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Communication apprehension and self-perceived communication competence in adolescents who stutter

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Abstract

The purpose of this study was to examine the communication apprehension and self-perceived communication competence of 39 adolescents who stutter and 39 adolescents who do not stutter using two standardized communication measures. Significantly higher levels of communication apprehension and poorer scores on self-perceived communication competence were found in adolescents who stutter when compared with adolescents who do not stutter. Subscore test data revealed that adolescents who stutter had significantly greater fears about speaking in Group Discussions and Interpersonal Conversations than they had about Public Speaking and talking during Meetings, when compared with students who do not stutter. They also had significantly poorer perceptions about their own communication competence on the Talking to Strangers subscore test when compared with students who do not stutter. A significant positive relationship among stuttering severity, communication apprehension, and self-perceived communication competence total scores was found. Students who stutter severely had greater fears about speaking in group discussions and interpersonal conversations. Implications for stuttering therapy and the need for specifically addressing communication apprehension in treatment sessions are discussed. *Educational objectives:* (1) The reader will learn about communication apprehension and fear in people who stutter and be able to describe different types of responses to these fears. (2) The reader will be able to learn about commercially available

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instruments for testing communication apprehension and compare differences between adolescents who stutter and who do not stutter. (3) The reader will be able to describe and explain the relationship between communication apprehension and stuttering and determine its impact on stuttering and resulting treatment decisions.

Keywords: Stuttering; Communication apprehension; Competence; Adolescents

1. Introduction

Students who stutter are typically stereotyped as more insecure, withdrawn, introverted, fearful, anxious, tense, nonassertive, and afraid to talk than students who do not stutter. These negative biases are held by classroom teachers (Lass et al.,1992; Woods, 1978; Yeakle & Cooper, 1986), special educators (Ruscello, Lass, Schmitt, & Pannbacker, 1994), and speech–language pathologists (Lass, Ruscello, Pannbacker, Schmitt, & Everly-Myers, 1989; Silverman, 1982; Woods & Williams, 1971; Yairi & Williams, 1970). These negative stereotypes may influence such students' confidence about communicating and perceptions of themselves as competent communicators. Bloodstein (1995) indicated that students who stutter have poorer educational adjustments than students who do not stutter. Guitar (1998, p. 30), in discussing the research on school performance of students who stutter, stated that "stutterers perform slightly below average in school." He speculated that two factors contribute to students' poorer performance, including difficulty in talking and deficits in language-related skills. Difficulty in talking may be related to the repetitions, prolongations and blocks, learned responses to these speaking behaviors, as well as attitudes and feelings toward communication in general. A number of studies have reported that persons who stutter may develop negative attitudes toward communication (Andrews & Craig, 1988; Andrews & Cutler, 1974; Craig, Franklin, & Andrews, 1984; Guitar & Bass, 1978; Vanryckeghem & Brutten, 1992; Watson, 1988). Virtually absent from this important research is the study and understanding of communication attitudes, fears, and perceptions of adolescents who stutter.

2. Communication apprehension

Communication apprehension is defined as an individual's fear or anxiety (real or anticipated) about speaking to one or more individuals (McCroskey, 1984). Buss (1980) stated that the major causes of communication apprehension include novelty of the situation, formality of the situation, subordinate status, unfamiliarity and dissimilarity with the communication situation, and feelings of

conspicuousness and excessive attention. High levels of communication apprehension can be a major obstacle to developing communication competence and skills, and contribute to negative communication perceptions and bias. In contrast, individuals with typical communication apprehension are more likely to practice the psychomotor skills necessary for development of effective communication (Richmond & McCroskey, 1998). They are less likely to view the speaking environment as threatening, dangerous, and negative. Individuals with typical communication apprehension are willing to explore and improve their communication environment and interactions, thereby enhancing their communication competence, skills, and positive attitudes toward communication (Daly, McCroskey, Ayres, Hopf, & Ayres, 1997; McCroskey, 1977, 1984; McCroskey & McCroskey, 1988; Richmond & McCroskey, 1998; Richmond, McCroskey, & McCroskey, 1989).

The relationship among high communication apprehension, academic studies, academic success, and retention has been investigated. Researchers have reported that individuals with high communication apprehension display more negative attitudes toward school and show poorer overall academic performance compared to those with typical communication apprehension (Bourhis & Allen, 1992; Comadena & Prusank, 1988; Erickson & Gardner, 1992; Hurt & Preiss, 1978; Monroe & Borzi, 1988; Monroe, Borzi, & Burell, 1992; Rosenfeld, Grant, & McCroskey, 1995). High levels of communication apprehension have also been associated with negative personal and social adjustment, including reductions in perceived leadership potential, greater generalized anxiety and loneliness, fewer intimate and honest relationships, and less popularity in their social networks (Buhr & Pryor, 1988; Daly & McCroskey, 1975; Hawkins & Stewart, 1991; Kanfer & Tanaka, 1993; McCroskey, 1984; Stacks & Stone, 1983). Communication apprehension has also been reported to negatively affect teachers' perceptions. Teachers expect students with high communication apprehension to be less intelligent, less competent, less responsive, and less friendly (McCroskey & Daly, 1976; McCroskey & McVetta, 1978).

3. Communication competence

Research suggests that poor self-perceptions of communication competence may inhibit communication learning and contribute to reduced interactions and social withdrawal. Individuals' perceptions of their partners' receptiveness and their own perceptions of their competence as an effective communicator may also play important roles in communication development and learning (McCroskey, 1997; McCroskey & McCroskey, 1988). Spitzberg and Cupach (1984, p. 31) defined communicative competence as "the ability to adapt messages appropriately to the interaction context." Duran and Kelly (1988) reported significant canonical correlations among communicative competence, social experiences, and self-perceptions of performance for adults. They speculated that a cyclical

relationship could reinforce negative self-perceptions about communication interactions and at the same time heighten the individual's anxiety and fear of the situation. Studies have revealed that individuals with poor self-perceptions of communicative competence, compared to individuals with good self-perceptions of communication competence, report fewer social experiences and increased anxiety (Duran & Kelly, 1988), greater shyness (Cheek & Buss, 1981), greater loneliness (Zakahi & Duran, 1985), and are perceived as less physically attractive (Zakahi & Duran, 1984) and less willing to initiate communication and social interactions (McCroskey, 1992; MacIntyre, 1994).

4. Communication apprehension and stuttering

The unpredictable and variable nature of stuttering results in communication interactions that are novel or at best unfamiliar for both sender and receiver. Increased feelings of conspicuousness and unwanted attention due to stuttering behaviors, coupled with anticipation of negative evaluations from the communication partner, may heighten communication apprehension and self-perceptions of poor communicative competence in persons who stutter. Two studies have examined communication apprehension in adults who stutter. Neiman and Rubin (1991) studied predispositions toward communication (willingness to engage in communication) and changes in communication apprehension, satisfaction, and competence of 15 international graduate students receiving accent reduction therapy and 13 adults who were in stuttering therapy. They found that both groups had lower levels of communication apprehension after treatment and improved satisfaction and perception of their communication competence. Subjects also reported significant positive changes in their abilities and willingness to interact with others. Kelso (1998) surveyed the communication apprehension of 350 persons who stutter and found that they had higher levels of communication apprehensions than did persons who do not stutter. Neither of these studies examined school-age subjects nor subjects' self-perceived communication competence.

Educational settings place a major emphasis on oral communication skills focusing on public speaking and interactions in small groups. Reduced communication skills due to disruptions in fluency and/or fear about communicating may have a cumulative impact on a student's life. Adolescents who stutter may be at greater risk for failure in school environments because oral communication is an integral component of many classroom activities. For adolescents who stutter, fear of communicating and poor self-images as a competent communicator may present additional obstacles to successful adjustments to living with a potentially lifelong disorder (Blood et al., 1998).

No studies were found that have examined the relationship between oral communication apprehension and self-perceived communication competence in adolescents who stutter. If effective communication is an important skill for

academic success, especially during the middle and high school years, then studies examining these skills in adolescents who stutter are important for increasing our understanding of the disorder. The chronic nature of stuttering, the perceived lack of control, and the negative anticipation of communication partners' responses all seem to suggest that stuttering is associated with heightened communication apprehension and self-perceptions as a poor communicator.

Therefore, five research questions were asked:

1. Are there significant differences between adolescents who do and do not stutter on a trait-like measure of communication apprehension?
2. Are there significant differences between adolescents who do and do not stutter on a standardized measure of self-perceived communication competence?
3. Is there a significant positive relationship between standardized measures of communication apprehension and self-perceived communication competence of adolescents who do and do not stutter?
4. Is there a significant positive relationship between severity of stuttering and communication apprehension in adolescents who stutter?
5. Is there a significant positive relationship between severity of stuttering and self-perceived communication competence in adolescents who stutter?

5. Method

5.1. Subjects

Subjects were 39 adolescents who stutter, between ages 13 and 18 years (mean age = 14.4 years), and 39 adolescents who did not stutter (mean age = 14.6 years), all of whom were currently enrolled in school. Subjects were recruited for the study in two ways: (a) parents of children who stutter and were seen at the Pennsylvania State University Speech and Hearing Clinic were contacted by telephone and then in writing to explain the nature of the study and requesting their child's participation; (b) letters were mailed to speech–language pathologists and/or supervisors in school systems across Pennsylvania, Ohio, New Jersey, and Maryland, requesting their participation in a study of the communication attitudes of adolescents who stutter. Interested speech–language pathologists who returned a form identifying potential study participants were telephoned to confirm whether or not students met the following criteria: no repetition of a grade level, no placement in a special classroom, absence of a history of chronic physical or psychological disabilities (diabetes, asthma, neurological, learning, reading, or mental disabilities), and no history of chronic truancy. Because we were interested in studying the nature of communication fears and self-perceptions of communication competence, it is possible that specific therapy approaches (e.g., those that never and those that do target feelings and attitudes about stuttering) could confound our results. Although limiting generalization of results, we decided to

include only those students who had received some type of stuttering modification and/or anti-avoidance therapy, which should also result in a more homogeneous sample. Students' and/or speech–language pathologists' reports that included therapy or had included discussions about stuttering, desensitization activities, and/or cognitive components involving feelings, emotions, and attitudes toward stuttering and/or overall communication skills were included.

Information about the study was sent to speech–language pathologists with copies of consent forms for prospective subjects and parents. Individual testing times were scheduled for all subjects who stutter. In return for their assistance in recruiting subjects, speech–language pathologists were provided with a detailed summary and profile of their student's attitudes and feelings about communication and stuttering.

Control subjects were recruited from local school districts and matched for same grade, ethnicity, gender, and approximate age. Parental consent forms and subject consent forms were completed prior to the beginning of the study.

Each group included: 85% (33) male, 15% (6) female; 87% (34) Caucasian, 8% (3) African Americans, and 5% (2) Hispanic Americans. The adolescents who stutter were either currently enrolled or had been enrolled in treatment with a speech–language pathologist within the previous 3 years. Their stuttering severity was rated on the *Stuttering Severity Instrument*, 3rd ed. (Riley, 1994). A total of 10% (4) of the subjects' stuttering was rated in the mild category, 56% (22) in the moderate category, 23% (9) in the severe category, and 10% (4) in the very severe category.

6. Procedures

Information about the demographic characteristics of the subjects and the onset, duration, perceptions, and chronicity of stuttering were obtained. Information was also collected about familial history of stuttering, types and duration of treatment, and concomitant speech, language, or associated problems. Prior to administration of the communication scales, spontaneous speech and reading samples were collected by one of the authors from the adolescents who stutter. Subjects who stutter were tested individually. The *Personal Report of Communication Apprehension* (PRCA-24) (McCroskey, 1984) and the *Self-Perceived Communication Competence* (SPCC) scales (McCroskey & McCroskey, 1988) instruct students to complete items based on their experiences and attitudes toward communication. The students were also informed that this study was examining attitudes and that there were no right or wrong answers. Although a number of communication scales and questionnaires were administered and completed, this study reports only the results of the *PRCA-24* (McCroskey, 1984) and the SPCC scales (McCroskey & McCroskey, 1988). Stuttering severity ratings were also obtained using the *Stuttering Severity Instrument for Children and Adults*, 3rd ed. (Riley, 1994).

Control subjects were administered the communication scales either individually or in small groups not exceeding 10 students. Administration of the PRCA and the SPCC in small groups does not compromise the validity of either instrument (Daly & McCroskey, 1975; McCroskey, Andersen, Richmond, & Wheeless, 1981; McCroskey, Beatty, Kearney, & Plax, 1985; Richmond & McCroskey, 1998; Rubin, Graham, & Mignerey, 1990).

6.1. Personal report of communication apprehension (PRCA)

The PRCA (McCroskey, 1984) is a 24-item self-report scale designed to measure an individual's fear, anxiety, or apprehension (real or anticipated) about speaking to one or more other individuals. Subjects completed 24 statements using a five-choice rating scale: (1) *strongly agree*, (2) *agree*, (3) *undecided*, (4) *disagree*, or (5) *strongly disagree*. The scale yields a total score and four subscores for communication apprehension in the following settings: (1) discussion groups, (2) meetings, (3) interpersonal conversations, and (4) public speaking. Total scores ranged from 24 to 120 and are calculated by adding the four subscores. Norms for high, typical, and low communication apprehension have been developed based on data from more than 40,000 individuals (Levine & McCroskey, 1990). According to Richmond & McCroskey (1998, p. 44):

> Any score above 65 indicates that you are more generally apprehensive (scared) about communication than the average person. Scores above 80 indicate a very high level of trait like CA (almost scared speechless). Scores below 50 indicate a very low level of CA (generally willing to talk). Extreme scores (either below 50 or above 80) are abnormal. This means that the degree of apprehension you experience may not be associated with a realistic response to a situation.

Subscores range from 6 to 30 for each of the four settings (group discussions, meetings, interpersonal conversations, and public speaking). Examples of items include: I dislike participating in group discussions; Certain parts of my body feel very tense and rigid when I am giving a speech; Ordinarily, I feel very tense and nervous in conversations. Specific subscores indicate a high level of communication apprehension and typical scores. There are no low communication apprehension norms.

The PRCA is internally consistent with α reliability estimates for all 24 items ranging from .93 to .95 (McCroskey et al., 1985), and test–retest reliability has been reported at .85 (Rubin et al., 1990). A number of studies support the construct and criterion-related validity of the PRCA. Beatty and Friedland (1990), McCroskey and Beatty (1984), and McCroskey and McVetta (1978) have reported that all four context-based subscores predict state anxiety, avoidance behavior, and withdrawal behavior during public speaking. Total PRCA scores are negatively related to assertiveness and length of speaking (McCroskey et al., 1985).

6.2. Self-perceived communication competence (SPCC)

According to Daly et al. (1997), the best measure of self-perceived communication competence is the SPCC scale (McCroskey & McCroskey, 1988). This self-evaluation, 12-item scale measures the individual's communicative competence on a scale from 0 to 100. Subjects estimate their communication competence in four settings (public speaking, meetings, group discussions, and interpersonal conversations) and with three communication partners (strangers, acquaintances, and friends). An overall SPCC score is obtained ranging from 0 (*completely incompetent*) to 100 (*completely competent*). Higher SPCC total scores (i.e., >87) indicate very good self-perceived communication competence, while lower scores (i.e., <59) suggest poor self-perceived communication competence. Subscores also range from 0 to 100 for the four contexts (groups, meetings, interpersonal conversations, and public speaking), and specific subscores ranges can be found in Richmond and McCroskey, 1998.

The SPCC is internally consistent. The α reliability estimates for all 12 items range from .67 to .92 (McCroskey & McCroskey, 1988) and test–retest reliability has been reported at .82 (Richmond et al., 1989). A number of studies support its construct and criterion-related validity. Researchers have reported that typical and good SPCC scores correlate positively with self-esteem (Chesebro et al., 1992; Rosenfeld et al., 1995), willingness to communicate (McCroskey, 1992), positive attitudes toward communication (Richmond et al., 1989), and sociability in adolescents (Rosenfeld et al., 1995). Studies have also been conducted that reported negative correlations between high communication apprehension and high self-perceived communication competence (Chesebro et al., 1992; Rosenfeld et al., 1995).

6.3. Data analyses and reliability

To determine if significant differences existed between the two groups of subjects, separate *t* test for independent samples were computed between the groups' mean total scores and subscores on the PRCA (Question no. 1) and SPCC (Question no. 2). The relationship between the PRCA and the SPCC scores for all subjects was determined by Pearson product–moment correlations (Question no. 3), as were the relationships between stuttering severity, as measured by the SSI-3, and total scores on the PRCA (Question no. 4) and the SPCC (Question no. 5). The α was set to the .05 level of confidence for all tests of significance.

Test–retest reliability was assessed by re-administering both instruments to a random group of nine subjects who stutter and nine subjects who do not stutter at least 2 weeks, but no more than 4 weeks, after initial administration of the instruments that estimated reliability to be +.83.

7. Results

7.1. Descriptive analysis

Table 1 displays the number and percentage of subjects who were classified as demonstrating high, typical, or low communication apprehension and self-perceived communication competence based on the PRCA and SPCC, respectively. The table shows that more than twice as many subjects who stutter reported "high" communication apprehension compared to the subjects who do not stutter. Table 1 also shows that three times as many subjects who stutter perceived themselves as having poor communication competence compared to control subjects. The data also reveal that a majority of the adolescents in both groups reported typical and/or low communication apprehension as well as typical and/or good self-perceived communication competence.

Subscores for each scale were also analyzed. As can be seen in Table 2, the Public Speaking subscore data revealed high communication apprehension for a majority of subjects in both groups. Both the Meetings and Group Discussions subscore data revealed substantially higher communication apprehension for the subjects who stutter than who do not. The Interpersonal Conversations subscore data indicated that high communication apprehension is experienced by nearly three times as many subjects who stutter as control subjects. Thus, similar percentages of adolescents from both groups received Public Speaking and Meetings subscores indicating high communication apprehension, whereas many more adolescents who stutter reported high communication apprehension for the Group Discussions and Interpersonal Conversations subscores. It should also be noted that the subscores categorized as typical did not range as high for students who stutter as did those of the students who do not stutter.

An analysis of the SPCC subscores was also conducted, and Table 3 shows that three to four times as many adolescents who stutter reported poor self-

Table 1
Number and percentage of respondents who stuttered and who did not stutter classified as high, typical, or low on PRCA and SPCC total scores

Scale	Respondents who stutter	Respondents who did not stutter
PRCA		
High communication apprehension	15 (39%)	7 (18%)
Typical communication apprehension	22 (56%)	30 (77%)
Low communication apprehension	2 (5%)	2 (5%)
SPCC		
Good self-perceived communication competence	3 (8%)	13 (33%)
Typical self-perceived communication competence	20 (51%)	21 (54%)
Poor self-perceived communication competence	16 (41%)	5 (13%)

Table 2
Number and percentage of respondents who stuttered and who did not stutter classified as high or typical on PRCA subscores

	Respondents who stutter		Respondents who did not stutter	
Scale	High	Typical	High	Typical
PRCA subscores				
Public speaking	20 (51%)	19 (49%)	21 (54%)	18 (46%)
Meetings	12 (31%)	27 (69%)	8 (21%)	31 (79%)
Group discussions	16 (41%)	23 (59%)	8 (21%)	31 (79%)
Interpersonal conversations	15 (38%)	24 (62%)	5 (13%)	34 (87%)

perceived communication competence on the Strangers, Group Discussions, and Interpersonal Conversations subscores than did adolescents who do not stutter. In contrast, similar percentages of subjects in each group reported typical communication competence in Meetings and Public Speaking and with acquaintances and friends.

7.2. Statistical analysis

7.2.1. Differences between groups

Results of the analysis of a t test for independent samples of the two groups' total scores on the PRCA revealed that the means of the two groups were significantly different [$t(86) = 2.83$, $P < .05$] (Table 4) as did their mean total scores on the SPCC [$t(86) = 3.12$, $P < .05$]. Significant differences ($P < .05$) were also found between the two groups on the Group Discussions and Interpersonal Conversations subscores of the PRCA, as well as the Group Discussions, Interpersonal Conversations, and Strangers subscores of the SPCC.

7.2.2. Correlations

Correlations between PRCA and SPCC scores revealed a significant, moderate positive correlation ($r = +.51$, $P < .05$), whereas correlations of PRCA total scores

Table 3
Number and percentage of respondents who stuttered and who did not stutter classified as poor, typical, or good on seven SPCC subscores

	Respondents who stutter			Respondents who did not stutter		
Scale	Poor	Typical	Good	Poor	Typical	Good
SPCC subscores						
Public speaking	5 (13%)	30 (77%)	4 (10%)	3 (8%)	31 (79%)	5 (13%)
Meetings	6 (15%)	30 (77%)	3 (8%)	4 (10%)	30 (77%)	5 (13%)
Group discussion	12 (31%)	25 (64%)	2 (5%)	3 (8%)	32 (82%)	4 (10%)
Interpersonal conversations	17 (44%)	18 (46%)	4 (10%)	4 (10%)	32 (82%)	3 (8%)
Strangers	18 (46%)	17 (44%)	4 (10%)	3 (8%)	33 (84%)	3 (8%)
Acquaintance	5 (13%)	32 (82%)	2 (5%)	3 (8%)	32 (82%)	4 (10%)
Friend	4 (10%)	31 (80%)	4 (10%)	2 (5%)	33 (84%)	4 (10%)

Table 4
Means and standard deviations for respondents who stuttered and respondents who did not stutter on the PRCA and the SPCC total scores and subscores

	Respondents who stutter		Respondents who did not stutter	
Scale	Mean	S.D.	Mean	S.D.
PRCA-24				
Total score *	70.9	14.9	64.1	9.7
Public speaking	19.2	5.1	19.5	4.8
Meeting	15.7	3.7	15.7	3.2
Group discussion *	18.1	5.4	14.6	3.0
Interpersonal conversations *	17.9	4.9	14.3	3.2
SPCC				
Total score *	63.6	15.2	75.9	14.2
Public	68.2	9.9	69.8	8.3
Meeting	65.3	6.8	69.3	7.1
Group discussion *	50.7	9.3	74.3	7.5
Interpersonal conversations *	50.3	7.9	82.2	9.2
Stranger *	49.5	7.0	66.3	9.8
Acquaintance	78.4	5.3	82.2	7.5
Friend	83.0	8.4	87.4	4.9

* Significant differences between groups at the $P < .05$ level of confidence.

with subjects' stuttering severity classifications found a significant, high, positive correlation ($r = +.79$, $P < .05$). The four subjects who were classified in the mild category had the lowest communication apprehension, while the four subjects in the very severe category had the highest. Correlations were also generated between SPCC total scores and subjects' stuttering severity classifications, and significant, moderate, positive correlation was found ($r = +.42$, $P < .05$).

8. Discussion

This research suggests that adolescents who stutter have greater ''fear of speaking'' and apprehension about communication than do adolescents who do not stutter. They also reported significantly poorer self-perceived communication competence and significantly higher levels of communication apprehension in two specific contexts: Group Discussions and Interpersonal Conversations. Similarly, adolescents who stutter estimated their communication competence to be significantly poorer than their normally fluent peers in Group Discussions, Interpersonal Conversations, and when talking with Strangers. These data are consistent with findings from studies examining these communication constructs in adults who stutter (Kelso, 1998; Neiman & Rubin, 1991). It appears that communication apprehension may be a concomitant problem of some adults and adolescents who stutter.

There are a number of possible reasons why adolescents who stutter have heightened communication apprehension. It may be that they feel they do not possess the necessary speech motor skills to accomplish communicative goals or it may be a result of conditioning. Such communication fears may be a typical response of adolescents who stutter to listeners' reactions to their stuttering.

One of the more interesting findings was that 61% of the adolescents who stutter reported typical or low levels of communication apprehension and 59% typical self-perceived communication competence. According to Daly et al. (1997) and McCroskey (1984), communication apprehension in individuals who do not stutter may be the result of conditioning that occurs when a neutral communication activity is associated with negative and aversive consequences. This theory parallels a number of widely accepted theories regarding the role of negative emotion, uncertainty, and anticipation of the stuttering moment and their impact on the speaker and resulting perceived ''loss of control'' during communication interactions (Bloodstein, 1995; Brutten & Shoemaker, 1967; Van Riper, 1973). One might expect to find a higher percentage of communication fear and poor self-perceived communication competence in adolescents who stutter because of their perceived uncertainty about fluent communication, reported sense of helplessness, and loss of control during communication interactions. However, these data suggest that a majority of them appear to have developed appropriate coping strategies and effective ways of dealing with speaking fears. Blood et al. (1998) also reported that adolescents who stutter do learn appropriate coping skills and adjustment strategies for living with a chronic disorder. Although these percentages are approximately 20% lower than those of control subjects, a possible explanation for the positive findings might be the therapy that students were receiving or had received. Research in the area of communication apprehension has shown a reduction in fears and positive changes toward communication with training (Ayres, 1988; McCroskey, 1997; Richmond & McCroskey, 1998). Guitar (1998) has suggested that treatment approaches may be selected based on neuromotor speech breakdown and vulnerable temperaments. He suggests that advanced and/or persistent forms of stuttering may be the result of both factors. He stated that:

> Fluency shaping, with its emphasis on slow speech production, may be well suited for individuals who have less of the temperament component and more of the neuromotor breakdown component. In fact, some research suggests that clients who have relatively low scores on a measure of avoidance will gain substantial long-term benefits from fluency shaping. Stuttering modification therapies that emphasize exploration of and approach toward the stuttering as well as reduction of avoidance may be the best treatment for clients whose temperament makes them especially vulnerable to fear conditioning. On the other hand, clients who have more nearly equal proportions of both neuromotor breakdown and temperament components may be best served

> by approaches that integrate fluency shaping and stuttering modification (p. 233).

More than one-third of the adolescents who stutter reported high communication apprehension and feelings of low speaking competence and may be the type of clients that Guitar referred to as having a vulnerable temperament. It is possible that these adolescents would benefit from speech therapy that concentrated in part on relaxation, lowering social and communication anxiety or arousal, or systematic desensitization activities. It is also possible that treatment that increased these adolescents' motor speech skills would also reduce their speaking anxiety.

Another significant finding was the relationship between stuttering severity, high communication apprehension, and poor self-perceived communication competence. Adolescents who stutter severely are more likely to fear speaking and perceive themselves as less competent speakers than their less severe counterparts. It appears that severe stuttering is compounded by heightened communication fears in some adolescents. Stuttering severity, as defined in this study, included frequency, duration of stuttered moments, and physical concomitants. It is possible that some adolescents who stutter may speak less frequently and for shorter periods than individuals who stutter less severely. If so, one consistent finding in the literature is that communication apprehension is inversely related to the frequency and duration of talking done by people (Bourhis & Allen, 1992; Chan & McCroskey, 1987; Daly et al., 1997; Richmond & McCroskey, 1998). It may also be that severe stuttering often elicits anxiety and avoidance in both speakers and listeners (Collins & Blood, 1990). The increased visibility of the stuttering may have contributed to this heightened apprehension as well as the belief that listeners are unsupportive (Neer & Kircher, 1989).

This study's findings also revealed that adolescents with fluency disorders have higher communication fears in Group Discussions and Interpersonal Conversations. In a school setting, these heightened fears may compromise their performance in classroom activities that center on collaborative, small team projects. The results of the SPCC have implications for both student–teacher and peer relationships. If students perceive themselves to be incompetent in such interactions, they are less likely to interact with either peers or teachers who are viewed as strangers if they perceive themselves as less competent speakers with strangers. Such communication fears and apprehension during small group discussions and interpersonal conversations may be the result of numerous past negative experiences with fluency breakdowns.

Additional research is needed to advance understanding of how adolescents adjust to stuttering and of the relationships between communication variables and stuttering. Future studies should examine the relationship among communication apprehension, scales measuring speech-associated attitudes (Vanryckeghem & Brutten, 1992), perceived communication competence, stuttering treatment, academic performance, cognitive processing, as well as the relation-

ship between different stuttering treatment techniques and clients' communication apprehension.

References

Andrews, G., & Craig, A. (1988). Prediction of outcome after treament for stuttering. *Journal of Speech and Hearing Research*, *36*, 701–706.

Andrews, G., & Cutler, J. (1974). Stuttering therapy: the relation between changes in symptom level and attitudes. *Journal of Speech and Hearing Disorders*, *39*, 312–319.

Ayres, J. (1988). Coping with speech anxiety: the power of positive thinking. *Communication Education*, *37* (4), 289–296.

Beatty, M. J., & Friedland, M. H. (1990). Public speaking state anxiety as a function of selected situational and predispositional variables. *Communication Education*, *39*, 142–147.

Blood, G., Blood, I., Tellis, G., Gabel, R., Mapp, C., Wertz, H., & Wade, J. (1998). Coping with stuttering during adolescence. In: C. Healey, & H. Peters (Eds.), *Proceedings of the 2nd World Congress on Fluency Disorders* (pp. 319–324). The Netherlands: Nijmegen Univ. Press.

Bloodstein, O. (1995). *A handbook on stuttering* (5th ed.). San Diego, CA: Singular.

Bourhis, J., & Allen, M. (1992). Meta-analysis of the relationship between communication apprehension and cognitive performancee. *Communication Education, 41*, 68–76.

Brutten, G. J., & Shoemaker, D. J. (1967). *The modification of stuttering*. Englewood Cliffs, NJ: Prentice-Hall.

Buhr, T. A., & Pryor, B. (1988). Communication apprehension and alcohol abuse. *Journal of Social Behavior and Personality*, *3* (3), 237–243.

Buss, A. H. (1980). *Self-consciousness and social anxiety.*

Chan, B., & McCroskey, J. C. (1987). The WTC Scale as a predictor of classroom participation. *Communication Research Reports*, *4* (2), 47–50.

Cheek, J. M., & Buss, A. H. (1981). Shyness and sociability. *Journal of Personality and Social Psychology*, *41*, 330–339.

Chesebro, J. W., McCroskey, J. C., Atwater, D. F., Behrenfuss, R. M., Cawelti, G., Gaudino, J. L., & Hodges, H. (1992). Communication apprehension and self-perceived communication competence of at-risk students. *Communication Education*, *41*, 345–360.

Collins, C., & Blood, G. W. (1990). Acknowledgment and severity of stuttering as factors influencing nonstutterers' and stutterers' perceptions of stutterers. *Journal of Speech and Hearing Disorders*, *55*, 75–81.

Comadena, M. E., & Prusank, D. T. (1988). Communication apprehension and academic achievement among elementary and middle school students. *Communication Education*, *37* (4), 270–277.

Craig, A., Franklin, J., & Andrews, G. (1984). A scale to measure locus of control of behavior. *British Journal of Medical Psychology*, *57*, 173–180.

Daly, J. A., & McCroskey, J. C. (1975). Occupational choice and desirability as a function of communication apprehension. *Journal of Counseling Psychology*, *22*, 309–313.

Daly, J. A., McCroskey, J. C., Ayres, J., Hopf, T., & Ayres, D. M. (1997). *Avoiding communication: shyness, reticence, and communication apprehension* (2nd ed.). Cresskill, NJ: Hampton Press.

Duran, R. L., & Kelly, L. (1988). An investigation into the cognitive domain of competence: II. The relationship between communicative competence and interaction involvement. *Communication Research Reports*, *2*, 91–96.

Erickson, P. M., & Gardner, J. W. (1992). Two longitudinal studies of communication apprehension and its effects on college students' success. *Communication Quarterly*, *40*, 127–137.

Guitar, B. (1998). *Stuttering: an integrated approach to its nature and treatment* (2nd ed.). Baltimore: Williams and Wilkins.

Guitar, B., & Bass, C. (1978). Stuttering therapy: the relationship between attitude change and long-term outcome. *Journal of Speech and Hearing Disorders*, *19*, 590–600.

Hawkins, K., & Stewart, R. A. (1991). Effects of communication apprehension on perceptions of leadership and intragroup attraction in small task-oriented groups. *Southern Communication Journal*, *57*, 1–10.

Hurt, H. T., & Preiss, R. (1978). Silence isn't necessarily golden: communication apprehension, desired social choice, and academic success among middle school students. *Human Communication Research*, *4*, 315–328.

Kanfer, A., & Tanaka, J. S. (1993). Unraveling the web of personality judgements: the influence of social networks on personality assessments. *Journal of Personality*, *61*, 711–738.

Kelso, K. (1998). The relationship between communication apprehension, communication competence, and locus of control between stutterers and non-stutterers. In: C. Healey, & H. Peters (Eds.), *Proceedings of the 2nd World Congress on Fluency Disorders* (pp. 246–248). Nijmegen Univ. Press.

Lass, N. J., Ruscello, D. M., Pannbacker, M. D., Schmitt, J. F., & Everly-Myers, D. S. (1989). Speech–language pathologists' perceptions of child and adult female and male stutterers. *Journal of Fluency Disorders*, *14* (2), 127–134.

Lass, N. J., Ruscello, D. M., Schmitt, J. F., Pannbacker, M. D., Orlando, M. B., Dean, K. A., Ruziska, J. C., & Bradshaw, K. H. (1992). Teachers' perceptions of stutterers. *Language, Speech, and Hearing Services in the Schools*, *23* (1), 78–81.

Levine, T. R., & McCroskey, J. C. (1990). Measuring trait communication apprehension: a test of rival measurement models of the PRCA-24. *Communication Monographs, 57* (1), 62–72.

MacIntyre, P. D. (1994). Variables underlying willingness to communicate: a causal analysis. *Communication Research Reports*, *11*, 135–142.

McCroskey, J. C. (1977). Oral communication apprehension: a summary of recent theory and research. *Human Communication Research*, *4*, 78–96.

McCroskey, J. C. (1984). The communication apprehension perspective. In: J. A. Daly, & J. C. McCroskey (Eds.), *Avoiding communication: shyness, reticence and communication apprehension* (pp. 13–38). Beverly Hills, CA: Sage Publications.

McCroskey, J. C. (1992). Reliability and validity of the willingness to communicate scale. *Communication Quarterly*, *40*, 16–25.

McCroskey, J. C. (1997). Willingness to communicate, communication apprehension, and self-perceived communication competence: conceptualizations and perspectives. In: J. A. Daly, J. C. McCroskey, J. Ayres, T. Hopf, & D. M. Ayres (Eds.), *Avoiding communication: shyness, reticence and communication apprehension* (pp. 13–38). Cresskill, NJ: Hampton Press.

McCroskey, J. C., Andersen, J. F., Richmond, V. P., & Wheeless, L. R. (1981). Communication apprehension of elementary and secondary students and teachers. *Communication Education*, *30*, 122–132.

McCroskey, J. C., & Beatty, M. J. (1984). Communication apprehension and accumulated communication state anxiety experiences: a research note. *Communication Monographs*, *51*, 79–84.

McCroskey, J. C., Beatty, M. J., Kearney, P., & Plax, T. G. (1985). The content validity of the PRCA-24 as a measure of communication apprehension across communication contexts. *Communication Quarterly*, *33*, 165–173.

McCroskey, J. C., & Daly, J. A. (1976). Teacher's expectations of the communication apprehensive child in the elementary school. *Human Communication Research*, *3*, 67–72.

McCroskey, J. C., & McCroskey, L. L. (1988). Self-report as an approach to measuring communication competence. *Communication Research Reports*, *5*, 108–113.

McCroskey, J. C., & McVetta, R. W. (1978). Classroom seating arrangements: instructional communication theory versus student preference. *Communication Education*, *27*, 99–111.

Monroe, C., & Borzi, M. G. (1988). Communication apprehension and avoidance in postsecondary education. *School Counselor*, *36*, 119–123.

Monroe, C., Borzi, M. G., & Burrell, R. D. (1992). Communication apprehension among high school dropouts. *School Counselor*, *39*, 273–280.

Neer, M. R., & Kircher, W. F. (1989). Apprehensive's perception of classroom factors influencing their class participation. *Communication Research Reports*, *6* (1), 70–77.

Neiman, G. S., & Rubin, R. B. (1991). Changes in communication apprehension, satisfaction, and competence in foreign dialect and stuttering clients. *Journal of Communication Disorders*, *24*, 353–366.

Richmond, V. P., & McCroskey, J. C. (1998). *Communication apprehension, avoidance, and effectiveness* (5th ed.). Needham Heights, MA: Allyn and Bacon.

Richmond, V. P., McCroskey, J. C., & McCroskey, L. L. (1989). An investigation of self-perceived communication competence and personality orientations. *Communication Research Reports*, *6*, 28–36.

Riley, G. (1994). *Stuttering severity instrument for children and adults* (3rd ed.). Austin, TX: Pro-Ed.

Rosenfeld, L. B., Grant, C. H. III, & McCroskey, J. (1995). Communication apprehension and self-perceived communication competence of academically gifted students. *Communication Education*, *44*, 79–86.

Rubin, R. B., Graham, E. E., & Mignerey, J. T. (1990). A longitudinal study of college students' communication competence. *Communication Education*, *39*, 1–14.

Ruscello, D. M., Lass, N. J., Schmitt, J. F., & Pannbacker, M. D. (1994). Special educators' perceptions of stutterers. *Journal of Fluency Disorders*, *19*, 125–132.

Silverman, E. M. (1982). Speech–language clinicians' and university students' impressions of women and girls who stutter. *Journal of Fluency Disorders*, *7*, 469–478.

Spitzberg, B. H., & Cupach, W. R. (1984). *Interpersonal communication competence*. Beverly Hills, CA: Sage Publications.

Stacks, D., & Stone, J. D. (1983). The effect of self-concept, self-discipline, and type of speech course on communication apprehension. *Communication*, *12*, 105–127.

Van Riper, C. (1973). *The treatment of stuttering*. Englewood Cliffs, NJ: Prentice-Hall.

Vanryckeghem, M., & Brutten, G. J. (1992). The Communication Attitude Test: a test–re-test reliability investigation. *Journal of Fluency Disorders*, *17*, 177–190.

Watson, J. B. (1988). A comparison of stutterers' and nonstutterers' affective, cognitive and behavioral communication attitudes. *Journal of Speech and Hearing Research*, *31*, 377–385.

Woods, C. L. (1978). Teachers' predictions of the social position and speaking competence of stuttering students. *Language, Speech, and Hearing Services in the Schools*, *6*, 177–182.

Woods, C. L., & Williams, D. E. (1971). Speech clinicians' conceptions of boys and men who stutter. *Journal of Speech and Hearing Disorders*, *36*, 225–234.

Yairi, E., & Williams, D. E. (1970). Speech clinicians' stereotypes of elementary-school boys who stutter. *Journal of Communication Disorders*, *3*, 161–170.

Yeakle, M. K., & Cooper, E. B. (1986). Teacher perceptions of stuttering. *Journal of Fluency Disorders*, *11*, 345–359.

Zakahi, W. R., & Duran, R. L. (1984). Attraction, communicative competence, and communication satisfaction. *Communication Research Reports*, *1*, 54–57.

Zakahi, W. R., & Duran, R. L. (1985). Loneliness, communicative competence, and communication apprehension: extension and replication. *Communication Quarterly*, *33*, 50–60.

CONTINUING EDUCATION

Communication apprehension and self-perceived communication competence in adolescents who stutter

QUESTIONS

1. Students who stutter
   (a) perform significantly below average in school.

(b) are perceived as secure, extroverted, and assertive when compared to students who do not stutter.
(c) usually have not developed negative attitudes toward communication.
(d) tend to have lower intelligence quotients for both verbal and nonverbal tests.
(e) may be perceived negatively by classroom teachers, special educators, and SLPs.

2. Communication apprehension is defined as an individual's fear or anxiety about speaking to one or more individuals. Communication apprehension may be caused by:
(a) genetic predispositions.
(b) inferior intelligence.
(c) unfamiliarity or dissimilarity with the communication situation.
(d) Attention Deficit Disorder.
(e) neurological abnormalities.

3. Individuals with high communication apprehension:
(a) display more negative attitudes toward school.
(b) show poorer overall academic performance.
(c) have negative personal and social adjustment problems.
(d) have greater generalized anxiety and loneliness.
(e) all of the above

4. According to the findings of this study, adolescents who stutter:
(a) reported lower levels of communication apprehension when compared with adolescents who do not stutter.
(b) estimated their communication competence to be the same as their normal fluent peers.
(c) reported higher levels of communication apprehension when compared with adolescents who do not stutter.
(d) showed no relationship between stuttering severity, communication apprehension, and perceived poor communication competence.
(e) showed greater communication fears during public speaking than adolescents who did not stutter.
5. The results of this study suggest certain treatment considerations:
(a) Treatment for stuttering in adolescents should always address communication apprehension and fears as the first stage of therapy.
(b) Fluency shaping targets would assist individuals with high communication apprehension and poor self-perceived communication competence through easy onset and slow speech.
(c) Severe stuttering is never compounded by other problems like heightened communication fears and should not be part of a comprehensive treatment program.

(d) Treatment for individuals who stutter, with high communication fears, should focus on enhancing the student's performance in classroom activities such as group discussions and interpersonal conversations.
(e) All of the above.