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AN ANALYSIS OF COMMUNICATION ANXIETY AND READING
COMPREHENSION IN SIXTH, SEVENTH, AND EIGHTH GRADE STUDENTS

by

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A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Education
in the Department of Educational Research, Technology and Leadership
in the College of Education
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Major Professor: Barbara A. Murray

ABSTRACT

The goal of this research was to determine whether communication apprehension impacted reading comprehension in sixth, seventh, and eighth grade students and to examine the impact of family socio-economic status. Many studies have demonstrated the negative relationship between communication apprehension and academic achievement, however, studies of elementary and middle school students have been conspicuously missing from this research.

Findings of this study indicated that the levels of communication apprehension rose slightly as grade level increased. Results showed that females in the study had higher levels of communication apprehension than males. The study also found that those students receiving free and reduced lunch had slightly higher levels of communication apprehension. Finally, nonminority status students had higher levels of communication apprehension than minority students.

A review of previous studies found that children, exposed to high language input from their parents, know more words than those who are exposed to lower levels of input. Researchers have found that students who do not talk much in the classroom are evaluated less positively by their teachers, achieve less on teacher-made and standardized tests, and develop less positive affect toward school in general. Results of this study suggest that effort should be made to identify communication anxiety in children. The

development of an age and grade appropriate instrument is warranted for early identification.

Dedicated to my grandparents, Gene and Toddy Bowles

ACKNOWLEDGMENTS

Margaret Thatcher wrote, “Look at a day when you are supremely satisfied at the end. It's not a day when you lounge around doing nothing; it's a day you've had everything to do and you've done it.” I've done it. I've finished. Finishing would not have been possible without the love, support, patience, and tolerance of some of the very best people on earth. Early in my life I was a difficult kid. I asked lots of questions, lots and lots of questions. Two people that never tired or discouraged my inquiries were my grandparents. When I asked a question they didn't simply answer me, they asked me where I thought we could find the answer. They introduced me to World Book Encyclopedia as soon as I was strong enough to lift a volume from the bookshelf. As I grew older and felt strong in my convictions they were the ones who told me having an opinion was easy, being able to support your opinion was smart. Encouraging me to find answers and evidence before forming opinions was the beginning of a love of academic discussion. More than anything, this work was made possible because of their undying love and support. Because they never tired of questions and never stopped asking for evidence.

For my husband this process has been an endurance test. Lucky for me he's long suffering and loves to edit almost everything I write. He has encouraged me to finish when I've been ready to change gears and move on to something else. Dr. Jeff Butler first taught me about communication apprehension. He allowed me to see and understand the world of the truly anxious and how that anxiety could significantly impact their lives.

Watching the compassion he had for those students in his classes who were one step away from graduation; but for whom the fear of communicating made completing the basic speech course a terrifying proposition and obstacle motivated me. Dr. Barbara Murray offered her insight and guidance in this journey of my doctoral studies. Dr. Ken Murray called and reminded me often it was time to get back to work, giving the nudge I needed to move along. I began to see the same look on the faces of people I cared about. People graduating every semester while I tweaked, edited, and changed different chapters. One thing I've learned is what the "Will you ever finish" facial expression looks like. I've seen it on a lot of faces- my parents, my grandparents, my advisors, my coworkers. Finally, they don't have to have that expression anymore. I've done it.

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CHAPTER ONE: INTRODUCTION

The basic purposes of school are achieved through communication. Communication apprehension, the fear and avoidance of communication, can impact every part of a student's life (McCroskey, 1984). Studies have found negative repercussions from this anxiety at school, work, and in friendships (Richmond & McCroskey, 1995). Communication apprehension is manifested by extreme nervousness when communicating, when anticipating communicating, or by the reluctance to communicate at all. While it is normal for individuals to have some degree of nervousness in a public speaking situation, communication apprehension is characterized by debilitating nervousness and anxiety (Rolls, 1998). These anxieties can lead to disabilities in language skills and learning.

Conspicuous deficits in language acquisition are frequently present in economically disadvantaged children. Often, as results of adverse environmental conditions, many children that are raised in poverty are unable to conceptualize or verbalize adequately; limiting opportunities in public schools (Raph, 1965). As early as 1964, John and Goldstein wrote of the disproportionate reliance lower socioeconomic status children have on what is heard in the classroom that is conducive for learning in contrast to middle socioeconomic status children. John & Goldstein suggested that this is a benefit of numerous conversational dialogues with adults that assist the middle socioeconomic status student in verbal responses.

Cazden (1988) observed that language and communication of the classroom serves three functions. Classroom language can establish and maintain social relationships, express speakers' attitudes and identities, and communicate cognitive information, or accomplish any of these goals simultaneously. Educators are charged with the responsibility of recognizing the skill level and raising the skill levels among children of all racial, ethnic, and socioeconomic backgrounds. The potential interaction of communication anxiety coupled with the inability to conceptualize and verbalize adequately could result in a significant disadvantage for any child, widening the gap of student achievement.

Purpose of Study

The purpose of this study was to determine whether communication apprehension impacts reading comprehension in sixth, seventh, and eighth grade students. According to James McCroskey (1977) communication apprehension "may be the single most pervasive handicap confronting children in our schools and society" (p.32). Because the impact of communication apprehension on student achievement is potentially so significant, further study of its academic impact is warranted. Many studies have demonstrated the negative relationship between communication apprehension and academic achievement, however, studies of elementary and middle school students have been conspicuously missing from this research, further justifying this study.

Having a highly communication apprehensive student in class can baffle the most “seasoned” teacher. It is disheartening to have a student who is capable of contributing, but is unwilling and fearful to share knowledge with others. Students with communication apprehension will go to extremes to avoid speaking with others. When forced into communicating, they may become “uncomfortable, tense, embarrassed, and shy” (Cooper, 1995, p. 244). Cooper (1995) further contended that communication apprehension is a disability. He categorized it with other inabilities to communicate such as dyslexia and autism, and wrote “communication apprehension ranks first in terms of the number of people affected” (p. 244).

Experiencing high levels of communication apprehension detracts from a learner’s ability to perceive and comprehend information. Currently over 5.37 million children, 97% of American students diagnosed with “special needs”, currently participate in public school special education programs (Andrews, 2001). Children who are communication apprehensive do not receive special education services. Data from a study conducted at Michigan State University, Illinois State University and West Virginia University suggest that between 15 and 20 percent of American college students suffer from debilitating communication apprehension. The researchers defined “debilitating” as “apprehension of sufficient magnitude to interfere seriously with the individuals functioning in normal human encounters” (McCroskey, 1977, p. 27). While numerous studies have illustrated the negative relationship between communication apprehension and academic achievement, studies of elementary and middle school students are lacking. Currently, there is no evidence indicating that classroom learning is significantly related

to communication apprehension (Comadena & Prusank, 1988). The vast majority of previously conducted studies on communication apprehension have included predominantly college students or adults as subjects. This necessitates a study of children (Krol-Jersevic, 2004).

Since 1996, the number of school-age students (ages 6 through 21 years old) receiving special services for a disability has increased at a higher rate than general school enrollment (Andrews, 2001). Given the high incidence of communication apprehension, classroom teachers are likely to face classes with communication apprehensive students in attendance. Traditional interaction-oriented instructional systems represent an obstacle for communication apprehensive student. Furthermore, the regular classroom setting does not appear to be the appropriate place to begin providing services to the apprehensive student. Nonetheless there are some steps classroom teachers can take to avoid harming apprehensive students. According to McCroskey (1977), "It is vital that the professional training of teachers include instruction in the nature and effects of communication apprehension in the classroom. Both pre-professional and in-service training programs for teachers need to include such instruction" (p. 33). It may be that public schools should offer early screening for the detection of communication apprehension in students. Such detection strategies provide the foundation for programs to can be developed to reduce the negative impact this anxiety has on learning and student achievement.

Statement of the Problem

The effects of communication apprehension appear to be harmful- even debilitating- across a wide range of situations including academic learning and language acquisition. Significant questions remain related to the incidence and impact of communication apprehension on sixth, seventh, and eighth grade students. Questions also remain as to the role of family environment on language acquisition and the impact of language acquisition on communication apprehension and reading comprehension. The current investigation attempted to assess levels of communication apprehension in sixth, seventh, and eighth grade students and to determine the impact of family socio-economic status on reading comprehension. Finally it attempted to assess the effects of reading comprehension on communication apprehension.

Most research related to communication apprehension and learning has involved college age and adult subjects. To date little research has examined subjects younger than college-age and the impacts of communication apprehension. This study attempts to fill the age and grade level gap in determining whether communication apprehension impacts reading comprehension in sixth, seventh, and eighth grade students. Additionally, the relationships between communication apprehension and ethnicity, socioeconomic status, and gender were examined. For the purposes of the study, reading comprehension was measured using student scale scores on the Florida Comprehensive Assessment Test (FCAT). Socioeconomic status was measured using the eligibility to receive free and/or reduced lunch as an indicator.

Research Questions and Hypotheses

The following research questions and hypotheses guided this study:

1. What percentage of students in sixth, seventh, and eighth grade has communication apprehension?
2. What differences, if any, exist in FCAT Reading test performance among sixth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?
3. What differences, if any, exist in FCAT Reading test performance among seventh grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?
4. What differences, if any, exist in FCAT Reading test performance among eighth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?
5. To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among sixth grade students?

6. To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among seventh grade students?
7. To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among eighth grade students?

The following hypotheses were tested:

1. The rate of sixth, seventh, and eighth grade students with communication apprehension is equal to the research-determined average of 20%.
2. There is a difference in FCAT Reading test performance among sixth grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.
3. There is a difference in FCAT Reading test performance among seventh grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.
4. There is a difference in FCAT Reading test performance among eighth grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

5. The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among sixth grade students.
6. The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among seventh grade students.
7. The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among eighth grade students.

Delimitations

The research was delimited to a sample of Brevard Public School students, in Brevard county Florida. Students ranged from grades six through eight and were enrolled at Cambridge Elementary, Mila Elementary, Saturn Elementary, Clearlake Middle School, and L.B. Johnson Middle School.

Limitations

The following limitations were identified as influences on the outcome of this study:

1. The self-reporting of students in elementary and middle school may not be accurate.
2. The classroom teachers that administer the survey may not follow the procedures as designed.
3. The survey will not be administered on the same day or at the same time in all classes.
4. School Principals may delegate the responsibility of administering the survey to personnel other than student's regular classroom teacher.
5. Only students who return signed permission slips will take the survey.
6. The survey is written in vocabulary and language potentially on a higher reading level than the language typically used by some participants.

Theoretical Framework

This study was founded on E.L. Thorndike's Theory of Identical Elements. This theory suggests that comprehension is dependent on transfer. The process that enables students to apply previously learned responses to new situations is transfer. To understand transfer it is important to understand how learning to perform one task provides students with the information they need to perform another task. Thorndike explored this process in the early 1900's (Gage, 1988). Initially, through his study of animal behavior and the learning process observed in cats, Thorndike founded the study of connectionism. This learning theory represented one of the original Stimuli-Response

frameworks of behavioral psychology, which stated that learning was the result of associations forming between stimuli and responses.

Thorndike and Woodworth (1901) initially argued that if the stimuli in two situations were similar and justify the same response, transfer should take place. The more the elements of one situation are identical with those of another, the greater the transfer. Thorndike identified this concept as the theory of identical elements. This theory of identical elements as the basis for transfer was the result of a series of experiments Thorndike performed to determine if practice in one test would influence performance on a similar test. Thorndike hypothesized that studies of Latin “disciplined the mind,” preparing people for better performance in other academic subjects. Thorndike compared the performance in other academic subjects of students who had taken Latin with those who had not. His findings demonstrated no transference of Latin studies to other academic areas (Thorndike, 1923). Thorndike and Woodworth (1901) attempted and failed to find positive impact of one topic or subject of learning on another. The studies revealed that, with the exception of shared perceptual abilities or motor behaviors or whatever was common to the two tests, no general transfer was present. Thorndike explained, “A change in one function alters another insofar as the two functions have as factors identical elements” (Thorndike, 1913, p. 358).

The idea of how previous learning influences current and future learning is explained by transfer; how past or current learning can be adapted or applied to similar or new situations is also explained by transfer. Transfer, then, isn’t so much an instructional and learning technique as it is a way of perceiving, thinking, and processing information.

Consequently, transfer is fundamental to all learning. According to psychologist Robert E. Haskell (2001), “without transfer we could not engage in every day thinking and reasoning or acquire the most basic of motor skills; transfer is responsible for the simplest of ideas and for the highest achievements of humankind” (p. 23).

Transfer is a process that is dependent on the intent or motivation of the learner, the environment, and the instructional design. Linked to the notion of transfer is the student’s perceived ability to apply and opportunity to use new knowledge as well as the commitment to the material and skills. Transfer ability varies. The variation in the ability at transfer is, in part, “founded on biological evolutionary advances that are hard-wired into our brain” (Haskell, 2001, p. 27).

The connection and subsequent transfer that students make with academic materials is dependent on the student’s prior knowledge. As early as 1938, researchers indicated that readers use information and experiences, or prior knowledge, to make meaning from text. According to Louise Rosenblatt, author of “Literature as Exploration”, during reading a reader integrates this personal knowledge with the author’s words, creating an original text. To every text, a reader brings his or her personality, mood, and memories. These factors affect the reader’s ability to comprehend the author’s words (Rosenblatt, 1938).

Language is an important cultural influence on transfer. Language exerts a powerful influence on transfer. It is through the language of a culture or group that we encode concepts and categories. “Children master their culture’s theory of the connections between contexts as they master their language” (Haskell, 2001, p.145).

Understanding how people from different cultures and groups classify things in the environment is important for transfer. Often, how people classify things is dependent on how people classify their environment. Our classification systems determine how we make inferences and thus how we transfer. “When we say something is typical, we mean that it is a kind of prototype; that it shares many similar features with whatever is being discussed. But various cultures have different conceptions of what is similar, and therefore different cultures classify things differently” (Haskell, 2001, p. 145).

Overview of Methodology

Research Design

This quantitative research study was designed to determine the extent of communication apprehension in sixth, seventh and eighth grade students and the extent of communication apprehension in students who are not currently able to read on grade level. The study also sought to determine if socioeconomic status and gender interacted with communication apprehension and reading comprehension. Finally, this study investigated the relationship between communication apprehension and reading comprehension scores.

Archived FCAT performance data, demographics, and socioeconomic status was accessed using Brevard Public School records. Records were kept confidential. Data was

compiled in Excel then entered into the software program Statistical Package for the Social Sciences (SPSS) for statistical analysis.

Population

The sample for the study was comprised of students in sixth, seventh, and eighth grade in selected Brevard Public Schools.

Data Collection and Analysis

The research design of the study was chosen to determine the whether there was a difference in the reading comprehension student developmental scale scores related to communication apprehension. The 2011 Florida Comprehensive Assessment Test (FCAT) Reading results were used to measure reading comprehension ability. Communication apprehension (CA) was measured with the Personal Record of Communication Apprehension (PRCA-24). The data was for individual students and approval to conduct the study with human subjects was obtained from the University of Central Florida's Institutional Review Board (IRB).

Once surveys were returned, each middle school was assigned a proprietary code that allowed the researcher to anonymously compare the data by school. Additionally, student identification numbers were used to pair the surveys to the archived FCAT data

for analysis. The data was analyzed using Statistical Package for the Social Sciences version 16 for Windows.

A one-sample t-test for proportions was used to analyze Research Question 1, which addressed the percentage of sixth, seventh, and eighth grade students with communication apprehension. Based upon the collected survey information, the researcher classified each student as either meeting or not meeting the criterion for communication apprehension. Once students were classified as such, a one-sample t-test for proportions compared the proportion of students in the sample population as a whole who met the criterion for having communication apprehension to the percentage of students determined by extensive previous research to have communication apprehension (McCroskey, 1970, 1976). The test indicated whether the sample proportion significantly deviated from the previously determined expected proportion. Additionally, descriptive statistics yielded this proportional value for any selected subgroups to expand the depth of the descriptive statistics.

A one-way ANCOVA was used to analyze Research Questions 2 through 4, which addressed differences in FCAT Reading performance for each grade (sixth through eighth) between students with communication apprehension and those without, while controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender. Within each research question, a one-way ANCOVA compared the developmental scale scores (DSS) of students in the given grade level between the two groups of those with and without communication apprehension. The binary covariates of ethnicity (minority or non-minority), free or reduced lunch status (receiving or not

receiving free or reduced lunch services), and gender (male or female) were entered into the ANCOVA model and remained as long as all assumptions were met. For the ethnicity variable, minority was defined as non-white students, while non-minority was defined as white students. Additionally, the existence of differences in DSS score between students with low CA and those with high CA were examined using a one-way ANCOVA. With this method, differences in DSS score between students with low CA and those with high CA could be detected, while controlling for the factors of minority status, socioeconomic status, and gender.

Research Questions 5 through 7 examined the extent to which the demographic factors of ethnicity, free or reduced lunch status, and gender predicted the presence of communication apprehension among students for sixth through eighth grades, respectively. A hierarchical linear regression was built, where each independent variable was added individually to the model and the change in the strength of the model was measured to determine the predictive strength of the independent variables. The total scale score for the communication apprehension served as a dependent variable instead of a binary, yes/no indication of communication apprehension. Independent variables consisted of ethnicity (minority or non-minority), free or reduced lunch status (receiving or not receiving free or reduced lunch services), and gender (male or female). The independent variables were added to the model in individual blocks and the change in model significance and variance examined to determine each demographic factor's predictive strength on the variable of communication apprehension while controlling for the remaining demographic factors.

CHAPTER TWO: REVIEW OF LITERATURE

Language Development

The acquisition of language is a complex developmental challenge. Everywhere in the world, in every language, children are talking by age 2. At that age, even children have a grasp of basic grammar and vocabulary. All over the world over children follow the same sequence and almost the same timetable for early language development. The first area they become competent in is language function- the communication of ideas and emotions. Infants are born using a “language” of noises and gestures (Bates et al., 1987).

The crying, cooing, and variety of other sounds made by infants in the first months of life gradually become more varied so that by the fifth month squeals, growls, grunts, croons, and yells, as well as some speech-like sounds, are part of most babies behavior repertoire.

At six to seven months, babies’ utterances begin to include the repetition of certain syllables. This phenomenon is referred to as babbling because of the way it sounds. In many ways babbling is universal- all babies do it and all of them make the same sounds, regardless of the language the parents speak (Berger & Thompson, 1994). During the same months that babbling appears, gestures become a part of the baby’s effort to communicate. By nine months they begin to point, vocalize, and look away from

the object toward an adult, leaving little doubt about their intended message (Bates et al., 1987).

Children advance their ability to discriminate sounds, articulate, and recognize the meanings of sounds and words they are not yet able to use. Children will advance their perception of the distinctive features of speech sounds, and their awareness that certain sounds have a constant meaning even though they vary in their acoustic properties (Jersild, 1975; McCarthy, 1961) discussed how a child's mastery of the perceptual properties of speech overrides many acoustic variations. Children will learn to understand a word whether it is whispered, shouted, or spoken by a man, woman, or child as their language development becomes more advanced.

Children will use many sounds to communicate with others long before they develop the ability to articulate specific words. A child usually understands many words and inflections before he can use words (Jersild, 1975). Infants use many speech sounds and develop sound-meaning relationships called vocables (Ferguson, 1978). These vocables function as words for the infant even though they are not based on adult words. Vocables display the creative role of the child as a language learner. Children do not use vocables because adult-modeled language is too difficult or unavailable but rather vocables demonstrate that there can be a sound-meaning relationship (Owens, 1988).

At about one year, the average baby speaks one or two words, not pronounced very clearly or used very precisely. Vocabulary increases gradually, perhaps a few words a month. By eighteen months, the average baby speaks about fifty words and comprehends many more. Many of a child's early words are names of specific people and

objects in the child's daily world, although some "action" words are included as well (Barrett, 1986). At about the fifty-word mark, vocabulary suddenly begins to build rapidly, a hundred or more words per month (Huttenlocher et al., 1991).

Within about six months of speaking his first words, a child begins to put words together. The child's early vocabulary is typically dominated by short words. The first two-word sentence appears between ages sixteen and twenty-one months in most cases. For several years many children will shorten words by dropping a syllable or two such that "inspect" is "spect," "conductor" is "ductor," and "Missus" is "Miss" (Jersild, 1975, p. 418). The ability of children to combine words has been studied for decades. This skill requires considerable linguistic understanding because, in almost every language, the word order affects the meaning of the sentence. It has been noted that even in their first sentences, toddlers will demonstrate that they have already discovered the basics of subject-predicate order (Berger, 1994).

Brodbeck and Irwin (1946) found that during the first six months, children who were raised in homes with their families vocalized more than children raised in an institutional setting where the interaction opportunities with adults were significantly reduced. In the United States race, culture, education, and socioeconomic status all influence maternal behaviors towards the child. Less vocal behavior has been noted in studies that included African-American mothers living in inner-city areas (J. Brown, Bakeman, Snyder, Frederickson, Morgan, & Helper, 1975). Lower socio economic status mothers have been found to be less responsive to their infants' vocalizations (Lewis & Wilson, 1972) and to exhibit fewer expansions and repetitions of their infants' vocal

behavior. Mothers from the middle-class tend to ask more questions; while those from lower socioeconomic classes use more directives or imperatives. Similarly, mothers with more education have been found to be more verbal (Snow, Arlmann-Rupp, Hassing, Jobse, Jootsen, & Vorster, 1976; Streissguth & Bee, 1972).

Chomsky (1968) studied language development and focused on the innate ability infants displayed. Chomsky believed that since all children learn to communicate so rapidly, at about the same age, humans appear to possess a cognitive “language acquisition device” (LAD). Chomsky argued that just like children are genetically programmed to begin to stand up and to walk at certain points in their maturation, children are similarly prewired to begin to babble and talk, finding words to express concepts that are innate, such as that people and objects have names and that certain intonations indicate a question. The infant’s early vocalizations need only to be fine-tuned by the specifics of a particular language’s vocabulary and grammar so that the baby’s LAD can adapt to the communicative structures within a particular culture. Some researchers have critiqued Chomsky’s theory arguing that language learning occurs in a social context. These researchers suggest that language acquisition is the result of the interaction between parents and children (Berger, 1994). A family’s race, cultural heritage, and socioeconomic status as well as, parental beliefs, beliefs, values, the geographic region and many other factors can all impact a wide range of conversational factors (Fahey, 2000).

A variation in both the influences of nature and the amount of early language to which children are exposed has been linked to their subsequent ability (Huttenlocher,

Haight, Bryk, Selzer & Lyons, 1991; Hart & Risley, 1995). Grouping objects into categories based on some similarity of function, meaning, or form is one of our most important cognitive behaviors. In addition to categorizing direct experiences, people also develop categories for things they may have never experienced such as prehistoric animals and mythological creatures. Language plays a key role in making this conceptualization possible (Borivsky & Elman, 2004).

There is very little evidence of category knowledge and during early stages of language learning the rate of vocabulary acquisition is slow. When children undergo what has been identified as a “vocabulary spurt”, which is a rapid pace of word learning, they also begin to display the ability to sort sets of objects into multiple categories. This suggests that the phenomena of learning new words and knowledge of categories may be related in a synergistic fashion (Gopnik & Meltzoff, 1987, 1993).

Early language input is the key to successfully predicting levels of lexical proficiency according to an expanding body of research. Numerous studies (Huttenlocher et al., 1991; Hart & Risley, 1995) have found that children, exposed to high language input from their parents, know more words than those who are exposed to lower levels of input. There is evidence that indicates that the distribution of words in input differs among children (Bates, Bretherton & Snyder, 1988, Broen, 1972). Researchers Weizman and Snow (2001) reported that the usage of low frequency words varies between families, and those five year old children who encounter a higher proportion of “sophisticated words” from their environment also tend to have larger vocabularies.

Narrative Ability

Once children begin putting words together into sentences, they develop what has been identified as narrative ability. Developmentally, children proceed from the conversational or communicative use of oral language, which is an interactive use of language, to narrative discourse, which is a literate language form. Narrative discourse refers to the units of spoken text beyond the sentence level, and includes the ability to construct an original story and to retell a previously heard story. Narratives are the first form of oral language that requires children to produce extended units of language. Oral narration and written text share many of the same properties and skill requirements, according to researchers (Westby, 1991). Additionally, both narratives and written text also share a concise syntactic style, focus on topics that are frequently unfamiliar and abstract, contain lexically rare and rich vocabulary, and require cognitive distancing from reality (Westby, 1991).

Measures of cognitive and language competence have been developmentally linked to children's narrative ability in normal children (Goldberg & Phillips, 1992; Oppenheim, Emde & Warren, 1997). Children's competencies are reflected in the quality of their narratives, specifically the structure, organization, and linguistic sophistication of their stories (Fiorentino & Howe, 2004). An important precursor to the development of literacy skills may be narrative ability.

Presumably, children bring a basic knowledge of narrative structure (narrative schema) to reading and apply that knowledge in their efforts to decipher and understand

text (Westby, 1991). Additionally, narrative discourse, because of its focus on connected language, may have an influence on early decoding and comprehension. Researchers have indicated that narrative ability, as well as other metalinguistic skills, becomes increasingly important as reading comprehension develops (Westby, 1991).

Children enter classrooms with established narrative discourse skills learned in the family context and also, for many, in the daycare environment. However, what has become apparent to researchers is that some discourse skills are well matched to classroom expectations and some are not. This discrepancy may make it difficult for children to understand and meet the expectations of the teacher, this, in turn, may be associated with academic problems (Fiorentino & Howe, 2004).

Children in school with good communication skills can make both their comprehension and their questions clear to the teacher. These children receive more attention and are able to influence the classroom instruction to best meet their particular needs according to researchers (King, 2001). Children who speak a language or dialect that is substantially different from that normally used in the classroom, and children who are less competent communicators are often misunderstood or overlooked in classroom discussions (King, 2001).

Researchers have found that some low socioeconomic status children generate narratives that lack clarity and organization (Peterson, 1994; Peterson, Jesso & McCabe, 1999). A study done in Canada found that children from low-income households that were disorganized, that is had frequent changes in the members of the household, tended to repeat old information and were unable to generate new information despite prompting

from an adult. Additionally, the low-SES children produced narratives that lacked chronology, which was defined as a story that was well ordered, easy to understand and to follow (Fiorentino & Howe, 2004).

Mothers' discussions of shared events with their young children might be influenced by within-class differences. This maternal speech or elaborative style has been identified as a major source contributing to children's narrative performances (Fivush & Fromhoff, 1988; Haden, Haine, & Fivush, 1997; Nelson, 1973). High elaborative mothers collaboratively construct talk about past experiences with their children, use open-ended questions, response extensions, and the encouragement of details. In contrast, low elaborative mothers, approach reminiscing with a performance oriented view and encourage their children to construct narratives independently through strategies such as repetition and closed or yes/no questions (Reese, Haden, Haine & Fivush, 1993). Researchers document that high elaborative styles facilitate children's longer independent narratives at later ages (Haden, Haine, & Fivush, 1997).

Past sociological research examining social class differences in parent-child narratives have found that lower income children provide less complex narratives than middle-income children (Bernstein, 1964; Hicks, 1991). More recently developmental psychologists found that children from working-class families required significantly more prompting from interviewers to tell their stories than did children from middle-class families. Middle-class children also included more causal, temporal, and conditional information than working-class children and, in doing so, provided more complex narratives (Peterson, 1994).

Researchers examining narrative production have noted differences in the narratives produced by white children and African American children. Michaels (1986) examined narratives produced during sharing time in the elementary classroom. Sharing time was a classroom activity that involved the teachers calling on students to share stories with the class. Michaels found that African American and white children differed in the style of the topical development of their stories. Michaels found that white children produced more literate, topic-centered narratives and focused on a single object or event. African American children tended to produce more oral, episodic narratives, which were centered on multiple objects and events simultaneously. Consequently, classroom teachers differentially evaluated the corresponding narratives. Other researchers contend that “sharing time” might elicit a more oral style due to the familiarity of the topic and experiences (Michaels, 1986).

When children first enter school, one of the great adjustments that they need to make is learning how and when to talk in that new environment. Researchers have determined that the language of the classroom differs substantially from the talk children have used in the home (King, 2001). According to researchers, few parents make a practice of rehearsing children in saying sentences or repeating grammatical constructions. Instead, they are more likely to remind children of certain social conventions: “Say ‘Thank you’ to Uncle Ben.” Usually, parents listen to children and help the language along by supplying needed information and necessary wording they infer from the child’s utterances (Snow, 1977).

A possible explanation for reported differences in narrative ability can be found in the registers or diatypes of language. The register of language is the style of language, grammar and words used for particular situations. Individual speakers have command of multiple registers and change their language according to which they are talking, what they are talking about, where they are and other factors (Stubbs & Hillier, 1983). Every language in the world has five registers according to Joos (1967). These registers are categorized as: (a) frozen, language that is always the same; (b) formal, standard syntax and word choice of work and school; (c) consultative, used in conversation, not quite as direct as formal; (d) casual, language between friends characterized by a 400-800 word vocabulary that often includes incomplete sentence syntax; and (e) intimate, language between lovers or twins.

Montano-Harmon (1991) found that the majority of minority students and poor students do not have access to formal register at home. Many of these students cannot even use formal register. The majority of these students do not have the vocabulary or the knowledge of sentence structure and syntax to use formal register. Similar to parental elaborative styles, task demands also encourage or limit children's narratives. Presumably writing to the principal in contrast to writing to a friend would require a formal register of language, providing a more restricted set of constraints for language and for task demands. Yet few differences in working- and middle-class children's letters to their principal and letters to friends were noted in a study (Robinson, 1965). These types of limits also influence middle-income children's narratives. Researchers examining the effects of drawing on middle-SES children's recall assert that it decreases "standard

conversational constraints,” allowing children to provide more elaborate accounts of their experiences (Salmon & Pipe, 2000). One explanation might be that families differ in their expectations of communicative competence (Anderson & Battle, 1993, p. 180). Families also vary with regard to whom the children’s primary communicative partners are, the interaction styles allowed, the expectations for the interactions, the topics of conversation that are allowed, how highly the participants value talk, and beliefs about teaching language (van Kleeck, 1994). Hart and Risley (1995) have found that middle-SES parents, including both white and African-American parents, talked to their children more than parents from low-SES backgrounds. Children’s language development was influenced by the amount of talking with parents. Children from middle-SES families tended larger vocabularies than children from low-SES families.

The relationship between language proficiency and content understanding grows in complexity as students grow in the grade levels. Students need to understand the rules that govern genres of texts as well as the specific vocabulary, grammar, forms, traditions and styles of communication. If students are not adequately prepared, they will fall behind in the intermediate grades. These upper elementary grades are typically when educational texts transition from the predominantly narrative form that is used to teach reading, to the expository format used to communicate content concepts. Some educators have noted that this is a critical milestone. The reason this period is so critical is because students are no longer learning to read but are expected to be competent reading to learn (Pritchard & Breneman, 2000).

Transfer Theory

Judd's classic research (1908) challenged Thorndike's theory of identical elements. Thorndike (1913) had argued that "transfer not only occurs on the basis of identical elements, but also by understanding the abstract general principle underlying a phenomenon which can then be applied to situations that do not possess obvious identical elements, or at least no obvious concrete ones" (p. 151). Restated, that means a general (abstract) principle can be transferred to different particular (concrete) events. In Judd's model, transfer was considered to be abstract, and did not require a concrete set of elements (Haskell, 2001, p. 81).

In Judd's experiments, groups of young children aimed and threw darts at an underwater target. Next, the researcher instructed some subjects on water refraction of light. Judd found that by understanding the principle of refraction, transfer resulted in more subjects hitting their underwater target. The control group practiced but did not receive instruction in refraction. The test for transfer was to successfully hit targets at different depths. The experimental group outperformed the control group on the transfer tests (Haskell, 2001, p. 81).

Communication and Learning

Researchers have recognized student intelligence as a trait that has major impacts on student learning. Researchers have also determined that communication traits have a

direct association with student learning. Four communication traits have received primary consideration: (1) communication apprehension (CA), “an individual’s level of fear or anxiety associated with either real or anticipated communication with another person or persons” (McCroskey, 1984, p.13); (2) shyness, “the tendency to be timid, reserved, and most specifically, talk less” (McCroskey & Richmond, 1982); (3) willingness to communicate (WTC), “an individual’s predisposition to initiate communication with others” (McCroskey & Richmond, 1987); and (4) self-perceived communication competence (SPCC), “how communicatively competent an individual perceives herself/himself to be” (McCroskey & McCroskey, 1988).

Understanding CA has been a goal of researchers for more than fifty years. Several types of CA exist: trait like, state or situational, generalized-context, and person-group or audience based (McCroskey, 1984). Trait-like CA has been explained by McCroskey (1984) as “a relatively enduring personality type orientation towards a given mode of communication across a wide variety of contexts” (p. 16). Trait apprehension refers to fear of communication generally, regardless of the specific situation. It appears in dyadic, small group, public speaking, and mass communication (DeVito, 2001).

The next type of CA is state or situational CA. “A speaker may fear public speaking but have no difficulty with dyadic communication or a speaker may fear job interviews but have no fear of public speaking” (DeVito, 2001, p. 80). Some people react differently, depending on the type of situation. Sometimes people are afraid to talk in front of a group but have no problem talking one-on-one. “This type of CA represents the

reactions of an individual to communicating with a given individual or group of individuals at any given time” (McCroskey, 1984, p.18).

Generalized context CA is another type of apprehension. According to McCroskey (1984), generalized context CA is an anxiety experienced by people in a certain context. An example of this type of CA is a fear of public speaking.

The fourth type of CA is audience-based or person-group apprehension. McCroskey (1984) says, “This type of CA represents the reactions of an individual to communication with a given individual or group of individuals across time” (p. 17). This means a person may react differently when communicating with one person to the next. Audience based CA is “a relatively enduring orientation towards communication within a given person or group of people” (McCroskey, 1984, p. 74). A teacher may not have apprehension when speaking to a group of students, but may have high apprehension when speaking to the principal (McCroskey, 1984). This type of CA is completely dependent upon the given situation.

Trait CA is not characteristic of normal individuals. People with high levels of trait CA experience high levels of apprehension about almost all oral communication encounters, both those that could rationally be described as threatening and those which could not be so described (McCroskey, 1977). Student populations at colleges have been studied extensively and suggest that approximately 20 percent of students at major universities could be appropriately described as having high trait CA, with even higher percentages existing at smaller colleges and community colleges (McCroskey, 1970,

1976). Similar frequencies of high trait CA have been observed in public school settings, at each level, K-12 (McCroskey, 1976).

Previous research (McCroskey, 1977a; McCroskey, Booth-Butterfield, & Payne, 1989) established a strong negative relationship of reduced student communication in the classroom with various measures of academic achievement. Additional research determined this impact was causal in nature (Booth-Butterfield, 1988). Students who do not talk much in the classroom (are apprehensive shy, less willing to communicate, and/or see themselves as less communicatively competent) are evaluated less positively by their teachers, achieve less on teacher-made and standardized tests, and develop less positive affect toward the content of classes, their teachers, and school in general. As early as elementary school, communication apprehension causes children to be perceived as “slow students” who receive lower grades than those experiencing little communication apprehension (Comadena & Prusank, 1988; Davis & Scott, 1978; McCroskey, Andersen, Richmond, & Wheelless, 1981). This lower academic achievement stays with the high communication apprehensive throughout high school. When those same students graduate from high school, student achievement as measured on standardized ACT tests is lower than students who experience little communication anxiety (McCroskey & Andersen, 1976).

Students with high CA also have more negative attitudes towards school. This was supported by Frymier (1993) who found that students with higher CA were more likely to discount school as an important activity. Blatzer (1997) found that high

communication apprehension was related to low grade point averages and increased risk of early exit from the university.

Gerald Phillips (1968) explained that an individual with communication-bound anxiety is “a person for whom anxiety about participation in oral communication outweighs his projection of gain from the situation” (p.40). A person with high CA would prefer not participating in a discussion and taking a lower grade because of their CA, rather than participating and earning a higher grade.

High apprehensive are viewed less positively in terms of social and task attraction than those low in apprehension (McCroskey, Daly, Richmond, & Cox, 1975). Highly apprehensive people have a more difficult time completing tasks and meeting new people (Sorenson & McCroskey, 1977). Porter (1982) found that high apprehensive were perceived by others to be less dominant than low apprehensives.

Studies of communication apprehension and gender have yielded mixed results. In a 1995 study by Booth-Butterfield and Thomas no significant difference was found for gender on overall Personal Report of Communication Apprehension (PRCA-24) scores for a student group; however males were higher in apprehension in the small group context. A study by McCroskey, Simpson, and Richmond (1982) found males may be slightly shyder than females, females may be slightly more apprehensive about public speaking than males, but that females and males do not differ meaningfully in terms of general communication apprehension. McCroskey, Simpson, and Richard (1982) also noted that females were found to score significantly higher than males on the PRCA-24.

However, according to a follow up study by Jaasma (1997), “Most recent research on CA, using the PRCA, has yielded mixed results with regards to sex differences” (p. 221).

Communication is a key factor in the classroom. Students talk with other students and have conversations with teachers to help determine what they learn and how well they learn it. In the primary grades, the spoken word not only provides the necessary foundation required for learning but also establishes a social environment that makes learning possible (The National Institute of Education, 1977). Experiencing high levels of communication apprehension detracts from a student’s ability to perceive and comprehend information in a learning environment (Johnson, 2003). The United States educational system places a great reward on verbal behavior in the classroom. Testing, group discussions, story-telling, and experimental learning all require frequent verbal output. Even out-of-class activities such as counseling sessions and recess demand verbalization. Researcher J. Carroll observed as early as 1964, “That most of the learning that occurs in the school environment is verbal learning; not only the acquisition of new words for new concepts, but also the ability to verbally express the nature of concepts learned and manipulated” (p. 63).

Numerous studies have illustrated the negative relationship between high communication apprehension and academic achievement, however, studies of elementary and middle school students have been conspicuously missing from this growing body of research. Currently, there is a lack of evidence assessing the relationship between classroom learning and communication apprehension (Comadena & Prusank, 1988). A 1981 study conducted by McCroskey, Andersen, Richmond and Wheelless found

substantial changes in communication apprehension occurred in kindergarten and between grades three and four. This study also found that communication apprehension remains relatively stable from grade four through college. Some researchers have suggested that the reinforcement patterns for communication received at home and school appear to be the primary causal factors in the development of communication apprehension in children (Beatty, Plax & Kearney, 1984; Daly & Friedrich, 1981, McCroskey & Beatty, 1986).

Researchers differ on the etiology of communication apprehension. There has been a tendency for researchers to discuss mainly trait-like communication apprehension causes (McCroskey, 1982b, 1997; Richmond & McCroskey, 1998) with limited attention going to generalized context and person-group communication apprehension. McCroskey wrote (1982b) that in the Social Sciences field, only “two major explanations of the differential trait-like behaviors of individuals hold sway: heredity and the environment” (p. 153). His argument was regardless of the exhibited behavior, communication apprehension can either be attributed to genetic factors or to learning. McCroskey explained further that although infants are born with “different predisposition and” (p. 92), the upbringing of a child influences the level of communication apprehension (McCroskey 1997; McCroskey & Richmond, 1987). With that in mind, it could be argued that environment and heredity represent “the precursor of adult predispositions and such as communication apprehension” (McCroskey, 1997, p.92).

Daly and Stafford (1984) examined the extent to which preliminary factors affected a person’s level of communication apprehension. The researchers argued that

specifically, the most important causes of communication apprehension were “(1) genetic predisposition, (2) reinforcement, (3) skills acquisition, and (4) modeling” (p. 129). Daly and Stafford contend that while the characteristics of genetic predisposition should be considered in the examination of anxiety-related behaviors, the more salient influences were reinforcements, skills acquisition, and modeling.

Ultimately Daly and Stafford (1984) concluded that the genesis of anxiety could not be satisfactorily attributed to a single explanation. Rather, the complex network of interrelationships among potential causes along with the presence and/or absence of rewards could impact the development of communication anxiety. Daly and Stafford argued that children with lower levels of communication skills did not receive adequate rewards for their efforts to communicate, which resulted in children not actively developing their communication skills. Thus, children can become trapped in a vicious circle: the level of reinforcement they receive for communication behavior is reduced and the children’s anxiety levels increase at a rapid pace.

Although the aforementioned causal explanations are useful in understanding the etiology of communication apprehension, they are not complete. Seligman (1975) offered an additional perspective in his work on learned helplessness. The concept of learned helplessness, “permits a causal explanation that can be applied to all types of CA” (McCroskey, 1982b, p. 157) by positing that inconsistent reinforcement prompts individuals to withdraw from situations involving communication.

Withdrawal is precipitated when individuals “develop expectations with regard to other people and with regard to situations” (McCroskey, 1982b, p. 157). When these

expectations are not valid, new sets of expectations need to be developed. Consequently, if one's expectations are rarely met, one may develop lack of confidence and become anxious. Moreover, "[w]hen expectations are produced that entail negative outcomes that are seen as difficult or impossible to avoid, fear is produced" (p. 157). In summary, lack of appropriate expectations and expectations that entail negative outcomes form the foundation of communication apprehension.

According to McCroskey (1997), "learned helplessness is produced by inconsistent receipt of reward and punishment" (p. 95). For example, a child could be rewarded one day for making conversation at the dinner table and punished another day for similar behavior. If the child cannot distinguish any difference between the two experiences, it is likely the result will be feeling helpless accompanied by strong feelings of anxiety. The experience of anxiety ultimately leads to high communication apprehension, accompanied by motivation to withdraw from the communication situation.

The opposite of learned helplessness is learned responsiveness (McCroskey 1982b, 1997). McCroskey (1997) reasoned that one learned to be "communicatively responsive" (p. 96) when one managed to discriminate among similar situations and developed "positive expectations for communication behaviors" (p. 96) regardless of situational context. Also because learned responsiveness was "not associated with fear or anxiety" (p. 96), it could be fostered both as a result of "unsystematic learning (p. 96), happening in one's natural environment and as a "direct result of formal communication instruction" (p. 96). Thus it would be reasonable to conclude that the strategies that

would be most effective in reducing students' communication apprehension should fit both the goals of classroom instruction as well as resonate with the way students function outside the classroom environment.

While the exact cause of CA may never be known, McCroskey, Andersen, Richmond, & Wheelless (1981) suggest that home environmental factors such as the amount of family talk and parent-child interaction styles predict children's communication behavior. In addition to the home environment, McCroskey, Andersen, Richmond, & Wheelless (1981) acknowledge that the school environment also may cause problems related to communication anxiety. The basic theories about why people experience fear or anxiety about communication are placed into three categories: (1) excessive activations; (2) inappropriate cognitive processing; and (3) inadequate communication skills (Richmond & McCroskey, 1995).

When most people recall a time when they were required to speak, sing, play a game or otherwise perform in front of people, the memory of a fast heartbeat, palms sweating, and maybe even a headache or queasy stomach also could be recalled as physiological responses that accompanied the performance. All of these physiological reactions are symptoms of your body preparing for an upcoming performance. This increase in physiological activation in the human body is altogether normal according to researchers (Richmond & McCroskey, 1995). In fact, such an increase in activation can often be essential to a quality performance (Richmond & McCroskey, 1995).

Increased activation differs from excessive activation. According to Richmond and McCroskey (1995) "excessive activation occurs when the normal increase in

activation in anticipation of a performance continues to a point beyond an individual's ability to control it" (1995, p. 94). This lack of control yields "physiological over-reaction to an upcoming performance" (Richmond & McCroskey, 1995, p. 94). Because the body responds physiologically, treatment for excessive activations are intended to reduce the body's reaction (Richmond & McCroskey, 1989).

The next theoretical perspective involves inappropriate cognitive processing, defined as "the feeling of being terrified rather than excited about communication" (Richmond & McCroskey, 1995. 94). Research indicates many people who are highly aroused physiologically do not report being apprehensive about upcoming communication situations (or performances) while others with similar high arousal report extreme apprehension. Additionally, people with much lower levels of reported physiological arousal also report high levels or apprehension while others similarly aroused do not (Richmond & McCroskey, 1995).

Researchers contend this cause is related to how individuals think of communication and how they process the speaking situation. This view sees the person who reports experiencing high apprehension as simply processing the available information inappropriately (Richmond & McCroskey, 1995). Additional research has revealed that the "cognitive processing a person does can impact physical health, attitudes, outlook on things, and even mental health" (Richmond & McCroskey, 1995, p. 95). This suggests a relationship between people's cognitive processing and coping skills in tense or conflict-like situations. Some people can cognitively process information to their advantage and others cannot (Richmond & McCroskey, 1995). Since individuals

have anxiety because they don't think they can communicate successfully, treatment methods include therapy to change irrational thoughts about communication (McCroskey & Richmond, 1989).

The final potential explanation for anxiety is inadequate communication skills. This is one of the oldest and most persistent views about why people are apprehensive about communication. This is the idea that people are fearful and anxious about communication because they do not know how to communicate effectively. Some behaviors suggested by this theory include poor eye contact, stuttering, and excessive nonfluencies when attempting to communicate. This explanation generally has not been found to stand alone, but rather is combined with an individual thinking his/her communication skills are deficient, which causes the apprehension (McCroskey & Richmond, 1989). The skills-method approach that seems to be most effective in helping people is the method known as "rhetoritherapy," developed by Phillips (1977). "This method unlike other skills approaches includes a strong component of cognitive restructuring in addition to training involving specific skills" (Richmond & McCroskey, 1995, p 96).

CHAPTER THREE: METHODOLOGY

The purpose of this chapter was to describe the methodology and statistical procedures used to determine the impact of communication apprehension on reading comprehension at the sixth, seventh and eighth grade levels. Subsequent sections describe the statement of the problem, recount the research questions and hypotheses, describe the setting of the study, the research participants, the methods used for data collection, profile the instrument used, and data analysis.

Purpose of the Study

The effects of communication apprehension appear to be harmful- even debilitating- across a wide range of situations including academic learning and language acquisition. Significant questions remain the incidence and impact of communication apprehension on sixth, seventh, and eighth grade students. Questions also remain as to the role of family environment on language acquisition and the impact of language acquisition on communication apprehension and reading comprehension. The current investigation attempted to assess levels of communication apprehension in sixth, seventh, and eighth grade students and to determine the impact of family socio-economic status on reading comprehension. Finally it attempted to assess the effects of reading comprehension on communication apprehension.

Most research related to communication apprehension and learning has involved college age and adult subjects. To date little research has examined subjects younger than college-age and the impacts of communication apprehension. This study was an attempt to fill the age and grade levels gaps in determining if communication apprehension impacts reading comprehension in sixth, seventh, and eighth grade students. Additionally, the relationships between communication apprehension and ethnicity, socioeconomic status, and gender were also examined. For the purposes of the study, reading comprehension was measured using student scale scores on the Florida Comprehensive Assessment Test (FCAT). Socioeconomic status was measured using the eligibility to receive free and/or reduced lunch as an indicator.

Research Questions and Hypotheses

This study examined the relationship between communication apprehension and reading comprehension. The relationships between socioeconomic status, as indicated by students' free and reduced lunch status, ethnicity, and gender and communication apprehension were also examined. Specifically the study determined if greater communication apprehension lower reading comprehension scores. The study was guided by the following research questions:

1. What percentage of sixth, seventh, and eighth grade students has communication apprehension?

2. What differences, if any, exist in FCAT Reading test performance among sixth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?
3. What differences, if any, exist in FCAT Reading test performance among seventh grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?
4. What differences, if any, exist in FCAT Reading test performance among eighth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?
5. To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among sixth grade students?
6. To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among seventh grade students?
7. To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among eighth grade students?

The following hypotheses were tested:

1. The rate of sixth, seventh, and eighth grade students with communication apprehension is equal to the research-determined average of 20%.
2. There is a difference in FCAT Reading test performance among sixth grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.
3. There is a difference in FCAT Reading test performance among seventh grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.
4. There is a difference in FCAT Reading test performance among eighth grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.
5. The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among sixth grade students.
6. The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among seventh grade students.

7. The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among eighth grade students.

Setting

The research was conducted with a sample of Brevard Public School students, in Brevard county Florida. Students ranged from grades six through eight and were enrolled at Cambridge Elementary, Mila Elementary, Saturn Elementary, Clearlake Middle School, and L.B. Johnson Middle School.

Methods

Data Collection

Approval to conduct the study with human subjects was obtained from the University of Central Florida's Institutional Review Board (IRB). The Director of Accountability, Testing, and Evaluation was contacted via letter that outlined the study and requested permission to conduct the study in Brevard Public Schools (Appendix A). Once permission was obtained from Brevard Public Schools, a letter from the researcher was sent to elementary and middle school principals (Appendix B). The letter detailed the

study and included a response postcard with postage (Appendix C). A personalized letter was sent to each principal to encourage a higher response rate (Dillman, 2000).

Principals at schools willing to participate in the study were asked to designate one staff member from the school as the contact person for their school. The contact person handled all the materials for their school. The designated contact person was directed to distribute a copy of the parental consent form (Appendix D) to all students. Principals were given the opportunity to choose the classes that the consent forms were distributed to students.

Parental consent information informed parents of the nature of the study and assured the result of their child's survey would be kept confidential. They were also informed that all data collected would be reported as group data eliminating the possibility of individual identification. Parents were informed of their option to withdraw their child from the study at any time without penalty. Directions on the letter for parents asked that parents return the consent form to their child's teacher by a specific date.

All designated school contacts were provided with a check off sheet for distribution of materials to increase the reliability of the surveys. The person who administered the survey to students was directed to read the passage below and had students follow along with them as the following statement from the child assent form (Appendix E) was read aloud to students:

Please read this explanation carefully, and ASK any QUESTIONS before signing. You are being asked to participate in a research study. You will be asked to complete a brief questionnaire about your communication experiences. Your responses will be kept completely confidential, which means that your name will be separated from your answers and will not be shared with anyone else. No one but me, Tami Davis, and my professor will see your responses, so please try to answer honestly. The information will provide valuable knowledge about young people in general and your private, individual information will not be published. If you become uncomfortable at any time, please tell me immediately. Your participation in this project is completely voluntary, and YOU MAY STOP AT ANY TIME. I volunteer to take part in this research study and know that I can quit at any time I want to.

After reading the assent form, the person administering the survey was directed to ask if any students wish not to participate. Those who agreed to participate were then asked to sign and date the assent form. Students were then provided a copy of the survey instrument. All completed surveys and assent forms were then returned to the designated school contact person.

The following information regarding each participant in the study was obtained via district records: gender, ethnicity and socioeconomic status (using free or reduced lunch status as the observed variable).

Instrumentation

Communication apprehension was measured with the Personal Report of Communication Apprehension (PRCA-24) (Appendix F). The PRCA-24 is comprised of twenty-four statements, such as: “Generally, I am comfortable while participating in group discussions and, ordinarily, I am very calm and relaxed in conversations.” Subjects

responded to the items on the scale using a five point Likert-type format where 1= strongly agree and 5 = strongly disagree. The PRCA-24 included six items for each of the four communication contexts and measures self-reported trait communication apprehension. The PRCA-24 provided an overall or across communication- contexts score, as well as subscores for all four specific communication contexts: group discussions, meetings, interpersonal conversations, and public speaking. Additionally, the overall PRCA-24 score has “little dependence on any of the specific contexts included in the measure” (McCroskey, Beatty, Kearney, & Plax, 1985, p.64).

Overall scores can range from 24 to 120. Norms from extensive research showed a mean of 65 and a standard deviation of 15 (McCroskey, 1982). High communication apprehension was operationalized as scores that fall one standard deviation or more above the mean, 80 or above, while low communication apprehension was operationalized as scores that fall one standard deviation or more below the mean, 50 or lower. Moderate communication apprehension was operationalized as scores that fall within one standard deviation of the mean, between 50-80 (McCroskey, 1982; McCroskey, 1984).

Scores for each of the four communication contexts can range from 6 to 30. A score above 18 for any context “indicates some degree of apprehension” (Richmond & McCroskey, 1995, p.94). According to Richmond and McCroskey (1995), the norm means and standard deviations for the communication contexts on the PRCA-24 are:

Group	Mean= 15.4	SD= 4.8
Meeting	Mean= 16.4	SD= 4.8
Dyad	Mean= 14.5	SD= 4.2
Public	Mean= 19.3	SD= 5.1

The PRCA-24 is the third significant revision of the instrument. Instrument developer McCroskey (1985) has explicitly authorized the use and duplication of this instrument for “research and instructional purposes without additional authorization of the copyright holder” (Appendix G). This newest version of the PRCA-24 demonstrates high construct and predictive validity (McCroskey, 1978), high cross-situational consistency (McCroskey & Beatty, 1984; McCroskey & Richmond, 1982) and high content validity (McCroskey, Beatty, Kearney & Plax, 1985).

The PRCA-24 has consistently shown high reliability and validity for more than two decades (McCroskey, 1978; McCroskey, Beatty, Kearney & Plax, 1985; Powers & Smythe, 1980). Reliability for the PRCA-24 is usually above .90 and the instrument has been found to have excellent content validity as well (McCroskey, 1984; McCroskey, Beatty, Kearney & Plax, 1985). According to McCroskey, Beatty, Kerney, and Plax (1985), the PRCA-24, “has evolved as the dominant instrument employed by both researchers and practitioners for measuring trait-like communication apprehension” (p.165).

Archival Performance and Demographic Data

Reading comprehension was evaluated by using archival performance data. This data included the subject's developmental score on the Reading portion of the Florida Comprehensive Assessment Test (FCAT). The FCAT is currently used to measure the levels of students' knowledge and skill in reading and mathematics in grades 3 through 10. The FCAT contains criterion referenced test components that measure selected benchmarks in reading comprehension and mathematics. There are two types of reported FCAT scale scores: (1) scale scores for each grade level (100-500 points), and (2) developmental scale scores (DSS) that span each of the grade levels tested (0-3000 points). The FCAT also reports five levels of achievement ranging from level 1, the lowest achievement level to level 5, the highest achievement level (FDOE, 2007).

Developmental scale scores were first introduced in 2002 to provide a means to track student progress across grade levels and over time. The developmental scale scores also are used to indicate students "growth" and "learning gains," according to the Assessment & Accountability Briefing Book published by Florida Department of Education (FDOE) (2007, p.18). By comparing student scores in the same FCAT subject for two or more years with the associated mean scores, or by comparing achievement levels, both educators and parents can identify whether student performance improved, declined, or remained constant (FDOE, 2007).

FCAT measures the content specified within the content focus, standards, and benchmarks of the State Standards. "Content Focus" is a term that defines the specific

content measured by each 2011 FCAT 2.0 test item. “Standards” are the general statements of expected student achievement within a content focus area and are the same for all grade levels. “Benchmarks” are the specific objective statements of expected student achievement under each standard. FCAT Reading NGSSS results are also reported in “content focus areas.” The five content focus areas reported include: (1) vocabulary; (2) reading application, (3) literary analysis; (4) reference and informational text; and (5) research process (FDOE, 2011).

FDOE reports that there are four kinds of reliability coefficients that can be utilized in relation to the FCAT: (1) internal consistency; (2) test-retest reliability; (3) inter-rater reliability; and (4) reliability of classifications. The most common measure of reliability for FCAT is the internal-consistency reliability coefficient. Internal consistency reliabilities for the FCAT are reported using Cronbach’s Alpha and Item Response Theory (IRT) marginal reliabilities. Both methods are used to estimate the reliability of test scores from a single test (FDOE, 2007).

“FCAT is intended to measure a student’s achievement of the skills and content described in the Sunshine State Standards. Validity cannot be directly observed; therefore we depend on various pieces of evidence that indicate the presence of absence of validity,” according to FDOE (2007, p. 40). To ensure high content validity the Florida Department of Education states that all FCAT questions are developed using “credible and trustworthy methods” (2007, p. 40). Criterion-related validity for the FCAT can be demonstrated by the correlation of scores on the criterion referenced portion of the FCAT with scores on the Stanford 9. FDOE does acknowledge however, that the validity

coefficients of the Stanford 9 and the FCAT do not indicate that the tests provide exactly the same information. The norm-referenced version of the FCAT, used until 2005, did indicate concurrent validity (FDOE, 20007, p. 41).

Data Analysis

Once surveys were returned, each middle school was assigned a proprietary code that allowed the researcher to anonymously compare the data by school. Additionally, student identification numbers were used to pair the surveys to the archived FCAT data for analysis. The data was analyzed using Statistical Package for the Social Sciences version 16 for Windows.

A one-sample t-test for proportions was used to analyze Research Question 1, which addressed the percentage of middle school students with communication apprehension (CA). Based upon the collected survey information, the researcher classified each student as either meeting or not meeting the criterion for communication apprehension. Once students were classified as such, a one-sample t-test for proportions compared the proportion of students in the sample population as a whole who met the criterion for having communication apprehension to the percentage of students determined by extensive previous research to have communication apprehension (McCroskey, 1970, 1976). The test indicated whether the sample proportion significantly deviated from the previously determined expected proportion. Additionally, descriptive

statistics yielded this proportional value for any selected subgroups of interest in order to expand the depth of the descriptive statistics.

A one-way ANCOVA was used to analyze Research Questions 2 through 4, which addressed differences in FCAT Reading performance for each grade (sixth through eighth) between students with communication apprehension and those without, while controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender. Within each research question, a one-way ANCOVA compared the developmental scale scores (DSS) of students in the given grade level between the two groups of those with and without communication apprehension. The binary covariates of ethnicity (minority or non-minority), free or reduced lunch status (receiving or not receiving free or reduced lunch services), and gender (male or female) were entered into the ANCOVA model and remained as long as all assumptions were met. For the ethnicity variable, minority was defined as non-white students, while non-minority was defined as white students.

Additionally, the differences in DSS score between students with low CA and those with high CA were examined with a one-way ANCOVA. With this method, the differences in DSS score between students with low CA and those with high CA could be detected, while controlling for the factors of minority status, socioeconomic status, and gender. As in the original analysis, the dependent variable was DSS score (continuous), but unlike in the original analysis, the independent variable was either having low CA (score of under 50) or high CA (score of 80 or above), ignoring students with mid-range

CA scores. The same covariates of minority status, socioeconomic status, and gender, all binary, were retained.

Research Questions 5 through 7 examined the extent to which the demographic factors of ethnicity, free or reduced lunch status, and gender predicted the presence of communication apprehension among students for sixth through eighth grades, respectively. A hierarchical linear regression was built, where each independent variable was added individually to the model and the change in the strength of the model was measured to determine the predictive strength of the independent variables. The total scale score for the communication apprehension served as a dependent variable instead of a binary, yes/no indication of communication apprehension. Independent variables consisted of ethnicity (minority or non-minority), free or reduced lunch status (receiving or not receiving free or reduced lunch services), and gender (male or female). The independent variables were added to the model in individual blocks and the change in model significance and variance examined to determine each demographic factor's predictive strength on the variable of communication apprehension while controlling for the remaining demographic factors.

CHAPTER FOUR: ANALYSIS OF DATA

This study attempted to fill an age and grade level gap in determining whether communication apprehension impacts reading comprehension in sixth, seventh, and eighth grade students. Additionally, the relationships between communication apprehension and ethnicity, socioeconomic status, and gender were also examined. For the purposes of the study, reading comprehension was measured using student developmental scale scores on the Florida Comprehensive Assessment Test (FCAT). Socioeconomic status was measured using the eligibility to receive free and/or reduced lunch as an indicator.

Once PRCAs were returned, each school was assigned a proprietary code that allowed the researcher to anonymously compare the data by school. Student identification numbers were used to pair the PRCA to the archived FCAT data for analysis. The data was analyzed using Statistical Package for the Social Sciences version 16 for Windows. A one-sample t-test for proportions was used to analyze Research Question 1, which addressed the percentage of middle school students with communication apprehension. The researcher classified each student as either meeting or not meeting the criterion for communication apprehension (CA). For purposes of the study, “having CA” was defined as being categorized as scoring within the moderate (55-79) or high (80-120) ranges of the PRCA. Scoring in the low (24-54) range classified a student as “not having CA”. This definition was applied throughout the rest of the analysis wherever a binary (yes/no) definition of CA was needed.

Once students were classified as such, a one-sample t-test for proportions compared the proportion of students in the sample population as a whole who met the criterion for having communication apprehension to the percentage of students determined by extensive previous research to have communication apprehension (McCroskey, 1970, 1976). The test was selected to indicate whether the sample proportion significantly deviated from the previously determined expected proportion. A one-way ANCOVA was used to analyze Research Questions 2 through 4, which addressed differences in FCAT Reading performance for each grade (sixth through eighth) between students with communication apprehension and those without, while controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender. Within each research question, a one-way ANCOVA compared the developmental scale scores (DSS) of students in the given grade level between the two groups of those with and without communication apprehension issues. The binary covariates of ethnicity (minority or non-minority), free or reduced lunch status (receiving or not receiving free or reduced lunch services), and gender (male or female) were entered into the ANCOVA model and remained as long as all assumptions were met. For the ethnicity variable, minority was defined as non-White students, while non-minority was defined as White students.

Additionally, the differences in DSS score between students with low CA and those with high CA were examined with a one-way ANCOVA. With this method, the differences in DSS score between students with low CA and those with high CA could be

detected, while controlling for the factors of minority status, socioeconomic status, and gender.

As in the original analysis, the dependent variable was DSS score (continuous), but unlike in the original analysis, the independent variable was either having low CA (score of under 50) or high CA (score of 80 or above), ignoring students with mid-range CA scores. The same covariates of minority status, socioeconomic status, and gender, all binary, were retained.

Research Questions 5 through 7 examined the extent to which the demographic factors of ethnicity, free or reduced lunch status, and gender could predict the presence of communication apprehension among students for sixth through eighth grades, respectively. A hierarchical linear regression was built, where each independent variable was added individually to the model and the change in the strength of the model was measured to determine the predictive strength of the independent variables. The total scale score for the communication apprehension served as a dependent variable instead of a binary, yes/no indication of communication apprehension. Independent variables consisted of ethnicity (minority or non-minority), free or reduced lunch status (receiving or not receiving free or reduced lunch services), and gender (male or female). The independent variables were added to the model in individual blocks and the change in model significance and variance was examined to determine each demographic factor's predictive strength on the variable of communication apprehension while controlling for the remaining demographic factors.

Findings

Research Questions

Research Question 1

What percentage of sixth, seventh, and eighth grade students has communication apprehension?

This research question was addressed with a combination of descriptive statistics and an inferential test to determine if the percentage of students with communication apprehension in this sample was significantly different than a research-determined average. For purposes of the study, “having CA” was defined as being categorized as scoring within the moderate (55-79), or high (80-120), ranges of the PRCA. Scoring in the low (24-54) range classified a student as “not having communication apprehension”. This definition applied throughout the rest of the analysis wherever a binary definition of CA was needed. Additionally, all inferential tests were performed at the $\alpha = .05$ level. Of the $N = 313$ students in the study a total of 210 (67.1%) of the students had communication apprehension in the moderate to high range. The remaining 103 (32.9%) did not. This value (67.1%) was tested in a one-sample Z-test for proportions against the hypothesized, research-based CA pervasiveness value of 20%. The null hypothesis for this test was that the two proportions were equal; the alternative was that the two proportions were unequal.

The test, $Z = 17.71$, $p < .001$, indicated that the sample's proportion of students with CA was significantly different, in this case, higher, than the hypothesized value. Students in this study had an overall greater level of communication apprehension than expected.

Three different demographic variables—gender, socioeconomic status, and minority status—as well as grade- sixth, seventh, or eighth, were used throughout the rest of the study. Therefore, in answering the current research question it was of some interest to examine the presence of communication apprehension among those different groupings of students. Table 1 addresses communication apprehension presence by grade. Levels rose slightly as grade level increased. Table 2 addresses communication apprehension by gender. Females had a higher presence of communication apprehension than males. Table 3 addresses communication apprehension by socioeconomic status. Those receiving free or reduced lunch had slightly higher levels of communication apprehension presence than those with higher socioeconomic statuses. Table 4 addresses communication apprehension by minority status. Non-minority students had a higher presence of communication apprehension than minority students

Table 1

Frequencies of Communication Apprehension (CA) by Grade (N = 313)

CA Status	<u>Grade 6 (n = 72)</u>		<u>Grade 7 (n = 103)</u>		<u>Grade 8 (n = 138)</u>	
	#	%	#	%	#	%
No CA Presence	27	37.5	33	32.0	43	31.2
CA Presence	45	62.5	70	68.0	95	68.8

Table 2

Frequencies of Communication Apprehension (CA) by Gender (N = 313)

CA Status	<u>Female (n = 176)</u>		<u>Male (n = 137)</u>	
	#	%	#	%
No CA Presence	3	30.1	50	36.5
CA Presence	23	69.9	87	63.5

Table 3

Frequencies of Communication Apprehension (CA) by Socioeconomic Status (N = 313)

CA Status	<u>Not Free/Reduced (n = 116)</u>		<u>Free/Reduced (n = 197)</u>	
	#	%	#	%
No CA Presence	39	33.6	54	32.5
CA Presence	77	66.4	133	67.5

Table 4

Frequencies of Communication Apprehension (CA) by Minority Status (N = 313)

CA Status	<u>Not Minority (n = 202)</u>		<u>Minority (n = 111)</u>	
	#	%	#	%
No CA Presence	59	29.7	43	38.7
CA Presence	142	70.3	68	61.3

Research Question 2

What differences, if any, exist in FCAT Reading test performance among sixth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?

This analysis was addressed with a one-way ANCOVA. With this method, the existence of differences in DSS score between students who exhibited communication apprehension and those who did not could be detected, while controlling for the factors of minority status, socioeconomic status, and gender. In this analysis the dependent variable was DSS score, the independent variable was whether or not a student exhibited communication apprehension, and the covariates were minority status, socioeconomic status, and gender.

There was no significant difference, $F(1, 67) = 1.95, p = .17$, in DSS performance between students who exhibited CA and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. Results are located in Table 5. The partial- η^2 value of .028 indicated that approximately 2.8% of the variability in DSS score could be accounted for by communication apprehension. This result indicated that despite the lack of statistical significance indicated in the above point, there was a small level of practical significance.

Although the differences were not significant, it was of some interest to note that when controlling for the various demographics, those who did not exhibit communication apprehension performed at a higher level ($M = 1,736.03$, $SE = 41.81$) than those who did exhibit communication apprehension ($M = 1,662.05$, $SE = 32.33$). Results are located in Table 6.

Also of interest, the covariates for gender, $F(1, 67) = 0.46$, $p = .50$ and socioeconomic status, $F(1, 67) = 2.82$, $p = .10$ did not provide significant contributions to the model, but the minority status covariate, $F(1, 67) = 8.15$, $p = .006$, did significantly contribute. Minority status also provided a moderate degree of practical significance, $\text{partial-}\eta^2 = .11$. Although the differences were not significant, sixth grade students who did not have communication apprehension scored higher on the FCAT reading test than sixth grade students who had high communication apprehension.

Table 5

Analysis of Covariance Results, Communication Apprehension (CA) Effect on Reading Achievement, Grade 6 (N = 72)

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
Communication Apprehension	1	1.95	.03	.17
Gender	1	0.46	.01	.50
Socioeconomic Status	1	2.82	.04	.10
Minority Status	1	8.15**	.11	.006
<i>S</i> within-group error	67	(46,815)		

Note. Value enclosed in parentheses represents mean square error. *S* = subjects.

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

Table 6

Descriptive Statistics, Communication Apprehension (CA) Effect on Reading Achievement, Grade 6 (N = 72)

Status	<i>M</i>	<i>SE</i>	95% Confidence Interval	
			Lower	Upper
Non-CA (<i>n</i> = 27)	1,736.03	41.81	1,652.58	1,819.49
CA Present (<i>n</i> = 45)	1,662.05	32.33	1,597.51	1,726.59

Note. Covariates evaluated at Gender = 0.51, Socioeconomic Status = 0.72, and Minority = 0.47.

The existence of differences in DSS score between sixth grade students with low CA and those with high CA were also examined using a one-way ANCOVA. With this method, the existence of differences in DSS score between students with low CA and those with high CA could be detected, while controlling for the factors of minority status, socioeconomic status, and gender.

As in the original analysis, the dependent variable was DSS score (continuous), but unlike in the original analysis, the independent variable was either having low CA (score of under 50) or high CA (score of 80 or above), ignoring students with mid-range CA scores. The same covariates of minority status, socioeconomic status, and gender, all binary, were retained. Prior to testing, assumptions were checked to ensure that this particular statistical analysis should proceed as planned.

While checking assumptions for this test, it was quickly discovered that there was an issue of extremely small group size. In the original test, there were 72 students in Grade 6. Of the 45 students exhibiting moderate to high level CA, nearly all had moderate range scores. Therefore, when this current test was about to be run, there were 20 students identified as having low CA and only three students identified as having high CA. Even when taking out covariates, a group size of three was simply too small for running inferential statistical analysis. Therefore, the only conclusion that could be reached for Grade 6 was few students sampled in this grade had high communication apprehension.

Research Question 3

What differences, if any, exist in FCAT Reading test performance among seventh grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?

This analysis was addressed with a one-way ANCOVA. With this method, the existence of differences in DSS score between students who exhibited communication apprehension and those who did not could be detected, while controlling for the factors of minority status, socioeconomic status, and gender.

There was no significant difference, $F(1, 98) = 3.10, p = .08$, in DSS performance between students who exhibited communication apprehension and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. Results are located in Table 7. The partial- η^2 value of .031 indicates that approximately 3.1% of the variability in DSS score could be accounted for by communication apprehension. This result indicated that despite the lack of statistical significance indicated in the above point, there was a small level of practical significance. Although the differences were not significant, it was of some interest to note that when controlling for the various demographics, those who did not exhibit communication apprehension performed at a higher level ($M = 1,852.66, SE = 55.85$) than those who did exhibit CA ($M = 1,732.99, SE = 38.22$). Results are located in Table 8.

Also of interest the covariates for gender, $F(1, 98) = 1.15, p = .29$ and socioeconomic status, $F(1, 98) = 0.82, p = .37$, did not provide significant contributions to the model, but the minority status covariate, $F(1, 98) = 4.64, p = .03$, did significantly contribute. The minority status also provided a small degree of practical significance, $\text{partial-}\eta^2 = .05$

While the results were not significant, seventh grade students who did not have communication apprehension performed at a higher level on the FCAT Reading test. Among seventh grade subjects, 3.1% of the difference in scores was accounted for by communication apprehension. Minority status explained 5% of the difference in FCAT reading test scores.

Table 7

Analysis of Covariance Results, Communication Apprehension (CA) Effect on Reading Achievement, Grade 7 (N = 103)

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
Communication Apprehension	1	3.10	.03	.08
Gender	1	1.15	.01	.29
Socioeconomic Status	1	0.82	.01	.37
Minority Status	1	4.63*	.05	.03
<i>S</i> within-group error	98	(101,615)		

Note. Value enclosed in parentheses represents mean square error. *S* = subjects.

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

Table 8

Descriptive Statistics, Communication Apprehension (CA) Effect on Reading Achievement, Grade 7 (N = 103)

Status	<i>M</i>	<i>SE</i>	95% Confidence Interval	
			Lower	Upper
Non-CA (<i>n</i> = 33)	1,852.66	55.85	1,741.83	1,963.49
CA Present (<i>n</i> = 70)	1,732.99	38.22	1,657.15	1,808.83

Note. Covariates evaluated at Gender = 0.43, Socioeconomic Status = 0.56, and Minority = 0.33.

The differences in DSS score between seventh grade students with low CA and those with high CA were examined using a one-way ANCOVA. As in the original analysis, the dependent variable was DSS score (continuous), but unlike in the original analysis, the independent variable was either having low CA (score of under 50) or high CA (score of 80 or above), ignoring students with mid-range CA scores. The same covariates of minority status, socioeconomic status, and gender, all binary, were retained. Prior to testing, assumptions were checked to ensure that this particular statistical analysis should proceed as planned.

There was no significant difference, $F(1, 35) = 3.92$, $p = .06$, in DSS performance between seventh grade students who exhibited low CA and those who exhibited high CA, when controlling for the demographic factors of socioeconomic and minority statuses. Results are located in Table 9.

The partial- η^2 value of .10 indicated that approximately 10.1% of the variability in DSS score could be accounted for by CA level. This result indicated that despite the lack of statistical significance indicated in the above point, there was a moderate level of practical significance.

Although the differences were not significant, it was of some interest to note that when controlling for the various demographics, those with low CA performed at a higher level ($M = 1,882$, $SE = 72.12$) than those with high CA ($M = 1,657.11$, $SE = 86.78$). Results are located in Table 10.

Neither the covariate for socioeconomic status, $F(1, 35) = 2.36$, $p = .13$, nor the covariate for minority status, $F(1, 35) = 2.24$, $p = .14$, significantly contributed. However, both covariates provided a small degree of practical significance, partial- $\eta^2 = .06$ for each of the two covariates.

While the difference was not statistically significant, seventh graders with low communication apprehension performed at a higher level on the FCAT Reading test. When comparing seventh grade students with high communication apprehension to seventh grade students with low communication apprehension 10.1% of the variability in FCAT Reading scores was accounted for by communication apprehension. Although the differences were not significant, socioeconomic and minority status explained 6% of the difference in FCAT Reading test scores.

Table 9

Analysis of Covariance Results, Low-High Communication Apprehension (CA) Effect on Reading Achievement, Grade 7 (N = 39)

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
Low-High CA	1	3.92	.10	.06
Socioeconomic Status	1	2.36	.06	.13
Minority Status	1	2.24	.06	.14
<i>S</i> within-group error	35	(117,653)		

Note. Value enclosed in parentheses represents mean square error. *S* = subjects.

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

Table 10

Descriptive Statistics, Low-High Communication Apprehension (CA) Effect on Reading Achievement, Grade 7 (N = 39)

Status	<i>M</i>	<i>SE</i>	95% Confidence Interval	
			Lower	Upper
Low CA (<i>n</i> = 23)	1,882.71	72.12	1,736.29	2,029.12
High CA (<i>n</i> = 16)	1,657.11	86.78	1,480.93	1,833.29

Note. Covariates evaluated at Socioeconomic Status = 0.64 and Minority = 0.33.

Research Question 4

What differences, if any, exist in FCAT Reading test performance among eighth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?

This analysis was addressed with a one-way ANCOVA. With this method, the existence of differences in DSS score between students who exhibited communication apprehension and those who did not could be detected, while controlling for the factors of minority status, socioeconomic status, and gender. There was no significant difference, $F(1, 136) = 0.01, p = .92$, in DSS performance between students who exhibited communication apprehension and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status.

There was a significant difference, $F(1, 133) = 4.75, p = .03$, in DSS performance between students who exhibited communication apprehension and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. Results are located in Table 11. The partial- η^2 value of .034 indicated that approximately 3.4% of the variability in DSS score could be accounted for by communication apprehension. This result indicated that in addition to the statistical significance indicated in the above point, there was a small level of practical significance. When controlling for the various demographics, those who did not exhibit communication apprehension performed at a higher level ($M = 1,926.41, SE = 43.50$)

than those who did exhibit communication apprehension ($M = 1,811.91$, $SE = 29.17$). Results are located in Table 12.

The socioeconomic status covariate provided a moderate degree of practical significance, $\text{partial-}\eta^2 = .07$. $F(1, 133) = 9.93$, $p = .002$, and did significantly contribute to the model. The covariates for gender, $F(1, 133) = 0.11$, $p = .74$, and minority status, $F(1, 133) = 0.84$, $p = .36$, did not provide significant contributions to the model.

Among eighth graders in the study, the results were significant. Students with lower communication apprehension performed at a higher level on the FCAT Reading test. Socioeconomic status explained 7% of the difference in FCAT Reading scores.

Table 11

Analysis of Covariance Results, Communication Apprehension (CA) Effect on Reading Achievement, Grade 7 ($N = 138$)

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
Communication Apprehension	1	4.75*	.03	.03
Gender	1	0.11	.01	.74
Socioeconomic Status	1	9.93**	.07	.002
Minority Status	1	0.84	.01	.36
<i>S</i> within-group error	133	(80,412)		

Note. Value enclosed in parentheses represents mean square error. *S* = subjects.

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

Table 12

Descriptive Statistics, Communication Apprehension (CA) Effect on Reading Achievement, Grade 8 (N = 138)

Status	<i>M</i>	<i>SE</i>	95% Confidence Interval	
			Lower	Upper
Non-CA (<i>n</i> = 43)	1,926.41	43.50	1,840.38	2,012.45
CA Present (<i>n</i> = 95)	1,811.91	29.17	1,754.21	1,869.61

Note. Covariates evaluated at Gender = 0.41, Socioeconomic Status = 0.63, and Minority = 0.31.

The existence of differences in DSS score between eighth grade students with low CA and those with high CA were examined using a one-way ANCOVA. As in the original analysis, the dependent variable was DSS score (continuous), but unlike in the original analysis, the independent variable was either having low CA (score of under 50) or high CA (score of 80 or above), ignoring students with mid-range CA scores. The same covariates of minority status, socioeconomic status, and gender, all binary, were retained. Prior to testing, assumptions were checked to ensure that this particular statistical analysis should proceed as planned.

There was no significant difference, $F(1, 44) = 0.17, p = .68$, in DSS performance between eighth grade students who exhibited low CA and those who exhibited high CA, when controlling for the demographic factors of gender and minority status. Results are located in Table 13.

The partial- η^2 value of .004 indicated that approximately 0.4% of the variability in DSS score could be accounted for by CA level. This result indicated that there is no level of practical significance explained by this relationship. Although the differences were not significant, it was of some interest to note that when controlling for the various demographics, those with low CA performed at only a slightly higher level ($M = 1,937$, $SE = 48.36$) than those with high CA ($M = 1,905.59$, $SE = 57.56$). Results are located in Table 14. Neither the covariate for gender, $F(1, 44) = 0.21$, $p = 0.65$, nor the covariate for minority status, $F(1, 44) = 1.93$, $p = .17$, significantly contributed. However, the minority covariate provided a small degree of practical significance, $\text{partial-}\eta^2 = .042$

When eighth graders with high communication apprehension were compared to eighth graders with low communication apprehension, and scores of subjects with moderate levels of CA were ignored, students with low CA performed at a slightly higher level on the FCAT reading test. When comparing the high CA students to low CA students, minority status accounted for 4.2% of the difference in FCAT Reading scores.

Table 13

Analysis of Covariance Results, Low-High Communication Apprehension (CA) Effect on Reading Achievement, Grade 8 (N = 48)

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
Low-High CA	1	0.17	.01	.69
Gender	1	0.21	.01	.65
Minority Status	1	1.93	.04	.17
<i>S</i> within-group error	44	(63.511)		

Note. Value enclosed in parentheses represents mean square error. *S* = subjects.

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

Table 14

Descriptive Statistics, Low-High Communication Apprehension (CA) Effect on Reading Achievement, Grade 8 (N = 48)

Status	<i>M</i>	<i>SE</i>	95% Confidence Interval	
			Lower	Upper
Low CA (<i>n</i> = 28)	1,937.04	48.36	1,839.58	2,034.50
High CA (<i>n</i> = 20)	1,905.59	57.56	1,789.58	2,021.60

Note. Covariates evaluated at Gender = 0.33 and Minority = 0.29.

Research Question 5

To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among sixth grade students?

This research question was addressed with a hierarchical linear regression model. This form of multiple linear regression model helps focus on the effect of each independent variable (demographics) as it is added to the model, determining whether it makes an effect on predicting the dependent variable (overall communication apprehension score).

In this model, overall communication apprehension score was the dependent variable. Minority status, socioeconomic status, and gender all served as independent variables. The independent variables were inserted into the model individually. None of these predictors were statistically significant. First, Block 1: Minority status- the model was not significant at this point: $F(1, 70) = 0.10, p = .75$. No variation in total communication apprehension score was explained: $R^2 = .001$ (0.1% variability explained). Second, Block 2: Socioeconomic status- controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 69) = 0.09, p = .77$. No additional variation in total communication apprehension score was explained: $\Delta R^2 = .001$ (0.1% additional variability explained). Third, Block 3: Gender- controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 68) = 2.24, p = .14$. A small additional amount of variation in total communication apprehension score was explained:

$\Delta R^2 = .032$ (3.2% additional variability explained). Lastly, in the final model, Total CA Score = $60.79 - 2.24*(\text{Minority}) + 0.39*(\text{Socioeconomic}) - 5.42*(\text{Gender})$. This model can be interpreted by plugging in a value of 0 or 1 in each of the parenthetical references to represent hypothetical situations. For example: average total CA score as predicted by the model for a student who is not of a minority (0), has low socioeconomic status (1), and is male (1) would be the following: Total CA Score = $60.79 - 2.24*(0) + 0.39*(1) + 5.42*(1) = 66.60$. Likewise, non-minority is 1, higher socioeconomic status is 0, and female is 0. The entire model summary is represented in Table 15. Results indicated that among sixth grade subjects in the study, minority status, socioeconomic status, and gender were not factors that could predict communication apprehension.

Table 15

Summary of Hierarchical Regression Analysis for Demographic Variables Predicting Communication Apprehension, Grade 6 (N = 72)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Constant	57.76	2.43		57.00	3.54		60.79	4.33	
Minority	-1.12	3.53	-.04	-1.35	3.64	-.05	-2.24	3.66	-.08
Economic				1.20	4.06	.04	0.39	4.06	.01
Gender							-5.42	3.62	-.18
R^2		.001			.003			.03	
Δ in <i>F</i>		0.10			0.09			2.24	

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

Research Question 6

To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among seventh grade students?

This research question was addressed with a hierarchical linear regression model. In this model, overall communication apprehension score was the dependent variable. Minority status, socioeconomic status, and gender all served as independent variables.

The independent variables were inserted into the model individually. First, Block 1: Minority status- the model was not significant at this point: $F(1, 101) = 0.03$, $p = .86$. No variation in total CA score was explained: $R^2 = .001$ (0.1% variability explained). Second, Block 2: Socioeconomic status- when controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 100) = 0.78$, $p = .38$. No additional variation in total CA score was explained: $\Delta R^2 = .008$ (0.8% additional variability explained). Next, Block 3: Gender- when controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 99) = 1.53$, $p = .22$. A small additional amount of variation in total CA score was explained: $\Delta R^2 = .015$ (1.5% additional variability explained). Lastly, the Final model- Total CA Score = $63.19 - 0.25*(\text{Minority}) + 3.48*(\text{Socioeconomic}) - 4.43*(\text{Gender})$. The entire model summary is represented in Table 16. Results indicated that among seventh grade subjects in the study, minority status, socioeconomic status, and gender were not factors that could predict communication apprehension.

Table 16

Summary of Hierarchical Regression Analysis for Demographic Variables Predicting Communication Apprehension, Grade 7 (N = 103)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Constant	62.96	2.16		61.45	2.75		63.19	3.08	
Minority	0.66	3.77	.02	-0.49	3.99	-.01	-0.25	3.98	-.01
Economic				3.34	3.78	.09	3.48	3.77	.10
Gender							-4.43	3.58	-.12
R^2		.001			.008			.02	
Δ in <i>F</i>		0.03			0.78			1.53	

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

Research Question 7

To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among eighth grade students?

This research question was addressed with a hierarchical linear regression model. In this model, overall communication apprehension score was the dependent variable. Minority status, socioeconomic status, and gender all served as independent variables. The independent variables were inserted into the model individually. First, Block 1: Minority status- Model was not significant at this point: $F(1, 136) = 0.44, p = .51$. No variation in total CA score was explained: $R^2 = .003$ (0.3% variability explained) Second, Block 2: Socioeconomic status- Controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 135) = 0.53, p = .47$. No additional variation in total CA score was explained: $\Delta R^2 = .004$ (0.4% additional variability explained). Next, Block 3: Gender- Controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 134) = 0.18, p = .68$. No additional variation in total CA score was explained: $\Delta R^2 = .001$ (0.1% additional variability explained). Lastly, Final model - Total CA Score = $66.53 - 2.35*(\text{Minority}) - 2.30*(\text{Socioeconomic}) - 1.36*(\text{Gender})$. Entire model summary is represented in Table 17. Results indicated that among eighth grade subjects in the study, minority status, socioeconomic status, and gender were not factors that could predict communication apprehension.

Table 17

Summary of Hierarchical Regression Analysis for Demographic Variables Predicting Communication Apprehension, Grade 8 (N = 138)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
Constant	64.48	1.86		65.92	2.71		66.53	3.09	
Minority	-2.21	3.34	-.06	-2.06	3.35	-.05	-2.35	3.44	-.06
Economic				-2.35	3.22	-.06	-2.30	3.23	-.06
Gender							-1.36	3.24	-.03
R^2		.003			.004			.001	
Δ in <i>F</i>		0.44			0.53			0.18	

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

Hypotheses

Hypothesis 1

The rate of middle school students with communication apprehension is equal to the research-determined average of 20%.

Of the N = 313 students in the study a total of 210 (67.1%) of the students had moderate to high communication apprehension. The remaining 103 (32.9%) did not. This value (67.1%) was tested in a one-sample Z-test for proportions against the hypothesized,

research-based communication apprehension pervasiveness value of 20%. The null hypothesis for this test was that the two proportions were equal; the alternative was that the two proportions were unequal.

The test, $Z = 17.71$, $p < .001$, indicated that the sample's proportion of students with CA was significantly different (in this case, higher) than the hypothesized value. Students in this study had an overall greater level of communication apprehension than expected.

Hypothesis 2

There is a difference in FCAT Reading test performance among sixth grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

There was no significant difference, $F(1, 67) = 1.95$, $p = .17$, in DSS performance between students who exhibited communication apprehension and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. Results are located in Table 5.

Although the differences were not significant, it was of some interest to note that when controlling for the various demographics, those who did not exhibit communication apprehension performed at a higher level ($M = 1,736.03$, $SE = 41.81$) than those who did

exhibit communication apprehension ($M = 1,662.05$, $SE = 32.33$). Results are located in Table 6.

Also of interest were covariates for gender, $F(1, 67) = 0.46$, $p = .50$ and socioeconomic status, $F(1, 67) = 2.82$, $p = .10$. While gender and socioeconomic status did not provide significant contributions to the model, the minority status covariate, $F(1, 67) = 8.15$, $p = .006$, did significantly contribute. The minority status also provided a moderate degree of practical significance, $\text{partial-}\eta^2 = .11$. Although the differences were not significant, sixth grade students who did not have communication apprehension scored higher on the FCAT reading test than sixth grade students who had high communication apprehension.

Hypothesis 3

There is a difference in FCAT Reading test performance among seventh grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

There was no significant difference, $F(1, 98) = 3.10$, $p = .08$, in DSS performance between students who exhibited communication apprehension and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. Results are located in Table 7.

Although the differences were not significant, it was of some interest to note that when controlling for the various demographics, those who did not exhibit communication apprehension performed at a higher level ($M = 1,852.66$, $SE = 55.85$) than those who did exhibit communication apprehension ($M = 1,732.99$, $SE = 38.22$). Results are located in Table 8.

Also of interest were covariates for gender, $F(1, 98) = 1.15$, $p = .29$ and socioeconomic status, $F(1, 98) = 0.82$, $p = .37$. While gender and socioeconomic status did not provide significant contributions to the model, the minority status covariate, $F(1, 98) = 4.64$, $p = .03$, did significantly contribute. The minority status also provided a small degree of practical significance, $\text{partial-}\eta^2 = .05$

While the results were not significant, seventh grade students who did not have communication apprehension performed at a higher level on the FCAT Reading test. Among seventh grade subjects, 3.1% of the difference in scores was accounted for by communication apprehension. Minority status explained 5% of the difference in FCAT reading test scores. Additionally, when comparing seventh grade students with high communication apprehension to seventh grade students with low communication apprehension and ignoring seventh graders with moderate communication apprehension, 10.1% of the difference in FCAT Reading scores was accounted for by communication apprehension. Although the differences were not significant, socioeconomic and minority status explained 6% of the difference in FCAT Reading test scores, when comparing high CA seventh graders to low CA seventh graders.

Hypothesis 4

There is a difference in FCAT Reading test performance among eighth grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

There was a significant difference, $F(1, 133) = 4.75, p = .03$, in DSS performance between students who exhibited communication apprehension and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. Results are located in Table 11.

When controlling for the various demographics, those who did not exhibit communication apprehension performed at a higher level ($M = 1,926.41, SE = 43.50$) than those who did exhibit communication apprehension ($M = 1,811.91, SE = 29.17$). Results are located in Table 12.

Also of interest were covariates for gender, $F(1, 133) = 0.11, p = .74$, and minority status, $F(1, 133) = 0.84, p = .36$. While gender and minority status did not provide significant contributions to the model, the socioeconomic status covariate, $F(1, 133) = 9.93, p = .002$, did significantly contribute. The socioeconomic status covariate also provided a moderate degree of practical significance, $\text{partial-}\eta^2 = .07$

Among eighth graders in the study, the results were significant. Students with lower communication apprehension performed at a higher level on the FCAT Reading test. Socioeconomic status explained 7% of the difference in FCAT Reading scores.

When eighth graders with high communication apprehension were compared to eighth graders with low communication apprehension, and scores of subjects with moderate levels of CA were ignored, students with low CA performed at a slightly higher level on the FCAT reading test. When comparing the high CA students to low CA students, minority status accounted for 4.2% of the difference in FCAT Reading scores.

Hypothesis 5

The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among sixth grade students.

For this hypothesis none of these predictors were statistically significant. A hierarchical linear regression model was used for analysis. This form of multiple linear regression model helped focus on the effect of each independent variable (demographics) as it was added to the model, to determine whether it made an effect on predicting the dependent variable (overall communication apprehension score).

In this model, overall communication apprehension score was the dependent variable. Minority status, socioeconomic status, and gender all served as independent variables. The independent variables were inserted into the model individually. None of these predictors were statistically significant. First, Block 1: Minority status- the model was not significant at this point: $F(1, 70) = 0.10, p = .75$. No variation in total CA score was explained: $R^2 = .001$ (0.1% variability explained). Second, Block 2: Socioeconomic

status- controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 69) = 0.09, p = .77$. No additional variation in total CA score was explained: $\Delta R^2 = .001$ (0.1% additional variability explained). Third, Block 3: Gender- controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 68) = 2.24, p = .14$. A small additional amount of variation in total CA score was explained: $\Delta R^2 = .032$ (3.2% additional variability explained). Lastly, in the final model, Total CA Score = $60.79 - 2.24*(\text{Minority}) + 0.39*(\text{Socioeconomic}) - 5.42*(\text{Gender})$. This model can be interpreted by plugging in a value of 0 or 1 in each of the parenthetical references to represent hypothetical situations. For example: average total CA score as predicted by the model for a student who is not of a minority (0), has low socioeconomic status (1), and is male (1) would be the following: Total CA Score = $60.79 - 2.24*(0) + 0.39*(1) + 5.42*(1) = 66.60$. Likewise, non-minority is 1, higher socioeconomic status is 0, and female is 0. The entire model summary is represented in Table 15. In summary, results indicated that among sixth grade subjects in the study, minority status, socioeconomic status, and gender were not factors that could predict communication apprehension.

Hypothesis 6

The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among seventh grade students.

This hypothesis was addressed with a hierarchical linear regression model. In this model, overall communication apprehension score was the dependent variable. Minority status, socioeconomic status, and gender all served as independent variables.

The independent variables were inserted into the model individually. First, Block 1: Minority status- the model was not significant at this point: $F(1, 101) = 0.03, p = .86$. No variation in total communication apprehension score was explained: $R^2 = .001$ (0.1% variability explained). Second, Block 2: Socioeconomic status- when controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 100) = 0.78, p = .38$. No additional variation in total CA score was explained: $\Delta R^2 = .008$ (0.8% additional variability explained). Next, Block 3: Gender- when controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 99) = 1.53, p = .22$. A small additional amount of variation in total CA score was explained: $\Delta R^2 = .015$ (1.5% additional variability explained). Lastly, the Final model- Total CA Score = $63.19 - 0.25*(\text{Minority}) + 3.48*(\text{Socioeconomic}) - 4.43*(\text{Gender})$. The entire model summary is represented in Table 16. For seventh grade students in the study, minority status, socioeconomic status, and gender were not factors that could predict communication apprehension.

Hypothesis 7

The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among eighth grade students.

This hypothesis was addressed with a hierarchical linear regression model. In this model, overall communication apprehension score was the dependent variable. Minority status, socioeconomic status, and gender all served as independent variables.

The independent variables were inserted into the model individually. First, Block 1: Minority status- Model was not significant at this point: $F(1, 136) = 0.44, p = .51$. No variation in total CA score was explained: $R^2 = .003$ (0.3% variability explained) Second, Block 2: Socioeconomic status- Controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 135) = 0.53, p = .47$. No additional variation in total CA score was explained: $\Delta R^2 = .004$ (0.4% additional variability explained). Next, Block 3: Gender- Controlling for minority status, this variable did not yield a significant addition: $\Delta F(1, 134) = 0.18, p = .68$. No additional variation in total CA score was explained: $\Delta R^2 = .001$ (0.1% additional variability explained). Lastly, Final model - Total CA Score = $66.53 - 2.35*(\text{Minority}) - 2.30*(\text{Socioeconomic}) - 1.36*(\text{Gender})$. Entire model summary is represented in Table 17. In summary, results indicated that among eighth grade subjects in the study, minority status, socioeconomic status, and gender were not factors that could predict communication apprehension.

CHAPTER FIVE: FINDINGS AND RECOMENDATIONS

The purpose of this study was to determine whether communication apprehension impacted reading comprehension in sixth, seventh, and eighth grade students. Many studies have demonstrated the negative relationship between communication apprehension and academic achievement, however, studies of elementary and middle school students had been conspicuously missing from this research. The problem posed in this study was whether communication apprehension impacted reading comprehension in sixth, seventh, and eighth grade students. Additionally, the relationships between communication apprehension and ethnicity, socioeconomic status, and gender were also examined. For the purposes of the study, reading comprehension was measured using student developmental scale scores on the Florida Comprehensive Assessment Test. Socioeconomic status was measured using the eligibility to receive free and/or reduced lunch as an indicator.

Research Questions

Research Question 1

What percentage of sixth, seventh, and eighth grade students has communication apprehension?

Research Question 2

What differences, if any, exist in FCAT Reading test performance among sixth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?

$H_0 =$ There is no statistically significant difference in FCAT Reading test performance among sixth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

Research Question 3

What differences, if any, exist in FCAT Reading test performance among seventh grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?

$H_0 =$ There is no statistically significant difference in FCAT Reading test performance among seventh grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

Research Question 4

What differences, if any, exist in FCAT Reading test performance among eighth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?

H_0 = There is no statistically significant difference in FCAT Reading test performance among eighth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

Research Question 5

To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among sixth grade students?

H_0 = The demographic factors of ethnicity, free or reduced lunch status, and gender hold no predictive value based on the presence of communication apprehension among sixth grade students.

Research Question 6

To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among seventh grade students?

H_0 = The demographic factors of ethnicity, free or reduced lunch status, and gender hold no predictive value based on the presence of communication apprehension among seventh grade students.

Research Question 7

To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among eighth grade students?

H_0 = The demographic factors of ethnicity, free or reduced lunch status, and gender hold no predictive value based on the presence of communication apprehension among eighth grade students.

Hypotheses

Hypothesis 1

The rate of sixth, seventh, and eighth grade students with communication apprehension is equal to the research-determined average of 20%.

H_0 = The rate of middle school students with communication apprehension is equal to the research-determined average of 20%.

Hypothesis 2

There is a difference in FCAT Reading test performance among sixth grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

H_0 = There is no difference in FCAT Reading test performance among 6th grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

Hypothesis 3

There is a difference in FCAT Reading test performance among seventh grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

H_0 = There is no difference in FCAT Reading test performance among seventh grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

Hypothesis 4

There is a difference in FCAT Reading test performance among eighth grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

H_0 = There is no difference in FCAT Reading test performance among eighth grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

Hypothesis 5

The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among sixth grade students.

H₀ = The combination of ethnicity, free or reduced lunch status, and gender hold no predictive relationship with the presence of communication apprehension among sixth grade students.

Hypothesis 6

The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among seventh grade students.

H₀ = The combination of ethnicity, free or reduced lunch status, and gender hold no predictive relationship with the presence of communication apprehension among seventh grade students.

Hypothesis 7

The combination of ethnicity, free or reduced lunch status, and gender has a predictive relationship with the presence of communication apprehension among eighth grade students.

H_0 = The combination of ethnicity, free or reduced lunch status, and gender hold no predictive relationship with the presence of communication apprehension among 8th grade students.

Summary of Results

Findings of this study focused on whether the null hypothesis was rejected or failed to be rejected, indicating whether communication apprehension did or did not impact FCAT Reading test performance in sixth, seventh, and eighth grade students. Interaction effects with communication apprehension, FCAT Reading test performance, ethnicity, socioeconomic status, and gender were also examined. Analysis indicated that the levels of communication apprehension rose slightly as grade level increased. Results showed that females in the study had higher presence of moderate to high levels of communication apprehension than males. The study also found that those students receiving free and reduced lunch had slightly higher levels of moderate to high levels of communication apprehension. Finally, nonminority status students had a higher presence of moderate to high levels of communication apprehension than minority students.

Research Questions

Research Question 1

What percentage of sixth, seventh, and eighth grade students has communication apprehension?

Of the $N = 313$ students in the study a total of 210 (67.1%) of the students had communication apprehension. The remaining 103 (32.9%) did not. This value (67.1%) was tested in a one-sample Z-test for proportions against the hypothesized, research-based CA pervasiveness value of 20%. The null hypothesis for this test was that the two proportions were equal; the alternative was that the two proportions were unequal.

The test, $Z = 17.71$, $p < .001$, indicated that the sample's proportion of students with CA was significantly different (in this case, higher) than the hypothesized value. Students in this study had an overall greater level of CA than expected.

Students with moderate to high communication apprehension represented 67.1% of the subjects in the study. At first glance that percentage seems exceptionally high. A few factors may explain this finding. First, 77% of the students in the study were middle school students. This is generally a difficult time for adolescents. Fitting in and feeling accepted by peers is of paramount importance to most middle school students. This heightened need for acceptance could result in increased levels of reported anxiety. While historically the rate of reported communication apprehension has remained fairly constant for subjects ranging from fourth grade to adult hood, the amount of research involving

subjects in the sixth, seventh, and eighth grade has been extremely limited. Additionally, 12% of the subjects scored high in communication apprehension rather than scoring in the moderate to high range. This percentage is much closer to the predicted value of 20%.

Research Question 2

What differences, if any, exist in FCAT Reading test performance among sixth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?

There was no significant difference, $F(1, 67) = 1.95, p = .17$, in DSS performance between students who exhibited CA in the moderate range, scoring and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. Analysis of students who exhibited high CA was not possible. Even with the covariates removed, a group size of three was simply too small for running inferential statistical analysis. Therefore, the only conclusion that could be reached for Grade 6 was few students sampled in this grade had high CA tendencies. Most of the elementary schools that agreed to participate in the study only had one class of sixth graders resulting in this grade level having the smallest number of subjects.

Research Question 3

What differences, if any, exist in FCAT Reading test performance among seventh grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?

There was no significant difference, $F(1, 98) = 3.10, p = .08$, in DSS performance between students who exhibited CA in the moderate range and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. There was also no significant difference, $F(1, 35) = 3.92, p = .06$, in DSS performance between students who exhibited low CA and those who exhibited high CA, when controlling for the demographic factors of socioeconomic and minority statuses. While the results were not statistically significant, a small percentage of the variability in reading comprehension scores was accounted for by CA. Students in 7th grade who did not have CA scored higher on the reading comprehension test. Further research should include a larger group of seventh grade subjects.

Research Question 4

What differences, if any, exist in FCAT Reading test performance among eighth grade students between those who have communication apprehension and those who do

not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender?

The subjects in 8th grade represented the largest group of subjects at any of the grade levels examined. There was a significant difference, $F(1, 133) = 4.75, p = .03$, in DSS performance between students who exhibited CA at a moderate to high level and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. Further research of 8th grade students is also recommended.

Research Question 5

To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among sixth grade students?

None of the demographics examined were found to have predictive value for sixth grade students. A small variation in CA score, 3.2% was explained by gender. This was the smallest group of students in the study. More research on the interaction between CA and gender for students at this age is needed. Previous studies of communication apprehension and gender have yielded mixed results. In a 1995 study by Booth-Butterfield and Thomas no significant difference was found for gender on overall Personal Report of Communication Apprehension (PRCA-24) scores for a student group; however males were higher in apprehension in the small group context. McCroskey,

Simpson, and Richmond (1982) found males might be slightly shyer than females; females may be slightly more apprehensive about public speaking than males, but that females and males do not differ meaningfully in terms of general communication apprehension. McCroskey, Simpson, and Richard (1982) also noted that females were found to score significantly higher than males on the PRCA-24. However, according to a follow up study by Jaasma, “Most recent research on CA, using the PRCA, has yielded mixed results with regards to sex differences” (1997, p. 221).

Research Question 6

To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among seventh grade students?

For students in 7th grade, none of the covariates suggested were found to have any statistically significant predictive value. The covariate of gender was found to explain only 1.5% of the variability. Because previous research is mixed on this potential for interaction between CA and gender, more research of students at this grade level was suggested.

Research Question 7

To what extents do the demographic factors of ethnicity, free or reduced lunch status, and gender predict the presence of communication apprehension among eighth grade students?

While this was the largest group of students surveyed, in 8th grade, none of the covariates suggested were found to have any statistically significant predictive value.

Null Hypotheses

Null Hypothesis 1

There is no difference in FCAT Reading test performance among 6th grade students between those with communication apprehension and those without when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

The null hypothesis was not rejected. There was no significant difference, $F(1, 67) = 1.95, p = .17$, in DSS performance between 6th grade students who exhibited CA and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. The partial- η^2 value of .028 indicated that CA could account for approximately 2.8% of the variability in DSS score. This result indicated that despite the lack of statistical significance indicated in the above point, there

was a small level of practical significance. Sixth grade students who did not have communication apprehension scored higher on the FCAT reading test than sixth grade students who had high communication apprehension.

Sixth graders made up 23% of the subjects in the study. Sixth graders reported lower levels of communication apprehension than seventh or eighth graders. The overall level of CA rose in each sequential grade level. This group had too few subjects identified as high communication apprehension to compare to low communication apprehension subjects. Additionally, the sixth grade students surveyed attended traditional kindergarten through sixth grade elementary schools rather than middle schools with grade configurations that would have included sixth grade.

Null Hypothesis 2

There is no statistically significant difference in FCAT Reading test performance among seventh grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

The null hypothesis was not rejected. There was no significant difference, $F(1, 98) = 3.10, p = .08$, in DSS performance between seventh grade students who exhibited CA and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. The partial- η^2 value of .031 indicated that CA could account for approximately 3.1% of the variability in DSS score. This result

indicated that despite the lack of statistical significance indicated in the above point, there was a small level of practical significance. Seventh grade students who did not exhibit CA performed at a higher level ($M = 1,852.66$, $SE = 55.85$) than those who did exhibit CA ($M = 1,732.99$, $SE = 38.22$). In this grade level, minority status also provided a small degree of practical significance, $\text{partial-}\eta^2 = .05$

Seventh grade students, without communication apprehension performed at a higher level on the FCAT Reading test than seventh graders who reported moderate to high levels of communication apprehension in this study. Among seventh grade subjects, 3.1% of the difference in scores was accounted for by communication apprehension. Minority status explained 5% of the difference in FCAT reading test scores. When comparing seventh grade students with high CA to seventh grade students with low CA and ignoring seventh graders with moderate CA, 10.1% of the difference in FCAT Reading scores was accounted for by communication apprehension. These findings begin to reveal results that are more closely aligned to previous research in the area of communication apprehension. Earlier studies (McCroskey, 1977a; McCroskey, Booth-Butterfield, & Payne, 1989) established a strong connection between reduced student communications in the classroom with various measures of student achievement. While this negative relationship with high communication apprehension and academic achievement is well-documented studies of elementary and middle school students have been extremely lacking. The result has been a gap in assessing the relationship between classroom learning and communication apprehension for this age and grade level group. Substantial changes in CA levels have been found in kindergarten and between grades

three and four. Researchers maintain that CA remains relatively stable from grade four through college however; more research is needed to fill the age and grade level gap in assessment research for elementary and middle school age students (McCroskey, Andersen, Richmond and Wheelless, 1981). This should warrant additional study of students in between those previously well-established age and/or grade level groups.

Null Hypothesis 3

There is no statistically significant difference in FCAT Reading test performance among eighth grade students between those who have communication apprehension and those who do not, when controlling for the demographic factors of ethnicity, free or reduced lunch status, and gender.

The null hypothesis was rejected. There was a significant difference, $F(1, 133) = 4.75$, $p = .03$, in DSS performance between eighth grade students who exhibited CA and those who did not, when controlling for the demographic factors of gender, socioeconomic status, and minority status. The partial- η^2 value of .034 indicated that approximately 3.4% of the variability in DSS score was accounted for by CA. This result indicated that in addition to the statistical significance indicated in the above point, there was also a small level of practical significance. When controlling for the various demographics, those who did not exhibit CA performed at a higher level ($M = 1,926.41$, $SE = 43.50$) than those who did exhibit CA ($M = 1,811.91$, $SE = 29.17$). The covariates for gender, $F(1, 133) = 0.11$, $p = .74$, and minority status, $F(1, 133) = 0.84$, $p = .36$, did

not provide significant contributions to the model, but the socioeconomic status covariate, $F(1, 133) = 9.93$, $p = .002$, did significantly contribute. The socioeconomic status covariate provided a moderate degree of practical significance, $\text{partial-}\eta^2 = .07$. Among eighth graders in the study, the results were significant. Students with lower communication apprehension performed at a higher level on the FCAT Reading test. Socioeconomic status explained 7% of the difference in FCAT Reading scores.

When eighth graders with high communication apprehension were compared to eighth graders with low communication apprehension, and scores of subjects with moderate levels of CA were ignored, students with low CA performed at a slightly higher level on the FCAT reading test. When comparing the high CA students to low CA students, minority status accounted for 4.2% of the difference in FCAT Reading scores. These findings begin to fill the aforementioned age and grade level gap in previous studies of student achievement impacts of communication apprehension.

Null Hypothesis 4

The demographic factors of ethnicity, free or reduced lunch status, and gender hold no predictive value based on the presence of communication apprehension among sixth grade students.

The null hypothesis was not rejected. For the sixth graders tested the demographic factors of ethnicity, free or reduced lunch status and gender had no predictive value on the presence of communication apprehension.

Null Hypothesis 5

The demographic factors of ethnicity, free or reduced lunch status, and gender hold no predictive value based on the presence of communication apprehension among seventh grade students.

The null hypothesis was not rejected. For the seventh graders tested the demographic factors of ethnicity, free or reduced lunch status and gender had no predictive value on the presence of communication apprehension.

Null Hypothesis 6

The demographic factors of ethnicity, free or reduced lunch status, and gender hold no predictive value based on the presence of communication apprehension among eighth grade students.

The null hypothesis was not rejected. For the eighth graders tested the demographic factors of ethnicity, free or reduced lunch status and gender had no predictive value on the presence of communication apprehension.

When examining Null Hypotheses 4, 5, and 6, results indicated that with sixth, seventh, and eighth grade subjects in the study, minority status, socioeconomic status, and gender were not factors that could predict communication apprehension.

Delimitations and Limitations

This research was conducted with a sample of Brevard Public School students, in Brevard county Florida. Students ranged from grades six through eight and were enrolled at Cambridge Elementary, Mila Elementary, Saturn Elementary, Clearlake Middle School, and L.B. Johnson Middle School. The study was limited by several factors. First the consent forms required for parents to give permission for students to test may have included language that was difficult for some parents to understand. Informal feedback from some of the site coordinators suggested this was the case. The Parental Consent Form was a three-page document with language that may have been perceived as somewhat intimidating to a parent that struggles with reading. Historically students that are struggling readers often come from homes where caregivers also are struggling readers. Additionally, the language for the student assent and survey itself may have included language and vocabulary that was difficult for some students to understand. In this study 29.7% of the subjects read below grade level. The PRCA-24 is comprised of vocabulary that includes words like “tense,” and “rigid.” The survey may have been difficult for some subjects to completely understand.

This study did not examine mobility as a factor but did include some elementary schools with very high mobility rates. Further research should examine the impact of student mobility on communication apprehension. Seventh and eighth grade students in this study were all enrolled in middle school grade configurations that included only

seventh and eighth grade. It's possible that alternative school configurations might have different results.

Discussion

This research was born from simple observations made in the classroom. Follow up discussions with education professionals all working to improve student achievement in reading provided insight into the young, most struggling readers. Some of the earliest efforts the researcher reviewed were anecdotal notes about students in the Care to Read Program in central Florida. Volunteers in that program all described children who were extremely shy and reticent (Paradise, 2007). Informal conversations about struggling readers all seemed to have some very similar descriptions of shy and reticent students.

Historically, public schools have been charged with preparing students for an increasingly complex collection of economic and social realities (Christensen, 2008; National Academies of Science, 2007). Researchers and educators have developed new approaches to learning in response to evolving educational conditions. The theory and practice of student-centered learning has gained significant acceptance as an approach to teaching and learning that combines psychological, pedagogical, technological, cultural and pragmatic elements (Land & Hannafin, 1996). Student-centered classrooms shift the focus of the aforementioned elements from the person communicating new information- the teacher- onto the student. A basic premise of student-centered learning is that learning is maximized when it is intrinsically directed and when unique experiences, learning styles, backgrounds, and new information are reflected in the content. This student-

centered approach represents a potential obstacle to middle school aged children and to educators rushing to close the achievement gap. It will be difficult for students with communication apprehension to access the prior knowledge that they may have as part of their unique experiences related to content they are learning if cognitively they are rehearsing thoughts about anxiety. Another concern would be that students who rehearse thoughts about communication anxiety would have significant difficulty with becoming intrinsically motivated. The idea of the student-centered classroom is at its foundation dependent on communication. If teachers need to adjust the learning paths of individual students, the individual students in the student-centered classrooms will need to be able to discuss their progress and provide feedback to their teacher(s). The basic purposes of school are achieved through communication. Classroom language is critical to establishing and maintaining social connections, expressing speakers' personalities and attitudes, and communicating cognitive information. As schools move to more student-centered classrooms the importance of communication skills should be expected to grow in importance. As educators charged with the responsibility of leaving no child behind are held accountable for raising the skill levels among children of all backgrounds, and closing the achievement gap, the critical role of communication in the classroom should be expected to become even more pivotal. Florida's Race to the Top Application for Initial Funding submitted to the Federal Department of Education "envisions a student-centered school environment" (2010, p.11). A key goal included in the Race to the Top Application was cutting the achievement gap in half by 2015. Results of this study

indicate that communication apprehension represents a potential obstacle in the nation's "Race to the Top."

The largest group tested in this study was in eighth grade. At this grade level, students with moderate to high levels of communication apprehension had significantly lower FCAT Reading Test scores. While results were not statistically significant, students in sixth and seventh grade with communication apprehension scored lower on the FCAT Reading test as well. Those receiving free or reduced lunch had slightly higher levels of communication apprehension than those with higher socioeconomic status. Further study of larger groups of students at these ages and grade levels is suggested. Mobility was not examined as a factor in this study, but some elementary schools with very high mobility rates were included in the study. Further research should examine the impact of student mobility on communication apprehension. Seventh and eighth grade students in this study were all enrolled in middle school grade configurations that included only seventh and eighth grade. It's possible that alternative grade configurations might have different results.

If communication apprehension impacts standardized test scores, identifying it earlier and developing strategies to offset the potential for harm seems warranted. Additionally if educators are moving towards more student-centered classrooms it will be essential for students to have adequate communication skills to be successful. Finally, if we are hoping to close the achievement gap, we must be prepared to give careful attention and appropriate academic support to low socioeconomic status students.

Recommendations for Future Research

Future research should focus on a larger sample. As the sample size grew, the impact of communication anxiety became more significant. This study involved subjects from a single school district. Further research should examine students from multiple districts in greater numbers. Additional measures of student achievement should also be considered. As school districts move towards more common assessments and end of course exams for academic subjects, those measures should be considered as appropriate indicators. Student mobility as a factor should also be examined. An argument could be made that as a student becomes more mobile, their ability to adapt to the environment may become greater, thus allowing the development of coping skills for processing a variety of anxieties that would result in them scoring higher academically than a non-mobile peer with comparable anxiety. Alternate grade level configurations should be compared. Students in schools with more students might manifest greater anxiety. Finally, the development of an instrument written in lower lexile language that might include “emoticons” as a reflection of feeling and attitude should be developed.

Conclusion

As previously stated, comprehension is a complex process that involves many variables. The more teachers can learn and understand about those variables, the more learning opportunities they can provide in the contemporary classroom. Communication

competence is critical for student success. Research has already demonstrated that children who enter the classroom without it are evaluated less positively by their teachers, achieve less on standardized tests, and develop a less positive attitude toward class content, their teachers, and school in general (McCroskey, 1977a; McCroskey, Booth-Butterfield, & Payne, 1989).

Communication apprehension “may be the single most pervasive handicap confronting children in our schools and society” (McCroskey, 1977, p. 32). Realizing the importance of communication in the classroom, every effort should be made to provide support and services to children who need it. In this age of accountability, it behooves educators to do all they can to insure student success. Reducing communication apprehension in school children is a way to potentially increase learning opportunities and improve reading comprehension skills for those children. Increasing those learning opportunities and student achievement should be a goal for all educators.

APPENDIX A: BREVARD PUBLIC SCHOOLS LETTER

Dear Dr. Schafer:

My name is Tami Davis and I am a doctoral student at the University of Central Florida under the direct supervision of Barbara A. Murray, Ph.D. As a requirement for graduation, I need to complete a research study. Improving reading comprehension skills in middle school students is an important step in closing the achievement gap. The purpose of this study is to examine the relationship between communication apprehension and reading comprehension I would like your permission to conduct my study in your district. Permission to conduct this study in your district and the encouragement of principals to allow their middle schools to participate would be greatly appreciated. The instrument being used to collect data is the Personal Report of Communication Apprehension, a 24 item survey. It should take the students no longer than 15-20 minutes to complete. Please be assured that individual schools will not be mentioned by name since all data will be in the form of group data.

Upon agreeing to participate, schools will receive enough copies of the parental consent forms to be given to each student in grades 7-8 along with a return box with pre-paid postage affixed. After these are returned to me, the school will then receive a photocopy of the parental consent form to be returned to the students, child assent forms, the student surveys, and a return box with pre-paid postage affixed.

Any paperwork that is required to conduct research in your county can be sent to my attention electronically at davis.tami@brevardschools.org or by mail to 545 Timuquana Dr., Merritt Island, Florida 32953. Do not hesitate to contact me by e-mail at atdavis.tami@brevardschools.org or by phone at 321-544-1906. I look forward to working with your district on this important study.

APPENDIX B: PERSONALIZED PRINCIPAL LETTER

December 2011

Dear [Principal's Name]

My name is Tami Davis and I am a doctoral student at the University of Central Florida under the direct supervision of Barbara A. Murray, Ph.D. As a requirement for graduation, I need to complete a research study. Improving reading comprehension skills in middle school students is an important step in closing the achievement gap. The purpose of this study is to examine the relationship between communication apprehension and reading comprehension.

I would like your permission to conduct my study at your school. Permission to conduct this study in your school and your staff's encouragement of students to return the consent forms would be greatly appreciated. The survey should take the students no longer than 10-20 minutes to complete, depending on their reading level. The classes and times for administering the survey will be left to your discretion. Please be assured that your school will not be mentioned by name since all data will be in the form of group data. Upon agreeing to participate, you will receive enough copies of the parental consent forms to be given to each student in grades 7-8 along with a return box with pre-paid postage affixed. These will be paper clipped in stacks of 25 for easier distribution to teachers. After these are returned to me, you will then receive a photocopy of the parental consent form to be returned to the students, child assent forms, the student surveys, and a return box with pre-paid postage affixed.

Attached you will find the approval letter from the district office, UCF's IRB and a postcard for your response. If you would, please complete the information on the postcard and return it to me. If at any time you have any questions, please do not hesitate to contact me by e-mail at davis.tami@brevardschools.org or by phone at 321-544-1906. I look forward to working with you on this important study.

APPENDIX C: PRINCIPAL'S RESPONSE POST CARD

December 2011

_____ Yes, please include our school in the study on Reading Comprehension & Communication Apprehension.

_____ No, please do not include our school in the study on Reading Comprehension & Communication Apprehension.

School:

District:

Number of Students Enrolled in

Grade 6: _____

Grades 7-8: _____

APPENDIX D: PARENTAL CONSENT FORM

Parental Informed Consent
January 2012

Dear Parent/Guardian:

I am a doctoral student at the University of Central Florida under the supervision of faculty member, Dr. Barbara Murray, conducting research on communication anxiety and reading comprehension. The questionnaire will explore the relationship of communication anxiety to reading comprehension scores and how students and staff perceive the effects communication anxiety on academics, social and psychological well-being. The results of this study will contribute to the research currently available by focusing on school districts in Central Florida. These results may not directly help your child today, but may benefit future students and schools.

Using a statistical program, students whose parents have consented to allow participation, will be randomly selected for a questionnaire on communication that will take approximately 10-15 minutes to complete. An employee at your child's school will administer the questionnaire during the time and class designated by the school principal. Questionnaire results will be stored in a locked cabinet at the home of the researcher and will be destroyed soon after the research process is complete.

Your child's name will be kept confidential and will not be used in any report, analysis, or publication. Student names will be collected for matching purposes only and all identifying information will be replaced with code numbers. The list connecting your child's name to this number will be kept in a locked cabinet at the home of the researcher and will be destroyed soon after the research process is complete. All data will be reported in the form of group data.

Your child will be allowed the right to refuse to answer any questions that make him/her uncomfortable, and he/she may stop participating in this research at any time. The principal of the school has been asked to have a guidance counselor available in the event your child becomes upset. Your child will be reminded of this immediately prior to the completion of the questionnaire.

You may contact me at 321-454-4374 or email at davis.tami@brevardschools.org or my advisor, Dr. Barbara Murray at 407-823-1473 or by email at bmurray@mail.ucf.edu, for any questions you have regarding the research procedures. Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (IRB).

Questions or concerns about research participants' rights may be directed to the UCF IRB office, University of Central Florida, Office of Research & Commercialization, University Towers, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246, or by campus mail 32816-0150. The hours of operation are 8:00 am until 5:00 pm, Monday through Friday except on University of Central Florida official holidays. The telephone number is (407) 823-2901.

Sincerely,

Tami Davis

____ I have read the procedure described above for the Personal Report of Communication Apprehension.

____ I understand a copy of the signed consent form will be sent home with my child on the day they complete the survey.

I voluntarily give my consent for my child, _____, to participate in Tami Davis' study entitled, An Analysis of Communication Apprehension and Reading Comprehension— during the time and class designated by the school's principal.

Parent/Guardian

Date

2nd Parent/Guardian

Date

(or Witness if no 2nd Parent/Guardian)

Please sign and return this page to your child's school

APPENDIX E: CHILD ASSENT FORM

ASSENT FORM

PROJECT:
COMMUNICATION APPREHENSION AND READING COMPREHENSION

RESEARCHER: Tami Davis

CONTACT: Tami Davis at 321-454-4374 or Dr. Barbara Murray at 407-823-1473
University of Central Florida, College of Education P.O. Box 161250, Orlando, FL
32816

Please READ this explanation carefully, and ASK any QUESTIONS before signing.

You are being asked to participate in a research study. You will be asked to complete a brief questionnaire about your communication experiences. Your responses will be kept completely confidential, which means that your name will be separated from your answers and will not be shared with anyone else. No one but me, Tami Davis, and my professor will see your responses, so please try to answer honestly. The information will provide valuable knowledge about young people in general and your private, individual information will not be published. If you become uncomfortable at any time, please tell me immediately.

Your participation in this project is completely voluntary, and YOU MAY STOP AT ANY TIME.

I volunteer to take part in this research study and know that I can quit at any time I want to.

**APPENDIX F: PERSONAL RECORD OF COMMUNICATION
(PRCA24)**

Personal Report of Communication Apprehension (PRCA-24)

DIRECTIONS: This instrument is composed of twenty-four statements concerning feelings about communicating with other people. Please indicate the degree to which each statement applies to you by marking whether you **strongly agree (1-SA)**, **agree (2-A)**, **undecided (3-U)**, **disagree (4-D)**, or **strongly disagree (5-SD)**.

Work quickly; record your first impression.

Q	Resp				
1. I dislike participating in group discussions.	1 - SA	2 - A	3 - U	4 - D	5 -
2. Generally, I am comfortable while participating in group	1 - SA	2 - A	3 - U	4 - D	5 -
3. I am tense and nervous while participating in group discussions.	1 - SA	2 - A	3 - U	4 - D	5 -
4. I like to get involved in group discussions.	1 - SA	2 - A	3 - U	4 - D	5 -
5. Engaging in a group discussion with new people makes me tense and	1 - SA	2 - A	3 - U	4 - D	5 - SD
6. I am calm and relaxed while participating in group discussions.	1 - SA	2 - A	3 - U	4 - D	5 -
7. Generally, I am nervous when I have to participate in a meeting.	1 - SA	2 - A	3 - U	4 - D	5 -
8. Usually I am calm and relaxed while participating in meetings.	1 - SA	2 - A	3 - U	4 - D	5 -
9. I am very calm and relaxed when I am called upon to express an opinion at a	1 - SA	2 - A	3 - U	4 - D	5 - SD
10. I am afraid to express myself at meetings.	1 - SA	2 - A	3 - U	4 - D	5 -
11. Communicating at meetings usually makes me uncomfortable.	1 - SA	2 - A	3 - U	4 - D	5 -
12. I am very relaxed when answering questions at a meeting.	1 - SA	2 - A	3 - U	4 - D	5 -
13. While participating in a conversation with a new acquaintance, I feel very	1 - SA	2 - A	3 - U	4 - D	5 - SD
14. I have no fear of speaking up in conversations.	1 - SA	2 - A	3 - U	4 - D	5 -
15. Ordinarily I am very tense and nervous in conversations.	1 - SA	2 - A	3 - U	4 - D	5 -
16. Ordinarily I am very calm and relaxed in conversations.	1 - SA	2 - A	3 - U	4 - D	5 -
17. While conversing with a new acquaintance, I feel very relaxed.	1 - SA	2 - A	3 - U	4 - D	5 -
18. I'm afraid to speak up in conversations.	1 - SA	2 - A	3 - U	4 - D	5 -
19. I have no fear of giving a speech.	1 - SA	2 - A	3 - U	4 - D	5 -
20. Certain parts of my body feel very tense and rigid while giving a	1 - SA	2 - A	3 - U	4 - D	5 -
21. I feel relaxed while giving a speech.	1 - SA	2 - A	3 - U	4 - D	5 -
22. My thoughts become confused and jumbled when I am giving a	1 - SA	2 - A	3 - U	4 - D	5 -
23. I face the prospect of giving a speech with confidence.	1 - SA	2 - A	3 - U	4 - D	5 -
24. While giving a speech, I get so nervous I forget facts I really	1 - SA	2 - A	3 - U	4 - D	5 -

Personal Report of Communication
Apprehension Scoring

SCORING: Compute subscores for four communication contexts—group discussions, meetings, interpersonal conversations, and public speaking— and an overall communication apprehension (CA) score. Strongly agree=1 point, agree=2 points, undecided=3 points, etc.

Sub scores	Scoring Formula
Group discussion	18+scores for items 2, 4, and 6; – scores for items 1, 3, and 5
Meetings	18+scores for items 8, 9, and 12; – scores for items 7, 10, and 11
Interpersonal conversations	18+scores for items 14, 16, and 17; – scores for items 13, 15, and 18
Public speaking	18+scores for items 19, 21, and 23; – scores for items 20, 22, and 24

Scores on the four contexts (groups, meetings, interpersonal conversations, and public speaking) can range from a low of 6 to a high of 30. Any score above 18 indicates some degree of apprehension.

To determine your overall CA score, add together all four sub scores.

Your score should range between 24 and 120. If your score is below 24 or above 120, you have made a mistake in computing the score.

Scores between **83 and 120** indicate a high level of communication apprehension. Scores between **55 and 83** indicate a moderate level of communication apprehension. Scores between **24 and 55** indicate a low level of communication apprehension

**APPENDIX G: PERMISSION TO USE THE PERSONAL RECORD
OF COMMUNICATION (PRCA24)**

COMMUNICATION RESEARCH MEASURES

These are measures that have been developed by researchers who are, or at one time were, faculty members or graduate students at West Virginia University. They were developed for use by researchers and may be used for research or instructional purposes with no individualized permission. There is no cost for this use. Please cite the source(s) noted at the bottom of the measure when publishing articles based on research using these instruments.

[Affective Learning](#)
[Attitude, Generalized](#)
[Attraction, Interpersonal](#)
[Belief, Generalized](#)
[Classroom Anxiety](#)
[Communication Competence \(SPCC\)](#)
[Compulsive Communication, Talkaholic Scale](#)
[Environment](#)
[Ethnocentrism](#)
[Evaluation Apprehension](#)
[Fear of Physician \(FOP\)](#)
[Homophily Scales](#)
[Humor Assessment \(RHA\)](#)
[Image Fixation](#)
[Innovativeness, Individual \(II\)](#)
[Innovativeness, Organizational \(PORGI\)](#)
[Introversion](#)
[Nonverbal Immediacy Scale - Observer Report \(NIS-O\)](#)
[Nonverbal Immediacy Scale - Self Report \(NIS-S\)](#)
[Nonverbal Immediacy-Short Form \(SRNI\)](#)
[Organizational Orientations](#)
[Perceived Quality of Medical Care \(POMC\)](#)
[Personal Report of Communication Apprehension \(PRCA-24\)](#)
[Personal Report of Interethnic Communication Apprehension \(PRECA\)](#)
[Personal Report of Intercultural Communication Apprehension \(PRICA\)](#)
[Personal Report of Public Speaking Anxiety \(PRPSA\)](#)
[Power Measures](#)
[Satisfaction with Physician \(SWP\)](#)
[Shyness](#)
[Singing Apprehension \(TOSA\)](#)
[Situational CA Measure \(SCAM\)](#)
[Sociocommunicative Orientation \(SCO\)](#)
[Sociocommunicative Style \(SCS\)](#)
[Source Credibility](#)
[Teacher Apprehension](#)
[Teacher Burnout](#)
[Test Anxiety](#)
[Time](#)
[Tolerance for Disagreement \(TFD\)](#)
[Touch Apprehension](#)
[Willingness to Communicate \(WTC\)](#)
[Willingness to Listen](#)
[Writing Apprehension \(WAT\)](#)

APPENDIX H: DEFENSE ANNOUNCEMENT

Dissertation Announcement

Announcing the Final Examination of Tami Mullens Davis for the degree of Doctor of Education

Date of defense: June 7, 2012

Time and room: 3:00 p.m. Dean's Conference Room, College of Education

Dissertation Title: An Analysis of Communication Anxiety in Sixth, Seventh, and Eighth Grade Students

The goal of this research was to determine whether communication apprehension impacted reading comprehension in sixth, seventh, and eighth grade students and to examine the impact of family socio-economic status. Many studies have demonstrated the negative relationship between communication apprehension and academic achievement, however, studies of elementary and middle school students have been conspicuously missing from this research.

Findings of this study indicated that the levels of communication apprehension rose slightly as grade level increased. Results showed that females in the study had higher levels of communication apprehension than males. The study also found that those students receiving free and reduced lunch had slightly higher levels of communication apprehension. Finally, nonminority status students had higher levels of communication apprehension than minority students.

A review of previous studies found that children, exposed to high language input from their parents, know more words than those who are exposed to lower levels of input. Researchers have found that students who do not talk much in the classroom are evaluated less positively by their teachers, achieve less on teacher-made and standardized tests, and develop less positive affect toward school in general.

Results of this study suggest that effort should be made to identify communication anxiety in children. The development of an age and grade appropriate instrument is warranted for early identification. Identifying communication anxiety early would allow educators to provide support and services to children who need it.

Committee in charge:
Dr. Kenneth T. Murray
Dr. Walter J. Doherty
Dr. John F. Butler

Outline of Studies
Major: Communication
Educational Career
B.A., 1991, University of Central Florida
M.A., 2003, University of Central Florida

approved by Dr. Barbara A. Murray, Committee Chair

REFERENCES

- Anderson, N., & Battle, D. (1993). Cultural diversity in the development of language. In D. Battle (Ed.), *Communication disorders in multicultural populations*. (pp. 158-182). Boston: Andover Medical Publishers.
- Andrews, L. M. (2002). *More choices for disabled kids*. Policy Review, No. 112. Retrieved from http://policyreview.org/apr02/andrews_print.html.
- Ary, D., Jacobs, L., & Razavieh, A. (2002). *Introduction to research in education*. Belmont, CA: Wadsworth/Thomson Learning.
- Barrett, M.D. (1986). Early semantic representations and early word usage. In S. A. Kuczaj, & M. D. Barrett, (Eds.), *The development of word meaning: Progress in cognitive developmental research*. New York: Springer-Verlag.
- Bates, E., Bretherton, I., & Snyder, L. (1988). *From first words to grammar: Individual differences and dissociable mechanisms*. New York: Cambridge University Press.
- Bates, E., O'Connell, B., & Shore, C. (1987). Language and communication in infancy. In J. Doniger-Osofsky (Ed.). *Handbook of infant development*, (2nd ed.). New York: Wiley.
- Beatty, M. J., & McCroskey, J. C. (2001). *The biology of communication: A communibiological perspective*. Creskill, NJ: Hampton Press, Inc.
- Beatty, M. J., McCroskey, J. C. & Heisel, A. D. (1998). Communication apprehension as temperamental expression: A communibiological paradigm. *Communication Monographs*, 64, 197-219.

- Beatty, M. J., McCroskey, J. C. & Valencic, K. M. (2001). *The biology of communication: A communibiological perspective*. Creskill, NJ: Hampton.
- Berger, K. S., & Thompson, R. A. (1994). *The developing person through the life span* (3rd ed.). New York: Worth Publishers
- Berger, B. A., Richmond, V., McCroskey, J. C., & Baldwin, H. J. (1984). Reducing communication apprehension: Is there a better way. *American Journal of Pharmaceutical Education*, 48, 46-49.
- Bernstein, B. (1964). Elaborated and restricted codes: Their social origins and some consequences. In I. J. Gumperz & D. Hymes (Eds.), *The ethnography of communication*. Special publication of the American Anthropologist, 66, 55-69.
- Blatzer, D. (1997, May). *Communication apprehension*. Paper presented at 3rd Annual Student Research Conference at Governor's State University, University Park, IL.
- Booth-Butterfield, S. (1988). Inhibition and student recall of instructional messages. *Communication Education*, 37, 312-324.
- Booth-Butterfield, S., & Thomas, C. C. (1995). Communication apprehension among secretarial students. *Communication Reports*, 8, 38-44.
- Borovsky, A. & Elman, J. (2004). Language input and semantic categories: a relation between cognition and early word learning. *Journal of Child Language*, 33, 759-790.
- Brodbeck, A. J., & Irwin, O. C. (1946). The speech behavior of infants without families. *Child Development*, 17, 145-156.

- Broen, P. A. (1972). The verbal environment of the English-learning child. *ASHA Monographs*, 17, Washington, D.C.: American Speech and Hearing Association.
- Brown, J., Bakeman, R., Snyder, P., Frederickson, W., Morgan, S., & Helper, R. (1975). Interactions of black inner-city mothers with their newborn infants. *Child Development*, 46, 677-686.
- Cazden, C. (1988). *Classroom discourse*. Portsmouth, NH: Heinemann.
- Christensen, C. M. (2008). *Disrupting class: How disruptive innovation will change the way the world learns*. New York: McGraw-Hill.
- Chomsky, N. (1968). *Language and mind.*, Harcourt Brace Jovanovich Inc.
- Comadena, M. E. & Prusank, D. T. (1988). *Communication apprehension and academic achievement among elementary and middle school students*. *Communication Education*, 37, 270-278.
- Cooper, P. L. (1995). *Communication for the classroom teacher*. Scottsdale, AZ: Gorsuch Scarisbrick.
- Daly, J. A. & Friedich, G. (1981). The development of communication apprehension: A retrospective analysis of contributory correlates. *Communication Quarterly*, 29, 243-255.
- Daly, J. A., & Stafford, L. (1984). Correlates and consequences of social communicative anxiety. In J. A. Daly & J. C. McCroskey (Eds.), *Avoiding communication: Shyness, reticence, and communication apprehension* (pp. 125-145). Beverly Hills, CA: Sage.

- DeVito, J. A. (2001). *The interpersonal communication book* (9th ed.). New York, NY: Addison Wesley Longman, Inc.
- Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method*. New York, NY: John Wiley and Sons.
- Eysenck, H. J. (1947). *Dimensions of personality*. New York, NY: Praeger.
- Eysenck, H. J. (1990). Biological dimension of personality. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research*, (pp. 244-276). New York, NY: Guilford Press.
- Fahay, K. R. (2000). *Language development, differences, and disorders: A perspective for general and special education teachers and classroom-based SLPs*. Austin, TX: ProEd.
- Ferguson, C. (1978). Learning to pronounce: The earliest stages of phonological development in the child. In F. Minifie & L. Lloyd (Eds.), *Communicative and cognitive abilities: Early behavioral assessment*. Baltimore: University Park Press
- Fiorentino, L. & Howe, N. (2004). Language Competence, Narrative Ability, and School Readiness in Low-Income Preschool Children. *Canadian Journal of Behavioral Science*, 36, 4, 280-294.
- Fivush, R., & Fromhoff, F. A. (1988). Style and structure in mother-child conversations about the past. *Discourse Processes*, 11, 337-355.
- Florida Department of Education (2007). *FCAT Briefing Book*. Retrieved August 11, 2009, from <http://fcat.fldoe.org/pdf/BriefingBook07web.pdf>

- Florida Department of Education (2007b). *FCAT Reading lessons learned: 2001-2005 Data analyses and instructional implications*. Retrieved August 11, 2009, from http://fcat.fldoe.org/pdf/FCAT07_LL_Reading.pdf
- Frymier, A. B. (1993). The relationships among communication apprehension, immediacy, and motivation to study. *Communication Reports*, 6(1), 8-17.
- Gage, N. L., & Berliner, D. C. (1988). *Educational psychology* (4th ed.). Boston, MA: Houghton Mifflin.
- Glazer, S. M. (2000). *Comprehension: What is it? Teaching Pre K-8, No. 5*. Retrieved from <http://vnweb.hwwilsonweb.com.ucfproxy.fcla.edu/hww/results>
- Goldberg, M. R., & Phillips, A. (Eds.). (1992). *Art as education*. Cambridge, MA: The President and Fellows of Harvard.
- Gopnik, A. & Meltzoff, A. N. (1987). The development of categorization in the second year and its relation to other cognitive and linguistic developments. *Child Development*, 58, 1523-1531.
- Gopnik, A. & Meltzoff, A. N. (1993). Words and thoughts in infancy: the specificity hypothesis and categorization and naming. In C. Rovee-Collier & L. Lipsett (eds.) *Advances in infancy research*. New Jersey: Ablex
- Graves, M., Juel, C., Graves, B., (2004) *Teaching reading in the 21st century* (3rd Ed.). Boston, MA: Allyn & Bacon.
- Haden, C. A., Haine, R. A., & Fivush, R. (1997). Developing narrative structure in parent-child reminiscing across the preschool years. *Developmental Psychology*, 33, 295-307.

- Hammer, C. S. & Weiss, A. L. (1999). Guiding language development: How African American mothers and their infants' structure play interactions. *Journal of Speech, Language, and Hearing Research*, 42, 1219-1233.
- Hart, B. & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore, MD: Paul H. Brookes Publishing.
- Haskell, R.E. (2001). *Transfer of learning: Cognition, instruction, and reasoning*. San Diego, CA: Academic Press.
- Hicks, D. (1991). Kinds of Narrative: Genre skills among first graders from two communities. In A. McCabe & C. Peterson (Eds.), *Developing narrative structure* (pp. 55-87). Hillsdale, NJ: Erlbaum.
- Huttenlocher, J., Waight, W., Bryk, A., Seltzer, M., & Lyons, T. (1991). Early vocabulary growth: Relation to language input and gender. *Child Development*, 27, 236-248.
- Jaasma, M. A. (1997) Classroom communication apprehension: Does being male or female make a difference? *Communication Reports*, 10, 219-228.
- Jersild, A. T., Telford, C. W., & Sawrey, J. M. (1975). *Child psychology* (7th ed.). New Jersey: Prentice-Hall.
- Johnson, D. (2003). The relationship between student learning mode and changes in thoughts about communication in the basic oral communication course. *Communication Research Reports*, 20(3), 251-259. Retrieved from Communication & Mass Media Complete database.

- Joos, M. (1967). The styles of the five clocks. In R. D. Abrahams, & R. C. Troike (Eds.). *Language and cultural diversity in American education*. Englewood Cliffs, NJ: Prentice Hall, Inc.
- King, M. L. (2001). Language and school success: Access to meaning. *Theory Into Practice*, Vol. XXIII, No. 3, 175-182.
- Knutson, K. A. (2002). *Scholastic reading inventory-interactive gain score analysis*. West Palm Beach, FL: School District of Palm Beach County.
- Land, S. M., & Hannafin, M. J. (1996). *Student-centered learning environments: Foundations, assumptions and implications*. Paper presented at the National Convention of the Association for Education Communications and Technology, Indianapolis, IN.
- Lennon, C. & Burdick, H. (2004). *Scholastic-reading inventory-interactive academic gain score analysis*. West Palm Beach, FL: School District of Palm Beach County.
- Lewis, M., & Wilson, D. (1972). Infant development in lower class American families. *Human Development*, 15, 112-115.
- McCarthy, D. (1961). Affective aspects of language learning. In A. T. Jersild, C. W. Telford, & J. M. Sawrey (Eds.), *Child Psychology (7th Ed.)* (pp. 399-424). New Jersey: Prentice-Hall.
- McCroskey, J. C. (1977a). Classroom consequences of communication apprehension. *Communication Education*, 26, 27-33.

- McCroskey, J.C. (1977b). Oral communication apprehension: A summary of recent theory and research. *Human Communication Research*, 4, 78-96.
- McCroskey, J. C. (1982). Oral communication apprehension: A reconceptualization. *Communication Yearbook*, 6, 136-170.
- McCroskey, J. C. (1984). The communication apprehensive perspective. In J. A. Daly, J. C. McCroskey, J. Ayres, T. Hopf, & D. M. Ayres (Eds.), *Avoiding communication: Shyness, reticence, and communication apprehension (2nd ed.)* (pp. 13-38). Cresskill, NJ: Hampton Press.
- McCroskey, J. C. (1997). Willingness to communicate, communication apprehension, and self-perceived communication competence. In J. A. Daly, J. C. McCroskey, J. Ayres, T. Hopf, & D. M. Ayres (Eds.), *Avoiding communication: Shyness, reticence, and communication apprehension (2nd ed.)* (pp. 75-108). Cresskill, NJ: Hampton Press.
- McCroskey, J. C., Andersen, J. A., Richmond, V. P. & Wheelless, L. R. (1981). Communication apprehension of elementary and secondary students and teachers. *Communication Education*, 30, 122-132.
- McCroskey, J. C., Booth-Butterfield, S., & Payne, S.K. (1989). The impact of student communication apprehension on college student retention and success. *Communication Quarterly*, 37, 100-107.
- McCroskey, J. C., Daly, J. A., Richmond V. P., & Cox, B. G. (1975). The effects of communication apprehension on interpersonal attraction. *Human Communication Research*, 2, 51-65.

- McCroskey, J. C., Heisel, A. D., & Richmond, V. P. (2001). Eysenck's big three and communication traits: Three correlational studies. *Communication Monographs*, 68, 360-366.
- McCroskey, J. C. & McCroskey, L. L. (1988). Self-report as an approach to measuring communication competence. *Communication Research Reports*, 5, 108-113.
- McCroskey, L. L., & McCroskey, J. C. (2002). Willingness to communicate and communication apprehension. In J. L. Cheseboro and J. C. McCroskey (Eds.), *Communication for teachers* (pp.19-34). Boston, MA: Allyn & Bacon.
- McCroskey, J. C., Ralph, D. C., & Barrick, J. E. (1970). The effect of systematic desensitization on speech anxiety. *Speech Teacher*, 19, 32-36.
- McCroskey, J. C. & Richmond, V. P. (1982). Communication apprehension and shyness: Conceptual and operational distinctions. *Central States Speech Journal*, 33, 458-468.
- McCroskey, J. C. & Richmond, V. P. (1987). Willingness to communicate. In J. C. McCroskey & J. A. Daly (Eds.), *Personality and interpersonal communication*, (pp. 129-156). Beverly Hills, CA: Sage.
- McCroskey, J. C., Simpson, T. J., & Richmond, V. P. (1982). Biological sex and communication apprehension. *Communication Quarterly*, 30, 129-133.
- Michaels, S. (1986). Narrative presentations: An oral preparation for literacy with first graders. In J. Cook-Gumperz (Ed.), *The Social Construction of Literacy* (pp. 94-116). Cambridge: Cambridge UP.

- Montano-Harmon, M.R. (1991). Discourse features of written Mexican-Spanish: Current research in contrastive rhetoric and its implications. *Hispania*, 74(2) 417-425.
- National Academies of Science. (2007). *Rising above the gathering storm: Energizing and employing America to a brighter future*. Washington, DC: Author.
- The National Institute of Education. (1977). *Basic Skills: United States Department of Health, Education, and Welfare*. Washington DC: Author.
- Nelson, K. (1973). Structure and strategy in learning to talk. *Monographs of the Society for Research in Child Development*, 38 (Serial no. 149).
- Oppenheim, D., Emde, R. N., & Warren, S. (1997). Children's narrative representations of mothers: Their development and associations with child and mother adaptation. *Child Development*, 68, 127-138.
- Owens, R. (1988). *Language Development: An introduction*. New York: Macmillan Publishing Company.
- Paradise, J. L. (2007). An analysis of improving student performance through the use of registered therapy dogs serving as motivators for reluctant readers. (Doctoral dissertation, University of Central Florida). ProQuest Dissertations and Theses, Retrieved from <http://ezproxy.lib.ucf.edu/login?url=http://search.proquest.com/docview/304745715?accountid=10003>
- Peterson, C. (1994). Narrative skills and social class. *Canadian Journal of Education*, 19, 251-269.
- Peterson, C., Jesso, B., & McCabe, A. (1999). Encouraging narratives in preschoolers: An intervention study. *Journal of Child Language*, 26, 49-67.

- Phillips, G. M. (1968). Reticence: Pathology of the normal speaker. *Speech Monographs*, 35, 39-49.
- Phillips, G. M. (1977). Rhetoritherapy versus the medical model: Dealing with reticence. *Communication Education*, 26, 34-43.
- Porter, D. (1982). Communicator style perceptions as a function of communication apprehension. *Communication Quarterly*, 30, 237-244.
- Pritchard R., & Breneman, B. (2000). *Strategic teaching and learning*. Sacramento: California Department of Education.
- Raph, J. B. (1965). Education for socially disadvantaged children. *Review of Educational Research*, 35(5), 389-400.
- Reese, E., Haden, C. A., & Fivush, R. (1993). Mother-child conversations about the past: Relationships of style and memory over time. *Cognitive Development*, 8, 403-430.
- Richmond, V. & McCroskey, J. (1995). *Communication apprehension, avoidance and effectiveness*. Scottsdale, AZ: Gorsuch Scarisbrick.
- Robinson, W. P. (1965). The elaborated code in working-class language. *Language and Speech*, 8, 42-55.
- Rolls, J. A. (1998). Facing the fears associated with public speaking. *Business Communication Quarterly*, 61 (2), 103-106.
- Rosenblatt, L. (1938). *Literature as exploration*. New York: Appleton-Century.
- Salmon, K. & Pipe, M. E. (2000). Recalling an event one year later: The impact of props, drawing and prior interview. *Applied Cognitive Psychology*, 14, 99-120.

- Scholastic Reading Inventory Interactive Technical Guide. (2001). New York: Scholastic Inc.*
- Seligman, M. E. (1975). *Helplessness: On depression, development and death*. San Francisco, CA: W. H. Freeman.
- Snow, C. E. (1977). The development of conversation between mothers and babies. *Journal of Child Language*, 4, 1-22.
- Snow, C. E. (1991). The theoretical basis for relationships between language and literacy development. *Journal of Research in Childhood Education*, 6, 5-10.
- Snow, C., Arlmann-Rupp, A., Hassing, Y., Jobse, J., & Vorster, J. (1976). Mother's speech in three social classes. *Journal of Psycholinguistic Research*, 5, 1-20.
- Sorenson, G. & McCroskey, J. C. (1977). The prediction of interaction behavior in small groups: Zero history vs. intact groups. *Communication Monographs*, 44, 73-80.
- Streissguth, A., & Bee, H. (1972). Mother and child interactions and cognitive development in children. In W. Hartup (Ed.), *The young child: Review of reviews (Vol. 2)*. Washington DC: National Association for the Education of Young Children.
- Stubbs, M. & Hillier, H. (1983). *Readings on Language, Schools and Classrooms: Contemporary Sociology of the School*. London: Methuen & Co. Ltd.
- Tannen, D. (1991). Teachers' classroom strategies should recognize that men and women use language differently. *The Chronicle of Higher Education*, 37(40), B1 - B3.
- Thorndike, E. L. (1913). *Educational psychology: The psychology of learning*. New York, NY: Teachers College Press.

- Thorndike, E. L. (1923). The influence of first year Latin upon the ability to read English. *School Sociology*, 17, 165-168.
- Thorndike, E. L. & Woodworth, R. S. (1901). The influence of improvement in one mental function upon the efficiency of other functions. *Psychological Review*, 8, 247-261.
- Valencic, K. M., Beatty, M. J., Rudd, J. E., Dobos, J. A., & Heisel, A. D. (1998). An empirical test of a communibiological model. *Communication Quarterly*, 46, 327-341.
- van Kleek, A. (1994). Potential cultural bias in training parents as conversational partners with their children who have delays in language development. *American Journal of Speech-Language Pathology*, 3(1), 67-78.
- Weaver, J. B. (1998). Personality and self-perceptions about communication. In J.C. McCroskey, J.A. Daly, M.M. Martin, & M.J. Beatty (Eds.), *Communication and personality: Trait perspectives*. Cresskill, NJ: Hampton.
- Weizman, Z. O. & Snow, C. E. (2001). Lexical input as related to children's vocabulary acquisition: Effects and sophisticated exposure and support for meaning. *Developmental Psychology*, 37(2), 263-279.
- Westby, C. (1991). Learning to talk-Talking to learn: Oral-literate language differences. In C. Simon (Ed.), *Communication skills and classroom success* (pp. 334-357). Eau Claire, WI: Thinking Publications.