., M.Ed.

Enclosures

cc: Ronald E. Reeve, Ph.D., Program Director

APPENDIX O

PAYMENT LETTER TO TEACHERS

CURRY PROGRAMS IN CLINICAL AND SCHOOL PSYCHOLOGY
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Charlottesville, VA 22903-2495
(804) 924-7472 FAX (804) 924-1433
E-mail: clin-psych@virginia.edu

UNIVERSITY OF VIRGINIA

Dear Teacher:

Please find, enclosed, a $20 check for your participation in my research study.

The information you provided will help me, other researchers, and school administrators understand how to best support regular education teachers who work with a mainstreamed deaf or hard of hearing student.

Thank you again for taking the time to be involved in this project.

Sincerely,

Lauren S. Kopans, M.A., M.Ed.
Principal Investigator

APPENDIX P

PERMISSION TO ADAPT OR REPRODUCE THE SOCIAL SKILLS RATING SYSTEM, STUDENT-TEACHER RELATIONSHIP SCALE, AND INDEX OF TEACHER STRESS

AGS

PERMISSION REQUEST

A separate form must be submitted for each publication title.

REQUEST FROM:

Name: Lauren S. Kopans Title: Doctoral Student

School/Business: University of Virginia, Curry Programs in Clinical and School Psychology

Address: 405 Emmet Street, 147 Ruffner Hall

City: Charlottesville State: VA Zip Code: 22903-2495

Telephone Number: 804-979-5884 (home) Fax Number: 212-656-1816

E-Mail: lks4e@virginia.edu Other:

PERMISSION REQUESTED FOR THE FOLLOWING COPYRIGHTED MATERIAL:

Publication Title: Social Skills Rating System (SSRS)

Component Title(s): Teacher Questionnaire, Elementary Level

Author(s): Frank Gresham and Stephen Elliott Copyright Year *(required)*: 1990

Materials to be Used/Reproduced: Request permission to reproduce entire questionnaire with a few changes (see detailed letter attached)

(If from printed material, specific AGS page numbers or item numbers required.)

Explanation of Use:

___ Handout ___ In Published Materials ___ Publication out of print ___ Presentation

x Research ___ Back-Up Copy ___ Braille/Large Print ___ Advertisement

___ School/Local Cable Access Only ___ Other

Number of copies to be made 200 x one time only or ___ per year

Copy Medium x Photocopy ___ Video

___ Computer Disk/CD ___ Transparency

___ Audio ___ Other:

PERMISSION: x Granted ___ Denied **PERMISSIONS FEE:** No charge

AGS Federal ID # 41-0802162 Payable to: AGS

Details/Restrictions: Adapted SSRS questionnaire may be included only in copies of final dissertation presented for committee approval, but cannot be included in the final document that is available to the general public or that might be microfilmed. In those versions of your final research dissertation the form can be referenced and the adaptations you made noted. SSRS items are secure and cannot be made available to public in any form.

Credit line required:

Social Skills Rating System (SSRS): Teacher Questionnaire, Elementary Level by Frank M. Gresham and Stephen N. Elliott © 1990 American Guidance Service, Inc., 4201 Woodland Road, Circle Pines, MN 55014-1796. Adapted and reproduced with permission of publisher for research purposes only. All rights reserved.

APPROVAL: LeAnn Velde **Date:** 10-15-99

LeAnn Velde
Permissions Manager
American Guidance Service, Inc.
4201 Woodland Road
Circle Pines, MN 55014-1796

Phone: 612-783-5545
Fax: 612-783-5505
E-Mail: leannv@agsnet.com

CURRY PROGRAMS IN CLINICAL AND SCHOOL PSYCHOLOGY
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UNIVERSITY OF VIRGINIA

October 4, 1999

Ms. LeAnn Velde, Permissions Manager
American Guidance Service, Inc.
4201 Woodland Road
Circle Pines, MN 55014-1796

Dear Ms. Velde:

Thank you for faxing the Permission Request form to me. As I indicated to you over the phone, I am a doctoral student at the University of Virginia, and I will be using the Social Skills Rating System - Teacher Form (Gresham & Elliot, 1990) for my dissertation research.

I am writing to request a reduced fee for this questionnaire, and to receive permission to make two minor changes, as follows:

1. Instead of the current demographic information, I only need to request the teacher's name, school, whether the rated student is hearing or deaf, and the student's gender and grade.

2. I will not be using the "How Important" ratings that are included in the first 30 items (these ratings are not included in the SSRS Manual scoring criteria).

I am hoping to receive permission from AGS to retype the SSRS to reflect these changes, instead of using the original SSRS document. At this time, I believe that I will need 200 copies of this slightly revised form.

If you have any questions regarding this matter, please do not hesitate to contact me by email (lsk4e@virginia.edu), by phone (804-979-5884), or by fax (212-656-1816).

Thank you very much. I look forward to hearing from you in the near future.

Sincerely,

Lauren S. Kopans, MA, M.Ed.

Cc: Dr. Ronald E. Reeve, Program Chair

CURRY PROGRAMS IN CLINICAL AND SCHOOL PSYCHOLOGY
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UNIVERSITY OF VIRGINIA

May 4, 1999

Lauren S. Kopans
Curry Programs in Clinical
and School Psychology
University of Virginia
405 Emmet St., 147 Ruffner Hall
Charlottesville, VA 22903-2495

Dear Lauren:

By this letter I give you full permission to use the Student-Teacher Relationship Scale (Pianta, 1992) in your graduate research and to publish the findings. My only request is that you furnish me with a copy of your research. Good luck, and please feel free to contact me for further assistance.

Sincerely,

Robert C. Pianta, Ph.D.
Professor

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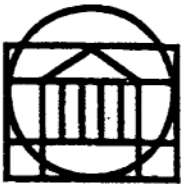

UNIVERSITY OF VIRGINIA

May 10, 1999

Dr. Richard Abidin
Curry Programs in Clinical
and School Psychology
University of Virginia
405 Emmet Street
Charlottesville, VA 22903

Dear Dr. Abidin:

I am writing to request permission to use the Index of Teacher Stress (Greene & Abidin, 1994) for my dissertation research. I would like to make 100 copies of this measure and will not distribute them for purposes other than this project. In addition, I will send a copy of my research results to you.

Thank you very much.

Sincerely,

Lauren Kopans

Lauren S. Kopans, M.A., M.Ed.

I approve your request to use the Index of Teacher stress for your dissertation research.

Richard R. Abidin, Ed.D.