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THE SPEECH SITUATION CHECKLIST: A NORMATIVE AND COMPARATIVE INVESTIGATION OF CHILDREN WHO DO AND DO NOT STUTTER

By

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ABSTRACT

Studies conducted over the past decades have identified the presence of a greater amount of negative emotional reaction and speech disruption in particular speech situations among children who stutter, compared to those who do not (Brutten & Vanryckeghem, 2003b; Knudson, 1939; Meyers, 1986; Trotter, 1983). Laboratory investigations have been utilized to describe the particular situations that elicit the greatest or least amount of speech concern and fluency failures. More recently, in order to deal with the limitation of laboratory research, the use of self-report tests have gained popularity as a means of exploring the extent of negative emotional reaction and speech disruption in a wide array of speaking situations. However, the availability of such instruments for use with children has been limited. Toward this end, the Speech Situation Checklist (SSC) was designed for use with youngsters who do and do not stutter (Brutten 1965b, 2003b).

Past investigations utilizing the SSC for Children have reported on reliability and validity information and provided useful normative data (Brutten & Vanryckeghem, 2003b; Trotter, 1983). Additionally, the findings from those research studies have consistently revealed statistically significant differences in speech-related negative emotional response and speech disorganization between children who do and do not stutter. However, since its initial construction, the SSC has undergone modifications and paucity of normative data for the current American form of the SSC has restricted its clinical use.

To fill this void, the revised SSC for children was utilized in the present study to obtain current normative and comparative data for American grade-school stuttering and nonstuttering

children. Additionally, the effect of age and gender (and their interaction) on the emotional reaction and speech disruption scores of the SSC was examined.

The SSC self-report test was administered to 79 nonstuttering and 19 stuttering elementary and middle-school children between the ages of 6 and 13. Only those nonstutterers who showed no evidence of a speech, language, reading, writing or learning difficulty, or any additional motor or behavioral problems were included in the subject pool. Similarly, only those stuttering participants who did not demonstrate any language or speech disorder other than stuttering were contained in the study.

Measures of central tendency and variance indicated an overall mean score of 78.26 (SD=19.34) and 85.69 (SD=22.25) for the sample of nonstuttering children on the Emotional Reaction section and Speech Disruption section of the SSC, respectively. For the group of stutterers the overall mean for Emotional Reaction was 109.53 (SD=34.35) and 109.42 (SD=21.33) for the Speech Disruption section. This difference in group means proved to be statistically significant for both emotional response (t=3.816, p=. 001) and fluency failures (t=4.169, p=. 000), indicating that, as a group, children who stutter report significantly more in the way of emotional response to and fluency failures in the situations described in the SSC, compared to their fluent peers. Significant high correlations were also obtained between the report of emotional response and the extent of fluency failures in the various speaking situations for both the group of nonstuttering (.70) and stuttering (.71) children.

As far as the effect of age and gender is concerned, the present study found no significant difference in the ER and SD scores between the male and female or the younger and older group

of nonstuttering children. Interestingly, a significant age by gender interaction was obtained for the nonstuttering children, only on the Speech Disruption section of the test.

This thesis is dedicated to
the loving memory and celebration of the life of my father,
whose love and influence will remain with me always.
I know you are around watching me through every step.
Thanks Papa.

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Last, but never least, I am grateful to my loving husband, Prakash, for his understanding, sacrifice and constant support during the many long hours. I can never imagine having a better companion and friend than you!

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INTRODUCTION

Emotional Reaction in Particular Speech Situations

Stuttering is typically described as a multidimensional disorder. Cooper (1993) described stuttering as consisting of a behavioral, affective and cognitive component. Likewise, Van Riper (1982) defined stuttering as having three elements: 1) aberrant speech behaviors, 2) emotional upheaval, reflected in physiological and stress reactions, and 3) negative communication attitudes and lifestyle adjustments. This multi-modal view of stuttering is also seen by Logan and Yaruss (1999), as encompassing aberrant speech behaviors (repetitions, sound prolongations and blocks), as well as negative emotional and cognitive reactions to these speech behaviors. G.J Brutten (personal communication, May 29, 2003), from a slightly different perspective, views the affective, behavioral and cognitive variables (ABC) not as components of stuttering, but as the make up of the 'person who stutters'.

The affective component can be best described as speech-related anxiety. Due to the long-held belief that negative emotional reaction contributes to stuttering, many theories regarding the nature and etiology of stuttering have included speech-related anxiety as a critical component of this disorder (Brutten & Shoemaker, 1967; Johnson, 1955; Sheehan, 1958; Van Riper, 1963, & Wischner, 1950). Johnson (1955) proposed the Diagnosogenic Theory, according to which stuttering in children begins as a reaction to parental anxiety, pressure and criticism directed towards normal nonfluencies. The Two-Factor Theory advanced by Brutten and Shoemaker (1967) recognizes the role of speech situations that, through a process of classical conditioning, serve as learned negative cues that occasion stuttering. They theorized that repeated disruptions in fluency occurring in emotionally laden situations become associated with

the neutral stimuli in those situations. Over time, these originally neutral stimuli take on a negative value, which, in turn, may lead to stuttering.

Research conducted over the years has explored the relationship between anxiety and stuttering. Anxiety level differences between stutterers and nonstutterers in a single or in different situations have been investigated. In order to do this, researchers have studied anxiety from a physiological, behavioral and subjective perspective. One such physiological measure was obtained through examination of changes in heart rate (Baumgartner & Brutten, 1983; Kraaimaat, Janssen, & Brutten, 1988; Peters & Hulstijn, 1984; Weber & Smith, 1990). Other means of investigating anxiety levels were through palmar sweating (Brutten, 1963; Gray & Karmen, 1967), blood pressure changes (Dabul & Perkins, 1973), and electrodermal activity (Kraaimaat et al., 1988; Peters & Hulstijn, 1984; Weber & Smith, 1990). However, it cannot be disregarded that physiological measurements have their own limitations. The organism's response lag and contamination created by body movements such as arm swinging, head jerking, jaw clenching and the like can interfere with the assessment of emotional response (Brutten, 1975).

In addition to the physiological measurement of anxiety, considerable time has been devoted to the development of self-report paper and pencil tests to study speech-associated concerns. The self-report measures developed were of three types. There were those that assessed attitude toward interpersonal communication, those that were a blend of self-evaluative attitudinal and behavioral items and those that evaluated a speaker's reaction to specific speaking situations. These measures provide the clinician with ways of examining and measuring the manner in which speakers view their speech and react to various speech situations. They also

serve to identify abnormal amounts of speech-related anxiety in stutterers in whom it is believed to exist.

Self-report procedures became popular as a means of gathering data on anxiety because they were found to be more reliable than physiological measurements related to anxiety (Craig, 1994; Menzies, Onslow & Packman, 1999). Moreover, the difficulty in recording observer judgment data in the many situations that one might encounter, was overcome through the use of questionnaires, which became instrumental in eliciting reactions to a wide array of speaking situations that constitute a speaker's daily routine.

Continued exploration of self-reported anxiety among people who stutter, in a variety of contexts has theoretical and clinical importance. The self-report tests' clinical value is exemplified by its use before or during a diagnostic session. By means of a questionnaire clinicians might ask their clients who stutter to rate the amount of anxiety they experience in a variety of speaking situations. Responses to these questionnaires can then be used to index the level of speech-related anxiety anticipated in or associated with different situations and to develop hierarchies of situations evoking speech-related anxiety. These hierarchies can then be used during treatment, where the clients are initially engaged in speech activities that evoke a low-level of anxiety and, as the client desensitizes to that level of anxiety, he is gradually introduced to those speech-related activities that evoke a greater amount of anxiety. The assumption underlying the use of hierarchies suggested by the clients is that they are able to accurately report on the anxiety that accompanies various speaking situations.

Self-Reported Emotional Reaction in Adults

In the past years, self-report questionnaires have come to be widely used to investigate and compare anxiety levels in adults who do and do not stutter. Miller and Watson (1992) examined the relationship between 'state' and 'trait' anxiety in a group of stuttering and nonstuttering adults. State anxiety refers to a current ongoing level of anxiety i.e., anxiety at a particular moment or in a specific situation (e.g. talking on the telephone), whereas trait anxiety refers to an individual's general disposition towards anxiety at all times (e.g., I am generally calm, cool and collected). Miller and Watson studied these measures of anxiety using the Spielberger State-Trait Anxiety Inventory (STAI) (Spielberger, 1983). The STAI consists of two, 20-item scales designed to measure two aspects of anxiety: state (S-Anxiety) and trait (T-Anxiety). The S-Anxiety scale requires subjects to indicate how they feel 'right now, at this moment or during a particular situation', such as when speaking on the telephone, while the T-Anxiety scale assesses how the individual feels 'generally'. Subjects respond to the 20 statements by marking a response ranging from 1(Not at all) to 4 (Very much so). The maximum weighted score on each scale is 80, indicating the greatest degree of anxiety. No significant between group differences were noted by Miller and Watson (1992) on both the S-Anxiety and T-Anxiety scales. The scores for both groups were found to be within the norms for working adult male and female Americans, previously established by Spielberger (1983). Based on the results it was assumed that people who stutter did not have a significant amount of state or trait anxiety. However, the findings of this study were questioned by Craig (1994) because the majority of the subjects had received treatment for a period ranging from six months to twenty years and no information was given relative to the type of treatment received.

Craig, in an earlier study (1990) did find a significant relationship between stuttering and anxiety. She not only compared levels of anxiety between adults who do and do not stutter but also examined the changes in stutterers' anxiety levels following a behavioral treatment program designed primarily to reduce stuttering through behavior therapy and speech modification techniques. Primary or direct anxiety reduction techniques were not incorporated into the program. By means of the STAI (Spielberger, 1983), Craig found that stutterers' trait and state anxiety scores prior to treatment were significantly higher than normal. However, their trait anxiety scores following intensive treatment were within normal limits. Craig did not measure post-treatment state anxiety. State anxiety measured before treatment correlated significantly to pretreatment percentage stuttering frequency but not to post-treatment stuttering frequency. On the other hand, trait anxiety measured before treatment was not significantly related to either pre or post treatment stuttering. The significant correlation between stuttering frequency and state anxiety prior to treatment may suggest that people who stutter experience greater anxiety related to social interactions and particular speaking situations. As a result they may feel excessively uncomfortable when speaking in social contexts perceived as demanding.

In yet another study, Kraaimaat, Janssen and Van Dam-Baggen (1991), used a social anxiety schedule Likert scale to compare social anxiety among stutterers with that of two control groups: social phobics and normal adults. It was found that stutterers were significantly more anxious than nonstutterers but less than social phobics. Scores of stutterers approximated a normal distribution (i.e. stutterers scored high as well as low in social anxiety), whereas social phobics had a negatively skewed distribution. The results did not support the notion that social anxiety is an essential part of stuttering. However, since a subgroup of stutterers did show

relatively high scores, it was concluded that it is of clinical relevance to assess social anxiety of individuals who stutter. These results were confirmed in a follow-up study conducted by Kraaimaat, Vanryckeghem and Van Dam-Baggen (2002) using the Inventory of Interpersonal Situations (IIS) (Van Dam-Baggen & Kraaimaat, 1987). The inventory consists of 35 statements, rated twice on a 5-point scale, once according to the level of emotional tension or anxiety experienced in the various social situations (Discomfort Scale) and a second time according to the frequency with which social responses or skills are performed in the exact same situations (Frequency of Occurrence Scale). The results of their study indicated that adults who stutter experience significantly higher amounts of emotional tension in social situations than do persons who do not stutter. Moreover, it was observed that the frequency with which the stutterers engaged in social interactions was significantly lower than what was reported by their nonstuttering matched peers.

Also Mahr and Torosian (1999) examined anxiety symptoms in 22 stutterers as compared to a social phobic and a control group. Using a battery of self-report measures of anxiety, they investigated distress and avoidance in social situations, fear of being negatively evaluated by others and general anxiety, respectively. The battery consisted of the Social Avoidance and Distress scale (SAD) (Watson & Friend, 1969), Fear of Negative Evaluation scale (FNE) (Watson & Friend, 1969) and the Self-Rating Anxiety Scale (SAS) (Zung, 1971). The Social Avoidance and Distress scale (SAD) is a 28-item true-false questionnaire that measures the experience of distress in social situations and the deliberate avoidance of social situations. The Fear of Negative Evaluation (FNE) is a 30-item true/false questionnaire that measures fear of negative evaluation from others, and the Self-Rating Anxiety Scale (SAS) is a 20-item

questionnaire designed to measure overall anxiety by asking the respondent to endorse the presence and frequency of cognitive and somatic symptoms of anxiety. The results of this investigation revealed that stutterers, compared to the control group, had significantly greater social distress and avoidance of social situations, along with significantly greater symptoms of anxiety as measured by the SAD and SAS, respectively. Compared to the social phobic group the stutterers scored significantly lower on both the SAD and FNE scales. No significant between-group differences were noted with regard to cognitive and somatic symptoms of anxiety, as measured by the SAS. Interestingly, evaluation of the main phobia of their subjects by means of a Fear Questionnaire (FQ) (Marks & Mathews, 1979), revealed that sixty-five percent of their stuttering participants reported their main phobia to revolve around speech acts and not around fears suggestive of social phobia. Examples of main phobia included: fear of stuttering, engaging in public speaking and fear of specific situations such as 'talking to the opposite sex'.

The self-report scales reviewed so far were essentially social anxiety or general anxiety measures. One of the earliest speech-situation specific rating scales developed for use with stutterers was the Speech Situation Rating Sheet. It was developed by Johnson in 1943, and was the first widely accepted test for assessing stutterers' reactions to speech situations. This rating sheet lists 40 speaking situations, to which the stutterer is asked to respond on the basis of four different modes, each mode having a five-point rating system. The four modes are concerned with 1: tendency to avoid a situation (Avoidance Scale); 2: degree of enjoyment derived from speaking in a situation (Reaction Scale); 3: amount of stuttering in a situation (Stuttering Scale); and 4: frequency with which a situation is met (Frequency Scale). The test is scored by averaging an individual stutterer's rating for all 40 situations in each mode, and comparing them

to a set of norms previously established by Shumak (1952) on a group of 95 male stutterers. The rating scale has been shown to be useful in evaluating the severity of a stutterer's problem.

Although Shumak's data were useful for the purpose of comparing an individual stutterer's scores on the rating sheet with those of a group of peers, it was not possible to compare the score of a person who stutters to scores obtained from nonstutterers because of the unavailability of normative data on a control group. Such a comparison would be useful in determining the normality of a stutterer's score. As a result, Trotter and Bergmann (1957) conducted a study to obtain information concerning nonstutterers' reactions to the Speech Situation Rating Sheet and to compare the reactions of persons who stutter to those who do not. They compared the ratings of a group of 50 stutterers, against the responses of a group of 100 nonstutterers. A comparison of the mean scores, indicated that, as a group, stutterers are significantly more avoidant of and enjoy speaking less in the 40 speaking situations described by the rating sheet compared to nonstutterers, but do not meet the situation any more or less often than their nonstuttering counterparts. Also it was observed that stutterers and nonstutterers tend to agree in a relative way in their reactions to different kinds of speaking situations: those situations that are avoided the most by the nonstutterers tend to be the ones avoided the most by the stutterers, those that are enjoyed the least by the nonstutterers are also enjoyed the least by the stutterers, and those in which the nonstutterers are the most nonfluent are the ones in which stutterers have the most severe stuttering. Notable exceptions to this relative agreement about situations were those conditions involving the use of the telephone. In regard to all situations concerning the telephone, they were ranked much higher in avoidance by stutterers than

nonstutterers. For instance, 'telephoning to inquire about a price, train fare, etc.' was ranked 2nd in avoidance by stutterers and 19th by nonstutterers.

For many years the Speech Situation Rating sheet was widely used to evaluate stuttering severity and to determine therapeutic needs. More recently it has been faulted because the wording employed is not current and limited normative and test data restrict the questionnaire's usefulness in terms of assessment, differential diagnostic determinations, and therapy planning (Andrews & Cutler, 1974; Erickson, 1969). As a result it has been suggested that it be used as no more than a clinical guide (Johnson, Darley & Spriestersbach, 1963).

The limitations of the Speech Situation Rating Sheet and the continued need for a test that elicits a client's perceived severity of emotional reaction in a variety of communicative settings led to the construction of the Speech Situation Checklist (SSC) (Brutten 1965a; Brutten & Vanryckeghem, 2003a). The SSC has been widely studied and used internationally to establish normative data and to compare the emotional reaction of both adult stutterers and nonstutterers to various speech situations. The research involving the SSC as a means to investigate emotional reaction to different speech situations will be discussed later in this chapter.

Self-Reported Emotional Reaction in Children

The above described and reviewed self-report investigations concerning speech-associated emotional reaction were limited to adults. Relatively few self-report measures have been constructed for the purpose of evaluating the emotional reactivity of children. This is probably due to the long held belief among clinicians and researchers that young stutterers are not fully aware of their dysfluencies and are generally not concerned about speech situations. For

this reason, Bloodstein (1995) has suggested that they are not likely to develop a negative attitude about themselves as speakers.

Knudson (1939) was one of the first to state that half of her group of grade-school stutterers avoided stuttering by giving the wrong answer or saying, "I don't know" in response to questions asked in the classroom. Also, Silverman (1976) found that, by the time stutterers reached grade 4 to 6, they tended to speak fewer words than nonstutterers when asked to tell a story. Starting in the eighties, however, additional evidence became available indicating that school age children are aware of their stuttering and express anxiety and mal-attitude about their speech (Brutten & Dunham, 1989; De Nil & Brutten, 1991; Trotter, 1983; Vanryckeghem & Brutten, 1992). As a result, an increased interest in examining anxiety in children gradually grew and became the focus of research investigations.

This change in focus resulted in the development of anxiety measures specifically for use with children. One such measure of anxiety is the State-Trait Anxiety Inventory for Children (STAIC) developed by Spielberger, Edwards, Luschene, Montuori and Platzek (1972). Similar to the adult version, the questionnaire consists of two, 20-item scales designed to evaluate both state and trait anxiety among children. Possible scores on both state and trait subscales range from 20-60, with higher scores representing greater anxiety. Using the STAIC, Craig and Hancock (1996) (as cited in Manning, 2000) found no significant differences between 96 (untreated) children who stuttered and 104 children who did not stutter (age range of 9-14 years). This was the case for both the state and trait scales. In addition, the authors found no significant correlation between stuttering frequency and state anxiety.

In the 70's another self-report inventory measuring speech-related anxiety in children was designed. The Speech Situation Checklist for Children (SSC) developed by Brutten (1965b) has been subjected to international research. Similar to the adult form, this self-report inventory investigates the degree of negative emotion that occurs in various speaking situations. The research data that have resulted will be discussed later in this chapter.

Speech Disruption in Particular Speech Situations

Variations in the frequency of stuttering across situations and words have been shown to be striking (Bloodstein, 1995). It is common knowledge that some stutterers' speech is affected predominantly by particular sounds or words whereas others' stuttering is more a function of speaking situations. In addition, for many individuals there seems to be a consistency relative to speech situations under which they experience most or least difficulty (Bloodstein, 1950; Eisenson & Wells, 1942; Porter, 1939). This implies that not only sounds and words serve as learned negative cues capable of evoking stuttering but that the speaking environment including the listener, situation and the task at hand are equally capable of precipitating the disorder.

Situational Differences in Speech Disruption in Adults

Many studies involving adults who do and do not stutter, have attempted to investigate whether or not the degree of speech fluency is related to particular speech situations. Barber (1939), in a study of chorus reading, found that stuttering was significantly reduced when subjects performed in unison with others reading the same material, with others reading different material, with others reading nonsense material and in reading with vocal and mechanical noise

being present. Unison reading of the same material however was found to produce the most striking reduction in stuttering. Barber concluded that stutterers tend to speak most fluently when their speech performance is similar to the ongoing activity at the moment and cannot be easily differentiated. Eisenson and Wells (1942), on the other hand, explained the usual superiority of stutterers' speech during choral reading due to a lack or decreased communicative responsibility.

Increased stuttering, on the other hand, on words in a meaningful reading passage compared to words presented on a list or in a nonsense passage was experimentally demonstrated by Eisenson and Horowitz (1945), thereby proving that high propositional content attributed to increased fluency failures. Conflicting evidence was provided by Hegde's study (1970) in which ten stutterers had the same amount of difficulty reading a 150-word passage comprised of nonsense words as in reading a meaningful paragraph.

Experimental support for the assumption that situations involving the behavior of the listener is the principal variable contributing to changes in dysfluencies was provided in a study by Porter (1939). He demonstrated that the amount of stuttering which occurred during oral reading before a number of listeners was consistent with the subjects' previous evaluation of the listeners as being 'hard' or 'easy'. Similar findings were obtained in Berwick's (1955) study in which subjects were asked to read to front-view photographs of persons whom they had earlier identified as 'difficult' or 'easy' to talk to. A statistically significant increase in stuttering was observed during oral reading to the photograph of the 'hard listener' when compared to that of the 'easy listener'. Although the differences in stuttering across the testing conditions were comparable for both mild and severe stutterers, it was found that the reactions of the 'severe'

stutterers, as measured by magnitude of change in frequency of stuttering, was greater compared to the reactions of the 'mild' stutterers.

Variations in stuttering severity also seem to be related to the need with which the stutterer desires to make a favorable impression on the listener. This was exemplified in a study by Sheehan, Hadley and Gould (1967) indicating that adult stutterers experienced more speech difficulty when speaking to faculty members dressed in suit and tie and addressed by the title of 'doctor' followed by their surname, than they did in speaking to students dressed in sports shirts without jacket or tie and introduced by their first or last name.

Research investigations, case studies and clinical observations have all reported on a vast majority of situations that bring about fluctuations in stuttering severity. However, only a small proportion of the conditions that might evoke speech disruption have been subjected to objective laboratory research and it is practically impossible to investigate them all. An alternative approach to studying the conditions under which stuttering differs has been the use of rating sheets and questionnaires. Employing such an approach, Bloodstein (1950) conducted a study aimed at determining specific conditions under which stutterers are most likely to report a reduction in stuttering severity. For this purpose, Bloodstein designed a rating scale comprised of 115 situations under which changes in stuttering might be expected to occur. For each item, the subject was instructed to rate his stuttering in a particular situation on a 4-point scale being, 1: as much stuttering as usual or more; 2: definitely less stuttering than usual; 3: hardly any stuttering, or very markedly less than usual and 4: no stuttering at all. Based on the results from the investigation, Bloodstein grouped the situations under which stuttering appeared to diminish, into six categories. In general, reduced stuttering was reported under conditions of reduced

communicative responsibility, reduced urgency to make a favorable impression, absence of unfavorable listener reactions, changes in accustomed speech pattern, speech accompanied by associated bodily activity, and intense or unusual stimulation. The findings from Bloodstein's self-report study confirm earlier lab investigations.

Another example of a questionnaire that was developed to assess frequency of stuttering in various situations was the Iowa Speech Clinic Stutterer's Speech Situation Rating Sheet, designed by Wendell Johnson (1943). This scale provides four different modes for rating forty common speech situations. The four modes relate to, 1: tendency to avoid a situation (Avoidance Scale); 2: degree of enjoyment derived from speaking in a situation (Reaction Scale); 3: amount of stuttering in a situation (Stuttering Scale); and 4: frequency with which a situation is met (Frequency Scale). The 'Stuttering Scale', in particular, describes the relative amount of stuttering a subject reportedly experiences in each situation. Employing this scale, Shumak (1952) determined norms for young adult male stutterers in terms of the 25^{th}, 50^{th} and 75^{th} percentile values for each of the four modes of response. In a follow-up study, Trotter and Bergmann (1957) compared the responses of stutterers and nonstutterers to the Speech Situation Rating Sheet. In order to be able to evaluate, the responses of a nonstutterer to the rating sheet, the 'Stuttering Scale' (amount of stuttering in a situation) was modified to a 'Non-Fluency Scale' (amount of nonfluency in a situation). Based on the responses of the nonstutterers to the rating sheet, Trotter and Bergmann observed high correlations between 'Avoidance' and 'Reaction' scales and between 'Avoidance' and 'Non-Fluency' scales. Also, a comparison of the stutterers' and the nonstutterers' mean scores indicated that, as a group, stutterers are significantly more avoidant of and enjoy speaking less in the 40 situations described by the rating sheet than the

nonstutterers. However, no difference between the groups was observed relative to the frequency with which situations were met. Because of the fact that the 'Non-Fluency Scale' and the 'Stuttering Scale' could not be directly compared to each other, a rank order correlation coefficient was calculated, so as to compare the responses of the nonstutterers and stutterers to the Non-Fluency and Stuttering scales, respectively. Although the obtained correlation coefficient was significant and suggested that the situations in which the stutterer experiences greatest stuttering are identical to the ones that elicit some degree of nonfluency from the nonstutterers, Trotter and Bergmann do not describe the particular situations that generate the least or most stuttering.

The only other, more recently designed self-report test of fluency failure across situations is the Speech Disruption (SD) section of the Speech Situation Checklist (SSC) (Brutten, 1965a, 2003a). The test has gathered popularity in its use as a standardized self-report procedure designed to evaluate fluency failure in different speaking situations. The test provides norms for both stuttering and nonstuttering adult speakers. The research studies and findings involving the SSC, as a means to investigate the extent of speech disruption across situations among adults, will be discussed later in this chapter.

Situational Differences in Speech Disruption in Children

The above review concerned the effect of certain speech-related situations on the differential occurrence of fluency failures among adults who stutter. The differences found in the frequency of dysfluencies reported by young children across situations have also been studied, although to a lesser extent. In the past, changes in disfluency among children have been based

upon one kind of speaking situation only (Davis, 1939). That is to say that, the findings and observations obtained from a single situation have been used to predict the disfluencies of children in other speaking situations. It is then assumed that the level of speech fluency observed in a child within a clinic-like environment, is reflective of the degree of speech fluency in other situations that the child frequently encounters, such as in the home or school environment. This generalization is based on the assumption that children's disfluent productions during a particular speaking task are essentially similar to those produced in everyday situations.

To test the validity of the assumption, that indeed different speech situations elicit the same amount of fluency failures, E. –M. Silverman (1971), designed a study to explore the consequence of three different situations on the disfluencies of three preschoolers with no history of stuttering. Tape-recorded samples were gathered from the different speaking situations, which were: 1) two hours of free-play in a preschool classroom session; 2) a one hour structured interview with the examiner involving speaking tasks such as telling stories about the ten Children's Apperception Test (CAT) cards, answering questions and verbalizing during play with toys; and 3) a 3-4 hour period at home talking with family members. Analysis of disfluencies, revealed a consistent ordering of the situations in terms of total frequency of disfluency. Most disfluencies were observed during the home situation for all three children. The structured interview produced more disfluencies when compared to the free-play classroom situation for two of the three children.

In order to further determine, the extent to which situations that evoked more or less disfluencies for the three preschoolers in the above study were representative of those of other peers, the examiner carried out a replication of the aforementioned investigation with ten 4-year-

old nonstuttering boys (E. –M. Silverman, 1972). Speech samples were collected in a free-play preschool classroom and in a structured interview. Results indicated that the total frequency of disfluency for the majority of the subjects was greater during the structured interview compared to the preschool classroom. Based on the results of both abovementioned studies, it seems justified to conclude that the frequency of disfluencies produced by children differs across situations and that generality of descriptions of disfluent behavior based on samples collected in only one situation is unwarranted.

In order to study the effect of communicative stress on normal disfluency, Wexler (1982) observed 36 nonstuttering boys aged 2, 4 and 6 in terms of total frequency of disfluency during free play in relatively neutral as well as stress conditions. In the stress condition the experimenter periodically indicated not having understood what the child said by asking "What?". Comparing the frequency of disfluency between the neutral and stress situation, significant differences were obtained only for word and phrase repetitions for 2–year-olds, with higher means for the neutral situation. Although part-word repetition was the only class of disfluency where the means increased in the stress condition for the 2- and 4-year-olds, it did not reach statistical significance. The authors provided various explanations for the greater fluency demonstrated by 2-year old children in the stress situation for two of the disfluency variables. They suggested that the low level and specific form of communicative pressure used in the stress situation might have been a stimulus for the child to speak as well as possible and might have successfully resulted in improved fluency. It was also thought possible that the specific form and level of stress used might not have been truly stressful for the children.

Contrary to the previous study, no changes in disfluent behavior across different speech situations were reported in two studies conducted by Martin, Haroldson, and Kuhl (1972a, 1972b). They studied the disfluent behavior of normal speaking young children (ages 3.5 to 5.0) in four different speaking environments: conversing with a talking puppet, conversing with an unfamiliar adult, conversing with another child, and conversing with their mother. They found essentially no statistically significant differences in the total percentage of words produced disfluently across the four situations.

The above investigations observed the effect of different environments on the disfluencies of normal children. To probe if the speech of elementary and secondary-school age children who stutter produced in a clinic environment is typical of those produced in other environments, F.H. Silverman (1975), studied differences in stuttering reported by fifty-one elementary-school children and thirty-nine secondary-school children in two conditions. In the presence of a speech pathologist, the subjects performed two speaking tasks: reading a passage three times consecutively and telling a story based on ten CAT cards. Upon completion of the tasks, the subjects were also asked to indicate if their stuttering while engaged in the speech tasks was the same as usual, more than usual or less than usual. Of the 51 elementary-school stutterers, 54.9% (28) reported less stuttering and 11.8% (6) indicated more stuttering during the speech tasks when compared to usual. Similar findings were observed among the 39 secondary-school children. The percentage and frequency of children who reported less and more stuttering were 48.7% (19) and 15.4% (6), respectively. Approximately, one-third of the children in each group indicated the amount of stuttering experienced in the test situation to be “typical” of their usual stuttering. Since only one-third of the children in both groups reported no changes in their

stuttering, it can be assumed that most young stutterers' dysfluent behavior in a clinic-like environment is not typical of that in other environments and therefore it is not advisable to estimate the frequency of stuttering behavior from samples elicited in only one situation.

In yet another study (Meyers, 1986), differences in disfluencies between preschool stuttering and nonstuttering boys across three different situations were examined. Each child was observed while interacting with his own mother, an unfamiliar mother of a stutterer and an unfamiliar mother of a nonstutterer. Not surprisingly, data analysis revealed a higher percentage of stuttering behavior (comprised of part-word repetitions, prolongations, broken words and tense pauses) among stutterers when compared to nonstutterers across the situations. Interestingly, there were no differences in disfluency between the two groups of children that related to the identity of the partner in the dyadic conversation. The researcher attributes this lack of change in disfluencies in the different situations to a possible adaptation to the room environment. The children might have been familiarized with the experiment room where they were initially tested by the primary investigator.

A more detailed study on the variations of stuttering was conducted by Yaruss (1997), who carried out a retrospective analysis of the disfluent behavior of 45 preschool children who stutter in five different speaking situations. The situations studied included parent-child interaction, play with a clinician, play with pressures imposed, story retell, and picture description. Data analysis revealed that the 'play with pressure' situation elicited a significantly higher frequency of stuttering behaviors than picture description, story retell and play situations. The 'picture description' and 'story retelling' situations evoked the least frequency of stuttering behavior, implying that tasks involving monologue (picture description and story retell) were

easier in comparison to tasks involving communicative stress or conversational partners (parent-child interaction, play with pressure). In addition, Yaruss found a significant positive correlation between situational variability and overall frequency of stuttering behavior. This finding led him to suggest that children having greater stuttering severity exhibit greater variations in dysfluencies across situations.

In summary, the abovementioned studies have experimentally demonstrated the presence or absence of fluctuations in disfluencies relative to changes in situations. Since a few investigations do provide evidence for variations in speech fluency depending on the speech situations, it seems useful to take different speech situations into consideration when evaluating the speech of a child. By doing so, information regarding a child's speech in frequently encountered everyday situations outside the clinic, can be obtained. This is clinically relevant as it enables the clinician to identify those circumstances that elicit less or more stuttering for the child. A hierarchy of those conditions that warrant attention can be developed and targeted in therapy.

Although few in number, certain assessment protocols do propose evaluating a child's speech fluency in different speaking situations. For instance, in his Stuttering Severity Instrument for Children and Adults, Riley (1994) recommends obtaining a speech sample while engaging the client in two different tasks depending on his/her reading ability. A story telling task based on a cartoon sequence without captions and a conversational speech sample is suggested for the nonreaders while a job or school task along with a reading task is provided to those who can read. Also, Costello and Ingham (1984) recommend collecting several 'standard talking samples'

that should be collected in a variety of different settings within and outside the clinic, with different conversational partners and at varying points in time.

Unfortunately, laboratory investigations and assessment protocols like the ones mentioned above, are limited in their scope and ability to evaluate a child's speech in many of the situations that constitute his everyday routine. They provide a means to evaluate the speech of a young child in only one or a few different environments. An alternative approach to study changes in disfluencies across situations is by means of questionnaires and self-report tests. So far, Brutten's Speech Situation Checklist for Children (SSC) (Brutten, 1965b, 2003b) is probably the most widely used and researched self-report instrument that serves to evaluate the extent to which disfluencies occur and vary in 55 situations commonly encountered by children. Along with the Emotional Reaction section of the test, the SSC has differential diagnostic and assessment capabilities. This self-report test will be discussed in the following section.

The Speech Situation Checklist (SSC): Research Data

The Speech Situation Checklist (SSC), first designed by Brutten in 1965, is a state test of speech-related negative emotion and speech disruption. Its construction rests on the observation that negative emotion and speech disruption reported by stutterers varies from one situation to the next. The SSC is a paper-and-pencil test that provides a standardized way to evaluate the self-reports of negative emotional reaction and speech disruption among people who stutter across different situations. It is also an integral part of the recently published Behavior Assessment Battery (BAB) (Brutten & Vanryckeghem, 2003a, 2003b), a multidimensional and evidence-based approach to diagnostic and therapeutic decision-making.

The SSC has been designed for use with both adults and children. The adult forms consist of descriptions of 51 commonly encountered speech situations. Those for children contain 55 different situations. Situations under test include those in which the speaker has considerable latitude in word choice (e.g., talking with teachers, arguing with parents) and others in which the speaker has relatively limited word choice (e.g., making an appointment, giving one's name, reading a passage aloud). The SSC consists of two separate forms, an Emotional Reaction (ER) section and a Speech Disruption (SD) section. The ER section evaluates the degree to which speech situations are associated with negative emotional reaction, while the responses to the SD section help identify the extent to which speech situations bring about speech disruption. Using a five-point Likert type scale (not afraid, a little afraid, more than a little afraid, much afraid and very much afraid) the person completing the checklist rates each of the situations listed in the ER section according to the experienced amount of speech related negative emotion (e.g., fear, tension, anxiety or unpleasant feelings). The exact same situations are rated on the SD section according to the amount of speech disruption (no trouble, a little trouble, more than a little trouble, much trouble and very much trouble) that is usually elicited in those situations. Overall estimates of subjective indication of the client's speech-related anxiety and perceived dysfluency are obtained by summing the individual's responses to each speech situation on the Emotional Reaction and Speech Disruption sections, separately.

SSC – Adults

The SSC for adults, originally constructed by Brutten in 1965, was designed to explore a client's emotional reaction and fluency failure in specific speech situations. Since its initial

construction, the test instrument has been revised twice. Revisions have included changing the wording of certain items to improve the clarity of descriptions of speech settings and slight modification of the test instructions to enhance the client's understanding of what is being asked of him (Brutten & Vanryckeghem, 2003a). Over the years, the test has been translated into different languages, such as, Dutch, Italian, Spanish, Hebrew and German and has been used in internationally-based research.

Recent and continued investigations with the SSC for adults have proven that the test is a reliable and valid assessment tool (Brutten & Vanryckeghem, 2003a). As such, it has shown to have good internal reliability as indicated by the Cronbach Alpha coefficient for the sample of stutterers on the SSC-ER and SSC-SD of .976 and .970, respectively. The correlation coefficient between the odd and even items on the ER and SD sections was 0.965 and 0.967 respectively. Both the above measures of internal consistency were found to be statistically significant (p=.000). Similar findings were found to be present among the nonstutterers sampled. The Cronbach alpha coefficient was .955 and the odd-even correlation coefficient was .964 for the ER section. On the SD portion of the SSC, the Cronbach alpha and odd-even measures were .966 and .967, respectively. The investigators also found the SSC to have good content, criterion-related and construct validity (Brutten & Vanryckeghem, 2003a).

In an earlier study designed to investigate the external validity of the SSC, Brutten and Janssen (1981) examined the responses of American and Dutch adult stutterers to the respective American and Dutch forms of the SSC. Comparison of the responses of the two groups revealed that the 51 speech situations elicit slightly greater negative emotional reaction and speech dysfluency for Dutch adult stutterers when compared to their American counterparts. However,

the means obtained on both sections for the two groups were within one standard deviation of each other. Interestingly, the rank order of the situations that elicited greatest negative emotion and speech disruption was somewhat similar for both groups. To further explore the degree to which the rankings for the ER and SD sections co-varied between the Dutch and American stutterers, correlational analyses were carried out. Statistically significant correlations of .83 and .76 were obtained for the ER and SD sections, respectively. Based on these results, it was concluded that the SSC has good external validity and that relative congruence exists among the Dutch and American stutterers as to the extent to which certain speech situations occasion negative emotional reaction and fluency failures.

In order to determine if the situations under test grouped in certain ways, Brutten and Janssen (1981) conducted a factor analysis of the responses to the ER and SD sections for both Dutch and Americans stutterers using a varimax procedure. The emotional reaction and speech disorganization responses factored in a way that was similar for both subject groups. Analysis of the ER responses identified five different classes of word and situational events. The first of the factorial clusters highlighted circumstances where the sounds or words were relatively unchangeable. The second factor related specifically to interpersonal speech situations that are perceived to be stressful. Factor three predominantly represented naming situations. The fourth factor brought together items concerned with the listening audience and their reactions. As can be seen, the first four factors grouped speech circumstances where heightened negative emotion is likely to be experienced. In contrast, the fifth factor identified those circumstances that tend to elicit little or no concern such as talking with a young child or an animal. The responses to the speech disorganization section also factored into five groups and in a manner consistent with the

emotional reaction section. More currently, Brutten & Vanryckeghem (2003a), factor analyzed the responses of Belgian adult stutterers to the ER and SD sections of the SSC. The analysis brought to the fore ten different factors. Analogous to the previous investigation, they included speech settings where specific words needed to be used, naming situations, circumstances involving interpersonal stress, telephone situations, audience situations and situations that elicit little in the way of negative emotional reaction and speech disorganization. Their results indicated that situations involving word-specific or interpersonal stress were the core elements that brought out the stutterers' reactions to the ER and SD sections of the SSC.

The above-mentioned Belgian study (Brutten & Vanryckeghem, 2003a) also provided normative data for stutterers and nonstutterers on both the ER and SD sections of the SSC. A statistically significant between-group difference was found to exist for both the emotional reaction and speech disruption scores.

SSC- Children

The SSC discussed in the studies described above was designed for use with adults. For the purpose of evaluating the negative emotional reactivity and speech disruption of children across different situations, in a standardized way, a children's form of the SSC was developed (Brutten, 1965b). This original form for children was slightly modified in 1997 and 2003 to improve the clarity of test items as well as its test instructions.

A recent investigation (Brutten & Vanryckeghem, 2003b) with the Dutch form of this test procedure provided not only normative and comparative data but also reliability and validity information. For the sample of stuttering children, the Cronbach Alpha split-half correlation

(.962) and the odd-even correlation (.968) were found to be statistically significant for the ER section of the SSC. On the SD section, the obtained significant Alpha correlation of .964 and odd-even coefficient of .968 also added value to the fact that the SSC is an internally reliable instrument. Among the nonstuttering children, the split-half and odd-even correlations were .949 and .951 for the ER section and .947 and .946 for the SD portion of the SSC. Also these correlations proved to be statistically significant. Aside from the fact that the SSC has been shown to be an internally reliable instrument, it has been demonstrated to have good content, criterion and construct validity.

Factor analysis of the responses of young children who do and do not stutter to the SSC was performed to investigate if situations clustered together in particular ways for the two groups (Brutten & Vanryckeghem, 2003b). Results indicated some notable differences between children who stuttered and their fluent peers with regard to situations that were emotionally troubling and those that were disruptive of speech. While speech-associated classroom activities such as reciting, asking a question or giving a speech caused most children who stutter to report negative emotional reaction and speech disruption, the speech situations that caused most trouble for the nonstuttering children included those in which negative emotion was associated with unhappiness resulting form being yelled at, being embarrassed, or giving the wrong answer.

In an attempt to obtain normative and comparative data, Trotter (1983) conducted a study with stuttering and nonstuttering grade school children, employing the original form of the SSC. The results of her study showed that children who stutter scored significantly higher than nonstuttering children on both the Emotional Reaction and Speech Disorganization sections of the SSC. In addition, within the group of nonstutterers, a significant correlation of .83 was

obtained between the two parts of the SSC, indicating that a high score on the ER section of the test was associated with an elevated score on the SD section and vice versa. Similarly, a correlation coefficient of .86 suggested a positional stability of the ER and SD responses of the group of stuttering children to the 55 speech situations sampled by the SSC.

More recently, as part of a larger research endeavor, the Dutch version of the revised SSC was administered to 271 nonstuttering and 90 stuttering children from the Flanders region of Belgium (Brutten & Vanryckeghem, 2003b). Similar to Trotter's (1983) findings, the results of this investigation revealed, once more, a statistically significant difference between the mean scores of the stuttering and nonstuttering participants on both the ER and SD sections of the SSC. These results indicate the usefulness of the children's responses to the items of the SSC as a measure for differentiating those who are classified as stutterers from those who are not. Significant correlations between the ER and SD sections were also observed for both the stuttering and nonstuttering children (.82 and .60, respectively).

Aside from the normative data obtained for the children's form of the SSC, Trotter's (1983) data revealed significant gender differences on the Emotional Reaction section of the test for both the stuttering and nonstuttering children sampled. Greater concern about speech situations was observed among the female subjects of each group. Relative to the Speech Disruption section of the SSC, significant gender differences were obtained only for the nonstuttering children. Again, the female children reported a significantly greater amount of fluency failure in specific situations compared to their male nonstuttering counterparts. As for the children who stutter, the females scored numerically higher on the speech disorganization section compared to their male peers. The data obtained in the study with the Dutch SSC

(Brutten & Vanryckeghem, 2003b) confirmed the results of Trotter's investigation in that the nonstuttering girls scored significantly higher than the boys on both the ER and SD sections of the SSC. However, although the stuttering girls scored numerically higher compared to the boys on the ER section of the SSC, the difference did not reach statistical significance. This was different for the SD section, where the males had a mean score that was slightly higher than that of the females.

Furthermore, the effect of age on the emotional reaction and speech disruption scores was investigated in the two studies. Trotter (1983) did not find a significant correlation between age and emotional reaction for either group. A significant but low correlation was found between age and the speech disruption scores within the group of nonstuttering children only. Brutten and Vanryckeghem (2003b) also explored the relationship between age, on the one hand, and emotional reaction and speech disruption in different situations, on the other hand. It was noted that, whereas, with age a numeric non-significant increase in the emotional reaction and speech disruption scores for the children who stutter was observed, the responses of the nonstuttering children remained essentially the same.

Purpose

Early investigations of negative emotional reaction and speech disruption across situations were conducted in which individuals were directly observed in different situations. However, due to the limitations in the number of different situations that could be studied, researchers turned to self-report tests. Until the present time, the number of questionnaires used for this purpose is few and lack reliability and validity information. The Speech Situation

Checklist (SSC) developed by Brutten (Brutten 1965b, 2003b), is probably the most extensively researched and used clinical measure that provides information about negative emotional reaction and fluency failure in different speech situations.

Although widely employed clinically, the research information available on the SSC for children comes mainly from an investigation conducted in the United States two decades ago (Trotter, 1983) and one more recent Belgian-based study (Brutten & Vanryckeghem, 2003b). Data have pointed to the usefulness of the SSC as a diagnostic tool and as a standardized means for comparing emotional reaction and speech disruption across situations. The earlier investigation by Trotter (1983) on American children provided useful comparative information. However, since it was conducted, the SSC for children has been modified relative to test instruction as well as test items. As such, it has become essential to obtain current data for American children using the revised SSC.

It is therefore the purpose of the present study to further investigate the usefulness of the SSC for children as a differential diagnostic tool, by obtaining updated norms for American youngsters on the revised version of the SSC (Brutten, 2003). The study aims at gathering normative data by sampling the responses of American grade-school children who stutter and those who do not to the Emotional Reaction and Speech Disruption sections of the SSC. In addition, it will be determined whether or not stuttering and nonstuttering children differ significantly with respect to the amount of negative emotional reaction and speech disruption they experience in different speech situations. Moreover, if possible, the effect of gender and age on the SSC scores will be examined.

METHOD

Research investigations in the area of fluency disorders have drawn attention to the presence of greater negative emotional reaction and occurrence of fluency failure among persons who stutter in particular speech situations compared to others. This has been observed from a young age on. In this vein, laboratory studies have been conducted to explore the extent of negative emotional reaction and speech disruption in particular speech situations in both children who do and do not stutter. However, due to the limitations associated with laboratory research related to speech situations, the use of self-report tests has gained popularity in recent years. Questionnaires have made it possible to investigate the extent to which a person subjectively reports on his speech-related affective reaction and fluency failure experienced across various speaking situations.

The children's form of the Speech Situation Checklist (SSC) developed by Brutten in 1965 and modified since its initial construction is one of the few self-report tests designed for use with children to investigate both the extent of negative emotional reaction and the amount of speech disruption in various speech situations. The present study was designed to obtain normative data for American children who do and do not stutter on the SSC and to investigate the test's usefulness as a differential diagnostic tool.

Participants

In order to meet the purpose of the present study, the children's forms of the 'Speech Situation Checklist' (Brutten, 2003b), which are found in Appendix A, were administered to nonstuttering and stuttering elementary and middle school children. The age of the children in

both age groups ranged from 6 to 13 years. A total of 79 nonstuttering children participated in the study. The pool consisted of 34 boys and 45 girls. The stuttering group was made up of a total of 19 children, 17 boys and two girls.

The representative sample of nonstuttering children was obtained from an elementary and middle school in Orlando, Florida. In order to recruit subjects, letters briefly describing the study and requesting the co-operation of the school (see Appendix B) were sent to the principal and the teachers. Once they expressed an interest in the research project and were willing to participate, letters and consent forms (Appendix C) were mailed out to the parents. Only those children who did not show any evidence of a speech, language, reading, writing or learning difficulty, and did not have any additional motor or behavioral problems as confirmed by their homeroom teacher and the school based speech-language pathologist were included in the study. This information was obtained by means of a form provided to them (Appendix D).

The stuttering participants were recruited by contacting certified speech-language pathologists throughout the United States, specialized in the area of fluency disorders. To accomplish this, letters were mailed out (Appendix E) to the clinicians, briefly describing the study and inquiring about the availability of clients in their caseload who might be potential candidates for participation in the study. After the fluency specialists confirmed having children who stutter in treatment and expressed a willingness to participate in this investigation, they were supplied with the required number of test protocols and instructions for test administration. The stuttering participants engaged in the study included only those who, according to their clinicians, did not demonstrate any language and speech disorder other than stuttering. This information was obtained by means of a short questionnaire (Appendix F). The children were

either enrolled in therapy or seeking therapy at the time of the study. Prior to participation, approval and consent was also obtained from the parents of the stuttering children through consent forms (Appendix G).

Instrumentation

The children's form of the Speech Situation Checklist consists of two different sections, namely, Emotional Reaction and Speech Disruption. Both sections list 55 identical speech situations that are rated on two different 5-point scales. The Emotional Reaction section (ER) evaluates the extent to which a particular speech situation serves to evoke negative emotional reaction. The response to a particular item indicates if a child is 'not at all afraid, a little afraid, more than a little afraid, much afraid or very much afraid' in a particular speech situation. The scores assigned to the child's response range from 1 (not at all afraid) to 5 (very much afraid).

The responses to the items on the Speech Disruption section (SD) help in determining the extent to which a specific situation sets the occasion for speech disruption. In this section of the SSC, the child indicates for each of the 55 items whether the setting elicits 'no trouble, a little trouble, more than a little trouble, much trouble or very much trouble'. Similar to the ER section, a response of 'no trouble' on the SD section receives a score of 1 and 'very much trouble' receives a score of 5. In summary, the total score obtained on the ER section of the SSC reflects the extent to which different speech situations evoke negative emotional reaction, while the total score on the SD section indicates the extent to which different speech situations lead to fluency failures.

Procedure

Following approval of the study by the University of Central Florida's Institutional Review Board (Appendix H), the SSC was administered to a sample of nonstuttering participants by the researcher, a speech language pathologist who is a Board Certified Fluency Specialist, and an undergraduate student enrolled in the Research and Mentoring Program (RAMP) at the University of Central Florida (UCF). The self-report tests were given to the children in small groups of two to four children. To ensure consistency in the test protocol and in administration procedures, the investigators were trained in the manner of test presentation. That is to say, the three administrators agreed on a set of general instructions relative to test conduction (Appendix I). Following this, they were instructed on how to read the test instructions to the children. Possible ways for clarifying words and providing examples were standardized.

The fluency specialists who were contacted across the United States administered the tests to the stuttering participants on an individual basis. Each of the fluency specialists received general instructions for test administration (Appendix J), order of test presentation (Appendix K) and test forms. In addition, the previously mentioned questionnaire (Appendix F), provided information about the client's demographic background as well as his/her speech characteristics prior to and during treatment.

For both groups of participants, the order of test presentation was randomized by utilizing a table of random numbers. Prior to each test session, the instructions on the front cover sheet were read aloud and explained, as the child followed along. It was emphasized that there were no 'right' or 'wrong' answers and that answers could vary from one child to another. Each child was encouraged to answer every statement on the questionnaire as it relates to his own speech. In

order to familiarize the child with the test procedure, two practice questions were given. On the Emotional Reaction section, the child was asked *"How do you feel about talking to other children at a party?"* He was then told, *"if speaking with children in this situation would make you feel much afraid, you would circle 'much afraid'. If, on the other you would not be afraid of speaking with other children at a party, you would circle 'not afraid'".* Similarly, on the Speech Disruption section, the child is asked *"How is your speech when you are at a party?"* He is further instructed, *"If you have much trouble speaking at a party you would circle 'much trouble'. If on the other hand, speaking at a party would not cause trouble then you would circle 'no trouble'".* After circling one of the five possibilities, the correct answer was discussed with the child. If the child seemed to understand what was being requested of him, he was asked to proceed with the actual items on the questionnaire. For children in grades 1 and 2 each item was read aloud to the child as he followed along.

Scoring

Following test administration, both the Emotional Reaction and the Speech Disruption sections of the test were scored by adding the values assigned to each of the responses to the 55 items. The possible range of scores yielded by the test is between a minimum of 55 and a maximum of 275. In order to ensure correctness in scoring the tests, hundred percent of the tests were re-scored by one of the other administrators and percentage agreement between the two investigators was determined.

Data Analysis

In order to obtain normative data for the sample of nonstuttering and stuttering children, measures of central tendency and variance were computed for both sections of the SSC. Following this, a t-test was performed with a pre-set .05 level of significance, to comparatively investigate the difference between the SSC scores of children who stutter and those who do not. More specifically, it was determined if situations elicit statistically significantly more in the way of emotional reaction and speech disruption, among stuttering children compared to their nonstuttering peers.

In order to determine the interplay between emotional reaction and the extent of fluency failures, within each sample of participants, the relationship between the ER and SD section of the SSC was studied by means of a Pearson Product Moment correlational procedure.

In addition, within-group comparisons for the nonstutterers according to age was conducted by means of t-tests. In order to do so, the children were divided into a younger (6-9 years) and an older (10-13 years) age group. Group comparison was also conducted according to gender, and age by gender interaction was explored.

RESULTS AND DISCUSSION

Several research studies have been designed to investigate the extent of negative emotional reaction to and fluency failure in particular speaking situations experienced by both individuals who do and do not stutter. Initial attempts to investigate speech-related anxiety and speech disruption in different speaking conditions involved predominantly physiological and behavioral measures (Kraaimaat, Janssen, & Brutten, 1988; Peters & Hulstijn, 1984). More recently, self-report questionnaires have been increasingly used as a means of evaluating situation related negative emotion and fluency failure (Brutten & Vanryckeghem, 2003a, 2003b; Craig, 1994; Menzies, Onslow & Packman, 1999). This is in part due to the possibility created by the use of questionnaires to assess many different commonly encountered speaking situations and the ease with which they can be administered.

The majority of the inventories that explore negative emotional reaction and speech disruption in particular speech situations are mainly designed for use with adults (Brutten & Vanryckeghem, 2003a; Craig, 1990; Miller & Watson, 1992; Kraaimaat, Vanryckeghem & Van Dam-Baggen, 2002). The few self-report measures available specifically for children are restricted in use due to the limited normative and psychometric information (Spielberger, Edwards, Luschene, Montuori & Platzek, 1972; Riley, 1994). The Speech Situation Checklist (SSC), initially constructed by Brutten in 1965, is one of the widely used self-report tests that permits the clinician to compare a person's emotional reaction and speech disruption across various speech situations. The SSC's adult test form has been internationally researched to establish normative and comparative data (Brutten & Vanryckeghem, 2003a; Brutten & Janssen,

1981). Similarly, the children's form of this test has been studied in only three investigations (Brutten, 1982; Brutten & Vanryckeghem, 2003b; Trotter, 1983).

Given the potential clinical usefulness of the children's form of the SSC, for assessing their negative emotional reaction and fluency breakdown in various speech situations, it was the aim of the present study to obtain current normative and comparative data for American grade-school children who stutter and their fluent peers. In addition, within-group comparisons were made relative to the effect of age and gender on both emotional reaction and speech disruption of nonstutterers and the possibility of an age by gender interaction.

Seventy-nine nonstuttering and 19 stuttering elementary and middle school children served as participants for the present study. Both groups completed the Emotional Reaction (ER) and Speech Disruption (SD) section of the children's form of the SSC. The test forms were scored by adding the values assigned to each of the responses to the 55 items on both sections of the test. The possible range of scores yielded by the test is between a minimum of 55 and a maximum of 275. To ensure accuracy in the scoring of the tests, inter-rater reliability was determined by re-scoring 100% of the test forms by one of the other administrators. An 97% agreement between the two researchers was obtained.

Measures of central tendency and variance were computed. As can be seen in Table 1, the nonstutterers' responses to the ER section of the SSC ranged from a low of 55 to a high of 151. On the SD section their scores ranged from a minimum of 55 to a maximum score of 161. The overall mean score for the sample of nonstuttering children was 78.26 on the emotional reaction section and 85.69 on the speech disruption section. The standard deviations were 19.34 and 22.25 for the SSC-ER and SSC-SD sections, respectively. The emotional response scores of the

stutterers ranged from a minimum of 55 to a maximum of 168. Their scores on the speech disruption section ranged from a low of 74 to a high of 152. Their overall grand mean for ER was 109.53 with a standard deviation of 34.35. The mean for the SD section was 109.42 and the standard deviation was 21.33. Interestingly, within the stuttering group, the ER scores are more widespread and show a larger standard deviation compared to the scores on the SD section. In other words, there is a descriptively greater variability in the degree of their emotional response than there is in their speech disruption.

Table 1

Measures of Central Tendency and Variation for the SSC-ER and SSC-SD scores of 79 Nonstuttering and 19 Stuttering Children

	Nonstutterers		Stutterers	
	SSC-ER	SSC-SD	SSC-ER	SSC-SD
Mean	78.26	85.69	109.53	109.42
Standard Deviation	19.34	22.25	34.35	21.33
Median	74.50	82.0	101.0	113.0
Minimum	55	55	55	74
Maximum	151	161	168	152

The degree to which emotional reaction and fluency failure in particular speech situations is differentially reported by the two groups is made evident by the data presented in Table 1. They reveal that the mean of the children who stutter, on the ER section is more than one and a half standard deviations higher than the ER mean of the nonstuttering children. Similarly, the mean on the SD section for the sample of stuttering children is slightly more than one standard deviation above the mean for the nonstuttering group. This suggests that the scores on the SSC

are reflective of the responses of two clinically different populations. This difference in overall means between the two groups on the ER and SD sections of the SSC is also reflected in Figure 1. While the children who do not stutter report some degree of negative emotion and fluency failures across the various settings explored by the SSC, the presence of relatively elevated emotional and speech disruptive SSC scores are typical of children who stutter. This difference in profile between the two groups was also observed by Brutten & Vanryckeghem (2003b).

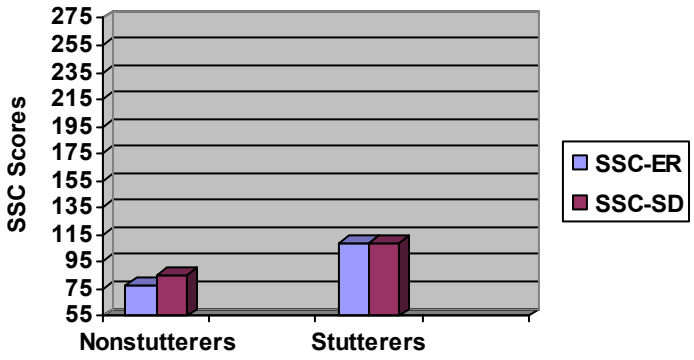


Figure 1: SSC-ER and SSC-SD Profile of the 79 Nonstuttering and 19 Stuttering Children

A further scrutiny of the between group data indicates that 92% of the nonstuttering children sampled scored less than the mean SSC-ER score (109.53) of those who stutter. In contrast, only 24% or about one-fourth of the children in the stuttering group scored at or below the ER mean (78.26) of the nonstutterers. A closer look at the distribution of raw scores illustrated in Figure 2 indicates that the ER score of, one half or 50% of the nonstuttering participants was less than 75 and 83% scored below 95. Ninety nine percent received an ER score of 126 or below. Only one child had a score that was higher (151). This is noteworthy considering the fact that the possible score obtained on the test can range from a minimum of 55

to a maximum of 275. In other words, the majority of the nonstuttering children scored in the lower end of the possible range of scores. In contrast, the distribution of the ER scores of the children who stutter (Figure 3), indicates that only 15% received a score less than 75 and only 41% scored below 95.

A similar inspection of the scores obtained by the two subject groups on the Speech Disruption section (Figure 4 and 5), illustrates that 91% of the nonstutterers scored below the mean SD score (109.42) of the children who stutter. Moreover, only 20% of children who stutter scored below the mean of the nonstuttering group. Almost 35% of the nonstutterers had a speech disruptive score less than 75. In sharp contrast, this was the case for only 5% of the stutterers. The majority of the nonstutterers (97%) earned a SD score less than or equal to 139. Only 2 children received a higher score indicating, once more, that the scores of the youngsters who did not stutter fell in the lower range of the possible distribution of scores.

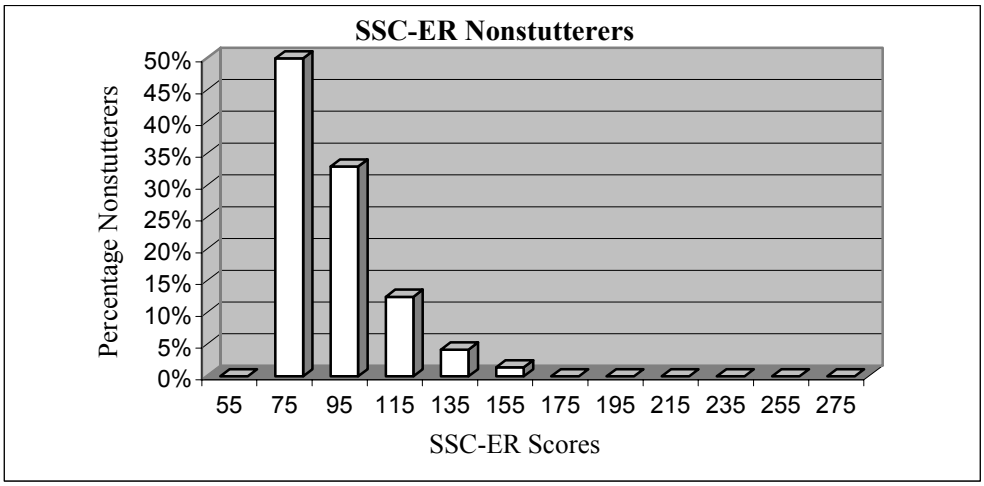


Figure 2: Distribution of SSC-ER Scores of 79 Nonstuttering Grade-School Children

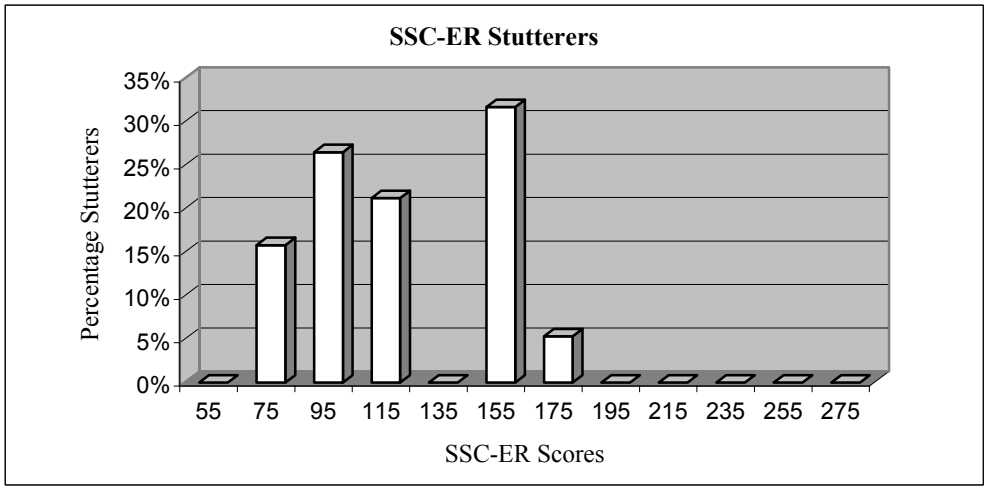


Figure 3: Distribution of SSC-ER Scores of 19 Stuttering Grade-School Children

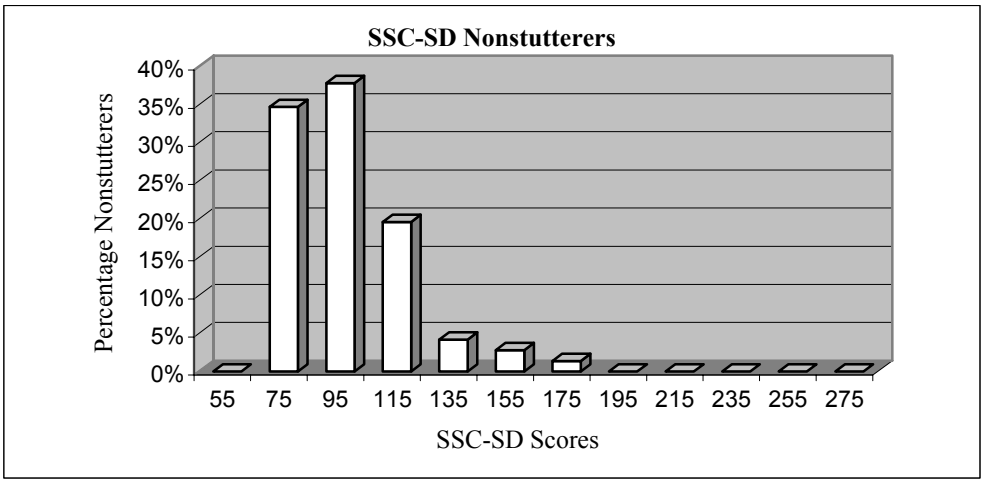


Figure 4: Distribution of SSC-SD Scores of 79 Nonstuttering Grade-School Children

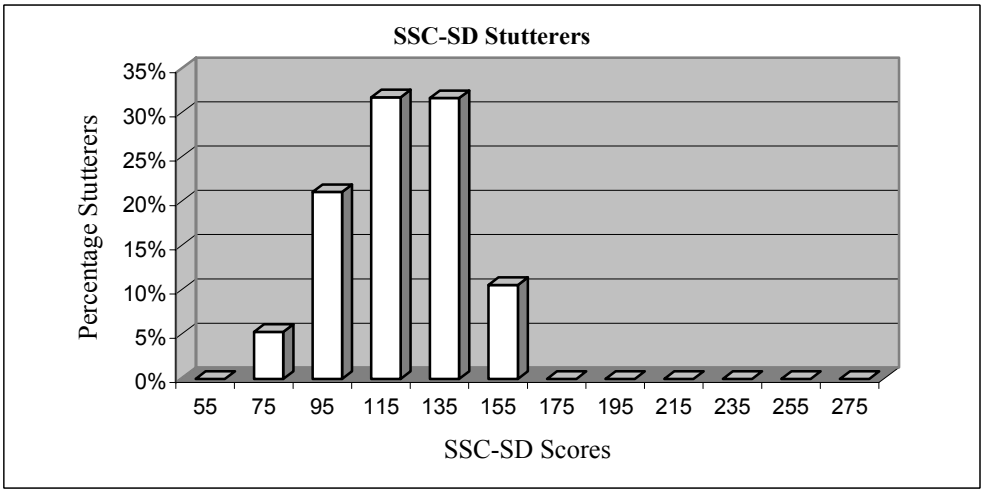


Figure 5: Distribution of SSC-SD Scores of 19 Stuttering Grade-School Children

A comparison of the distribution of ER and SD scores of stuttering children with those of the nonstuttering group, reveals that, although the scores of the stuttering and nonstuttering children show some overlap on both sections of the SSC, the vast majority of nonstuttering children, score on the lower end of the distribution. This finding is in agreement with Trotter's (1983) and Brutten and Vanryckeghem's (2003b) observation, that though there is some overlap in the ER and SD scores of the children who do and do not stutter, they are representative of two distinct clinical populations. Moreover, as far as the degree of speech disruption across different situations is concerned, the results of the present study support conclusions made in an earlier study (Meyers, 1986). In this study, children who stutter were observed to have a higher percentage of stuttering behavior across the three different experimental conditions (talking to their own mother, an unfamiliar mother of a stutterer and an unfamiliar mother of a nonstutterer) compared to the group of nonstuttering children.

The present data, together with those from previous studies, suggest that the SSC, can be a useful tool in the differentiation of children who stutter from those who do not. To test if the numeric difference in the scores of the two groups also proved to be statistically significant, a t-test for independent subjects was carried out. Results indicate that, as a group, children who stutter report a significantly greater amount of emotional reactivity ($t=3.816$, $p=.001$) and fluency failure ($t=4.169$, $p=.000$) to the situations described in the SSC, compared to the group of nonstuttering children. These results are, once more, consistent with the findings of Brutten and Vanryckeghem (2003b) and Trotter (1983) who found a statistically significant difference in the SSC scores between the groups.

The effect of gender was investigated only for the group of nonstuttering children since all but two of those who stuttered were males. The mean ER score for the 45 female nonstutterers sampled was 81.38 and the standard deviation was 21.14. Their mean SD score was 88.05 with a standard deviation of 21.51. The mean ER and SD scores for the 34 nonstuttering boys were 74.16 (SD=16.10) and 82.58 (SD=23.17), respectively. From these data, it is clear that the mean ER and SD scores for the female nonstutterers were numerically higher than those of their male counterparts. This observation was similar to the findings of earlier studies (Brutten & Vanryckeghem, 2003b; Trotter, 1983). The descriptive difference in the scores of the female and male nonstutterers to the ER and SD sections of the SSC in the present study, was further evaluated by means of a t-test for independent subjects. The difference in scores did not prove to be significant at the .05 level for either the emotional reaction (t= 1.609, p=. 112) or speech disruption (t=1.033, p=. 305) section of the test. This finding was in contrast with the results of the studies by Brutten and Vanryckeghem (2003b) and Trotter (1983). In these investigations, the emotional reaction and fluency failure reported by the female children who do not stutter proved to be significantly greater than their male peers.

The effect of age on Emotional Reaction and Speech Disruption was also explored for the group of nonstuttering children only. Due to the small sample size of the stuttering group, the effect of age on the SSC scores was not computed for this group of children. For the purpose of this analysis, the sample of nonstuttering children was divided into a younger (6-9 years) and an older (10-13 years) age group. The younger group comprised of 40 children and the older group included 39 children. The younger group's mean score for the ER section was 79.24 (SD =16.93). It was 85.0 (SD = 17.95) for SSC-SD. The mean emotional reaction and speech

disruption scores for the older group were 77.22 (SD = 21.79) and 86.32 (SD = 21.72), respectively. As can be seen from the above data, the ER and SD means for the younger and older groups were numerically similar. A t-test confirmed that the ER (t=.445, p=.657) and the SD (t=.249, p=.804) scores did not differ to a statistically significant extent for the two age groups. This finding is consistent with what Brutten and Vanryckeghem (2003b) observed in their investigation. They found that the emotional reaction and speech disruption responses of the children who do not stutter, remained essentially the same from the age of 7 to 12.

To explore the possibility of an age by gender interaction on the ER and SD sections of the SSC for the nonstuttering group, a univariate analysis of variance was performed. The results revealed a significant age by gender interaction effect only for the Speech Disruption section of the SSC (F=5.363, p=.024). In other words, the effect of age was differentially affected by gender. In order to further determine the nature of the interaction, the different cell means were compared (see Table 2). A t-test for independent samples revealed a statistically significant difference only between males and females in the younger group of nonstutterers (t=3.294, p=.002). In other words, gender had a differential effect on the SSC-SD scores only for the younger group of nonstutterers. It follows from the above result that, although the Speech Disruption scores are not significantly different for the male and female nonstutterers or the younger and older nonstuttering children as a group, the SSC test situations cue-off significantly more speech disorganization among the young female nonstutterers than the young male nonstuttering children. Therefore, gender needs to be taken into consideration when evaluating the Speech Disruption scores of the younger nonstuttering children.

Table 2

Mean Score for the SSC-SD Section for the 79 Nonstuttering Children by Age and Gender

	Younger	Older
Males	75.56 (SD=15.33)	90.07 (SD=27.98)
Females	93.39 (SD=16.11)	83.87 (SD=24.47)

In order to determine the interplay between emotional response and the extent of speech disruption, both sections of the SSC were compared using a Pearson Product Moment Correlational procedure. For the group of nonstutterers, a Correlation Coefficient of .70 was obtained between the two sets of responses. This high correlation (Hinkle, Wiersma & Jurs, 1988) between the ER and SD sections of the SSC was significant at the .01 level of confidence. Likewise, a comparison of the ER and SD responses for the stutterers yielded a high Pearson Product Moment Correlation of .71 which proved, once more, to be significant at the .01 level of confidence. It is clear that the relative strength of this correlation is similar for both the group of stuttering and nonstuttering children. This co-relationship between the two sections of the SSC, for stutterers and nonstutterers alike, can be seen in the profile of their scores (Figure 1). Thus, for both the stutterers and the nonstutterers, there is a significant positive relationship or a positional stability between emotional reactivity and fluency failure on the SSC. That is to say that emotional reaction and speech disruption co-varied for both group of participants. This finding is consistent with the results obtained in the two SSC investigations of children that have been previously conducted (Brutten & Vanryckeghem, 2003b; Trotter, 1983). It suggests that for

nonstuttering children, as well as for those who stutter, there is a strong link between level of anxiety and fluency failure in particular speech situations.

SUMMARY AND CONCLUSION

Over the last decades, only a few self-report tests dealing with speech-related anxiety among persons who stutter have been reported on. Moreover, the majority of the anxiety tests used with stutterers were psychological measurement tools and did not investigate speech-situation specific emotional responding. The availability of measures that report on speech disruption in particular situations are even more limited and are mainly designed for use with adults. Relative to the assessment of youngsters who stutter, the Speech Situation Checklist for Children, originally developed by Brutten in 1965 is, to our knowledge, the only instrument of its kind that addresses both emotional reaction to and speech disruption in particular speech situations for this population.

Earlier investigations with the SSC (Brutten, 1982; Brutten & Vanryckeghem, 2003b, Trotter, 1983) have made it possible to compare the responses of young stutterers and nonstutterers relative to the extent of their emotional response to and speech disruption in 55 commonly occurring speech situations brought to test by this clinical procedure. The results obtained were consistent across the studies in that the stutterers as a group reported significantly more in the way of emotional reaction and speech disruption across speech situations compared to their nonstuttering peers. However, since its initial construction in 1965 and the subsequent study by Trotter (1983), the children's form of the SSC has been revised and updated norms on this test instrument are overdue.

It was the purpose of the present study to obtain current normative data on the revised SSC for children and to examine whether stuttering and nonstuttering children differ significantly with respect to the amount of negative emotional reaction and speech disruption

they experience across different speech situations. Moreover, the effect of age and gender and their interaction on the Emotional Reaction and Speech Disruption scores of the SSC was examined.

A representative sample of 79 nonstuttering and 19 stuttering grade-school children was included in the present study. The nonstuttering participants engaged in the investigation included only those who did not show any evidence of a speech, language, reading, writing or learning difficulty, and did not have any additional motor or behavioral problems. Similarly, only those stuttering children who did not demonstrate any language or speech disorder other than stuttering were contained in the study. Following test administration, the SSC was scored according to the test protocol. The responses of the stuttering and the nonstuttering children to the items in the Emotional Reaction (ER) and Speech Disruption (SD) sections of the SSC were used to obtain normative and comparative data.

The overall Emotional Reaction and Speech Disruption mean scores for the sample of nonstuttering children were 78.26 (SD=19.34) and 85.69 (SD=22.25), respectively. For the group of stutterers the overall mean for Emotional Reaction was 109.53 (SD=34.35) and 109.42 (SD=21.33) for the Speech Disruption section. Analysis revealed a significant between-group difference for the mean scores on both the ER and SD sections of the SSC, indicating that, as a group, children who stutter report significantly more in the way of emotional response to and fluency failures in the situations described in the SSC, compared to their fluent peers. Moreover, for both subject groups, statistically significantly high correlations were obtained between their report of emotional reactivity and the extent of their fluency failure in the various speaking situations explored by the SSC. As far as the effect of gender is concerned, the present study

found no significant differences in the ER and SD scores between the male and female nonstutterers, suggesting that gender was not a determining variable in the responses of children who do not stutter to the items on the SSC. Likewise, no significant differences were revealed in the present study between the younger and older group of nonstuttering children in their responses to the ER and SD sections of the self-report test under investigation. Interestingly, a significant age by gender interaction was obtained for the nonstuttering children, only on the Speech Disruption section of the test.

As identified in the purpose of the present investigation, the study aimed at providing normative information for the revised children's form of the SSC and to enhance its utility as a clinical instrument for comparing the responses of young children who do and do not stutter. The findings resulting from this investigation confirm, once again, the value of the SSC as a useful self-report measure in the assessment of children who stutter and provide information in terms of differential diagnosis. Additionally, the ease and efficiency of administration, combined with specific information relative to speech-situation related emotional reaction and fluency breakdown, allows the clinician to formulate treatment goals specific to each individual client.

Directions for Future Research

A replication of this study, using a larger sample size of both stuttering and nonstuttering children would be valuable in confirming the results of this investigation and, more specifically, to explore the effects of age and gender for the group of children who stutter. Also of importance would be to evaluate the questionnaires' reliability and validity. This might include factor

analysis to explore the interrelationship among the test items and to provide information on how the different situations described in the test group together.

With regards to the questionnaire itself, after administration of the test to the current sample of children, the following suggestions for change worthy of consideration are being made. Item number 20, (How do you feel/ How is your speech when) ‘telling a lie?’ could be considered for elimination since most students object responding to the question due to the negative connotation associated with telling a lie. Relative to item number 10, (How do you feel/How is your speech when) ‘talking to dad when he is reading the newspaper’, could be reworded to ‘talking to your parent when reading’ to take into consideration the subjects who might be residing with a single parent. And finally item 12, (How do you feel/How is your speech when) ‘reciting in class’ might be considered for removal. A similar situation is explored in item number 47 (How do you feel/ How is your speech when) ‘speaking in front of a class’ and is less complex in wording and easier to understand for the younger readers.

APPENDIX A

SPEECH SITUATION CHECKLIST FOR CHILDREN

Susha Verghese
Dept. of Communicative Disorders,
College of Health & Public Affairs,
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Orlando, FL 32817

October 19, 2004

Dr. Gene J. Brutten
832 Bentley Green Circle,
Winter Springs, FL 32708

Respected Dr. Brutten:

As you already know I am completing my master's thesis at the University of Central Florida entitled "The Speech Situation Checklist: A Normative Investigation of Children Who Do and Do Not Stutter". I would like your permission to include and reprint in my thesis, a self-report test designed by you, "The Speech Situation Checklist for Children", which is an integral part of the Behavior Assessment Battery that specifically assesses emotional reaction to and fluency failures in different speech situations among children who do and do not stutter.

The requested permission will in no way restrict republication of the material in any other form by you or by others authorized by you. Your signing of this letter will also confirm that you own the copyright to the above-described material.

If these arrangements meet with your approval, please sign this letter where indicated below and return it to me in the enclosed return envelope. Thank you for your attention in this matter.

Sincerely,
Susha verghese

PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:

By: _____
Dr. Gene J. Brutten

Date: November 11, 04

SPEECH SITUATION CHECKLIST - Children*

GENE J. BRUTTEN, Ph.D.

Section I: Emotional Reaction

Name:	**Date:**	**Grade:**
Birth Date:	**Age:**	**Gender:**

How do you feel when you speak? Because of your speech, are there situations in which you are afraid to talk? Or, is it that you are currently not afraid to talk in different speech situations?

For example: How do you feel about speaking with other children at a party? If speaking with children in this situation would make you feel much afraid, you would circle 'much afraid'.

Speaking at a party	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**

If, on the other hand you would not be afraid of speaking with other children at a party, you would circle 'not afraid'.

Speaking at a party	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**

Read all of the 55 speech situations on the following pages and circle how afraid of speaking you would be in each of them.

Copyright, Gene J. Brutten, 1965 – Revised 2003

HOW DO YOU FEEL ABOUT:

1 . Talking with a new kid in school	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
2 . Talking during dinner	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
3 . Talking when you are excited	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
4 . Talking with someone older than you	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
5 . Asking for money	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
6 . Talking to the doctor	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
7 . Having to answer a question in class when you don't know the answer	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
8 . Speaking after you have argued with a friend	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**

HOW DO YOU FEEL ABOUT:

9 . Talking aloud by yourself	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
10. Talking to your dad while he's reading the newspaper	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
11. Asking for help with your homework	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
12. Reciting in class	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
13. Asking for a certain kind of candy at a store	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
14. Telling a story	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
15. Spelling words aloud in class	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
16. Talking to a child you don't know	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
17. Talking at a party	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**

HOW DO YOU FEEL ABOUT:

18. Raising your hand to talk in class	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
19. Talking to a baby	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
20. Telling a lie	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
21. Talking about something you don't like	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
22. Talking when embarrassed	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
23. Talking on the telephone	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
24. Talking with a stranger	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
25. Saying certain sounds or words	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
26. Talking after someone has hurt your feelings	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**

HOW DO YOU FEEL ABOUT:

27. Talking to an animal	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
28. Talking with your parents	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
29. Talking with your best friend	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
30. Talking after you have been yelled at	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
31. Reading aloud from a book	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
32. Talking with an adult	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
33. Talking after you have been misunderstood	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
34. Answering a question	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
35. Talking after you have given the wrong answer	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**

HOW DO YOU FEEL ABOUT:

36. Telling people what you think	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
37. Telling someone your name	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
38. Talking when trying to make people think that you are nice	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
39. Talking when you are unhappy	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
40. Telling someone where to find something	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
41. Talking to boys your own age	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
42. Asking your teacher a question	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
43. Having to repeat your answer because you were not understood	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**

HOW DO YOU FEEL ABOUT:

44. Telling someone about yourself	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
45. Asking if your friend is at home	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
46. Talking on the playground	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
47. Having to talk in front of the class	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
48. Giving a speech	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
49. Talking to girls your own age	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
50. Talking when you are in a hurry	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
51. Telling someone your phone number	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
52. Talking to a teacher who is angry with you	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**

HOW DO YOU FEEL ABOUT:

53. Telling someone your address	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
54. Asking a saleslady to show you something	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**
55. Telling someone you are sorry	**Not afraid**	**A little afraid**	**More than a little afraid**	**Much afraid**	**Very much afraid**

SPEECH SITUATION CHECKLIST - Children*

GENE J. BRUTTEN, Ph.D.

Section II: Speech Disruption

Name:	**Date:**	**Grade:**
Birth Date:	**Age:**	**Gender:**

How is your speech? Is speaking difficult for you? Are there times when the same sound or same word comes out over and over again? Are there sounds or words that are stretched out, hard to get out, or that sometimes will not come out? Or, is speaking easy for you? You do not have trouble speaking. Sounds or words are usually easy for you to say and you talk without any difficulty. Which is true about your speech?

For example: How is your speech when you are at a party? If you would have much trouble speaking when you are at a party you would circle 'much trouble'.

Speaking at a party	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**

If, on the other hand, speaking at a party would not cause you trouble, you would circle 'no trouble'.

Speaking at a party	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**

Read all of the 55 speech situations on the following pages and circle how much trouble, if any, you would have with your speech in each of them.

*** Copyright, Gene J. Brutten, 1965 – Revised 2003**

HOW IS YOUR SPEECH WHEN:

1 . Talking with a new kid in school	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
2 . Talking during dinner	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
3 . Talking when you are excited	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
4 . Talking with someone older than you	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
5 . Asking for money	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
6 . Talking to the doctor	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
7 . Having to answer a question in class when you really don't know the answer	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
8 . Speaking after with a friend	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
9 . Talking aloud by yourself	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**

HOW IS YOUR SPEECH WHEN:

10. Talking to your dad while he's reading the newspaper	**No Trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
11. Asking for help with your homework	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
12. Reciting in class	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
13. Asking for a certain kind of candy at a store	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
14. Telling a story	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
15. Spelling words aloud in class	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
16. Talking to a child you don't know	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
17. Talking at a party	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
18. You have raised your hand to talk in class	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
19. Talking to a baby	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**

HOW IS YOUR SPEECH WHEN:

20. Telling a lie	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
21. Talking about something you don't like	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
22. You are embarrassed	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
23. Talking on the telephone	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
24. Talking with a stranger	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
25. Saying certain sounds or words	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
26. Talking after someone has hurt your feelings	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
27. Talking to an animal	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
28. Talking with your parents	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
29. Talking with your best friend	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**

HOW IS YOUR SPEECH WHEN:

30. Talking after you have been yelled at	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
31. Reading aloud from a book	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
32. Talking with an adult	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
33. Talking after you have been misunderstood	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
34. Answering a question	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
35. Talking after you have given the wrong answer	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
36. Telling people what you think	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
37. Telling someone your name	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
38. Talking when trying to make people think that you are nice	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**

HOW IS YOUR SPEECH WHEN:

39. Talking when you are Unhappy	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
40. Telling someone where to find something	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
41. Talking to boys your own age	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
42. Asking your teacher a question	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
43. Having to repeat your answer because you were not understood	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
44. Telling someone about yourself	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
45. Asking if your friend is at home	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
46. Talking on the playground	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
47. Having to talk in front of the class	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**

HOW IS YOUR SPEECH WHEN:

48. Giving a speech	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
49. Talking to girls your own age	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
50. Talking when you are in a hurry	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
51. Telling someone your phone number	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
52. Talking to a teacher who is angry with you	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
53. Telling someone your address	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
54. Asking a saleslady show you something	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**
55. Telling someone you are sorry	**No trouble**	**A little trouble**	**More than a little trouble**	**Much trouble**	**Very much trouble**

APPENDIX B

LETTER TO SCHOOL PRINCIPAL

February 1, 2003

Dear Principal:
Dear Educator:

As a professor in the Department of Communicative Disorders at the University of Central Florida, I am especially interested in normal and disordered speech. It is within this framework that I seek your help and that of the children at your school.

My research, which is part of an international research project, is designed to determine if situation-associated reactions, adjustments and the speech-associated attitudes of children who stutter differ from those of the non-stuttering children. In order to study these speech-associated variables I need to administer a few questionnaires to children who do not stutter. The data that result from the children's responses on these self-report tests will aid speech-language pathologists, like those in your school, in both differentially determining whether or not a child stutters and in choosing the most conducive approach to therapy.

It is with regard to the local aspect of this project that I seek your permission to assess normally fluent students, between the ages of 6 and 14, who attend your school. Each child will be asked to fill out self-report tests that are part of the well-regarded Behavior Assessment Battery (BAB). The BAB (Brutten, 1967, 1984; Brutten & Vanryckeghem, 1997, 2003) consists of: the Communication Attitude Test (CAT and CAT-B), the Speech Situation Checklist (SSC-ER and SSC-SD) and the Behavior Checklist (BCL). The children will be asked to circle 'true or false', 'yes or no' or to rank their reaction to speech situations on a 5-point scale. Administration takes between 20 to 30 minutes, depending upon the test and the age of the child. The questionnaires will be administered by me and/or by my graduate research assistant, Susha Verghese, to the entire class of each grade. The instructions and the test items will be read aloud to the children in grades one and two.

The information gathered will be kept strictly confidential. The participants will not be asked to give their name. Each form will carry an assigned number. Moreover, published reports of the findings of this research will not contain the school's name. I will, however, make the data and its interpretation available to you and your school's speech-language pathologist should they be desired.

There are no anticipated risks, compensation or other direct benefits to the participants in this study. Participation in this project is completely voluntary and the children are free to withdraw their consent to participate at any time without consequence. Group results of this study will be available in September 2004 upon request. If you have any questions about this project or would like to get more information relative to this research study, please feel free to contact me at (407) 823 4808, via e-mail at martinev@mail.ucf.edu, or regular mail at the University of Central Florida, Department of Communicative Disorders, HPA-2 Suite 101, PO Box 162215, Orlando, FL 32816-2215.

Questions or concerns about research participants' rights may be directed to the UCFIRB office, University of Central Florida Office of Research, Orlando Tech Center, 12443 Research Parkway, Suite 207, Orlando, FL 32826. The hours of operation are 8:00 a.m. until 5:00 p.m.,

Monday through Friday except on University of Central Florida official holidays. The phone number is (407) 823 2901. In the meantime I would like to thank you for your cooperation.

Sincerely Yours,

Martine Vanryckeghem, Ph.D., CCC-SLP
Associate Professor
Fluency Specialist, American Speech-Language-Hearing Association

APPENDIX C

CONSENT FORM FOR PARENTS OF NONSTUTTERING PARTICIPANTS

February 1, 2003

Dear Parent/Guardian:

As a professor in the Department of Communicative Disorders at the University of Central Florida I am especially interested in normal and disordered speech. It is within this framework that I seek your help and that of your child. My research, which is part of an international research project, is designed to determine if situation-associated reactions, adjustments and speech-associated attitudes of children who stutter differ from those of the non-stuttering children. In order to study these speech-associated variables I need to administer a few questionnaires to children who do and do not stutter. The data that result from the children's responses on these self-report tests will aid the speech-language pathologist in both differentially determining whether or not a child stutters, and in choosing the most conducive approach to therapy.

The self-report tests that your child will be asked to fill out are part of the well-regarded Behavior Assessment Battery (BAB). The BAB (Brutten, 1967, 1984; Brutten & Vanryckeghem, 1992, 1997, 2003) consists of three questionnaires: the Communication Attitude Test, the Speech Situation Checklist and the Behavior Checklist. These questionnaires will explore your child's speech-associated attitude, reaction to speech situations and speech-related behaviors by asking your child to circle 'true or false', 'yes or no' or to rank his or her reaction to speech situations on a 5-point scale. Administration takes between 20 to 30 minutes, depending on the test and the age of the child. The questionnaires will be administered by me or by my graduate research assistant, Susha Verghese, to the entire class of each grade. Ms. Verghese will be analyzing part of the data as a requirement for her Master's Degree thesis in the Department of Communicative Disorders.

The information gathered will be kept strictly confidential. The participants will not be asked to give their names. Each form will carry an assigned number. In other words, no identification will be used at any point. Participation or non-participation in this study will not affect the children's grade or placement in any program. You and your child have the right to withdraw consent for your child's participation at any time without consequence. There are no anticipated risks, compensation or other direct benefits to the participants in this study. Group results of this study will be available in September 2004 upon request.

If you have any questions regarding this project or would like to get more information relative to this research study, please feel free to contact me at (407) 823 4808, via e-mail at martinev@mail.ucf.edu, or regular mail at the University of Central Florida, Department of Communicative Disorders, HPA-2 Suite 101, PO Box 162215, Orlando, FL 32816-2215.

Questions or concerns about research participants' rights may be directed to the UCFIRB office, University of Central Florida Office of Research, Orlando Tech Center, 12443 Research Parkway, Suite 207, Orlando, FL 32826. The hours of operation are 8:00 a.m. until 5:00 p.m.,

Monday through Friday except on University of Central Florida official holidays. The phone number is 407-823-2901. In the meantime I would like to thank you for your cooperation.

Sincerely yours,

Martine Vanryckeghem, Ph.D., CCC-SLP
Associate Professor
ASHA Fluency Specialist

_____ I have read the procedure described above.

_____ I voluntarily give my consent for my child, _____, to participate in Dr. Vanryckeghem's study of with the Behavior Assessment Battery

_____ _____
Parent/Guardian Signature Date

_____ _____
2nd Parent/Guardian Signature Date

APPENDIX D

FORM FOR CLASS TEACHER AND SCHOOL SPEECH-LANGUAGE PATHOLOGIST

Student Information

Grade:
Teacher:

Please identify those students (using their ID number and initials) participating in the Behavior Assessment Battery investigation, who have come to your attention because of one or more of the following difficulties that might affect our results:

Speech:

Language:

Reading:

Writing:

Learning:

Motor:

ADHD:

English as a Second Language:

Others:

APPENDIX E

LETTER TO FLUENCY SPECIALISTS

October 25, 2003

Dear colleague:

Thank you for your interest in our clinical research project with the Behavior Assessment Battery (BAB) and your willingness to participate in this internationally-based investigation which has been approved by the University of Central Florida Review Board.

Enclosed you will find the different self-report tests that make up the BAB: the Speech Situation Checklist: Emotional Reaction (SSC-ER), the Speech Situation Checklist: Speech Disruption (SSC-SD), the Behavior Checklist (BCL), the Communication Attitude Test (CAT) and CAT-B. In addition, you will find: Instructions for Order of Test Administration, Test Protocol and Client Information forms.

Because, at this point, we do not know what the cost will be for sending the forms back to us, we suggest that, when you return the completed test forms, you send us an e-mail indicating the postage cost. At that point we will send you a personal check reimbursing you for any cost that you might have encumbered.

The completed self-report tests can be sent to us anytime early in 2004. However, it would be very helpful to us if we would receive the bulk of them before March 15, 2004. . However, if, over time, more participants become available, we will be happy to provide you with additional test forms. In return for your cooperation, we will send you the test scores for the clients in your caseload who participated and will provide you with a summation of our current normative data.

Thank you, in advance, for your cooperation. Your assistance in this clinically-based project is greatly appreciated.

Sincerely yours,

Martine Vanyckeghem, Ph.D., CCC-SLP
Associate Professor
martinev@mail.ucf.edu

Gene J. Brutten, Ph.D., FASHA
Research Professor Emeritus
gbrutten@mail.ucf.edu

APPENDIX F

QUESTIONNAIRE FOR FLUENCY SPECIALISTS

Client ID#: **Clinician name:**
Client initials: **Date:**
Date of birth:
Age:
Gender:

Client Information

1. Name or describe the profession of the client's:
   Father ……..
   Mother …….

2. What is the highest degree that was received by the client's:
   Father …….
   Mother ……

3. Does the child:
   Live with both parents …….
   Parents are divorced and child lives with one parent ……
   Parents are divorced and child lives part of the time with each parent …
   Child lives with one parent. The other parent is deceased ……..

4. Was the child born in the USA? Yes No
   If not, please indicate the country of birth …….
   Was the child raised in the USA? Yes No
   If not, please indicate the country…….

5. Is English the child's first language? ……..
   If not, what is the child's mother-tongue ……..

6. Please, indicate the client's stuttering severity:

   Very mild Mild Moderate Severe Very severe

7. Date of reported onset of stuttering: ……..

8. Has your client been in therapy before? Yes No
   If so, for how long?……..

9. How long has your client been in therapy with you? ……..

10. Is your client enrolled in individual and/or group therapy (circle)

11. Please indicate each of the forms of therapy that you use with your client:
    Stuttering modification: ……
    Fluency shaping/reinforcement: ……
    Attitude change: …….
    Desensitization/anxiety reduction: ……..
    Reduction of associated behaviors: ……..
    Other: ……..

12. Does the child have other speech/language problems? Yes No
    If yes, please specify…….

APPENDIX G

CONSENT FORM FOR PARENTS OF STUTTERING PARTICIPANTS

October 20, 2003

Dear Parent/Guardian:

As a professor in the Department of Communicative Disorders at the University of Central Florida my work involves the clinical evaluation of children's speech. It is within this framework that I seek your help and that of your child. In this regard, I am part of an international research team that seeks to determine if the situation-associated reactions, adjustments and speech-associated attitudes of children who stutter differ from those of the non-stuttering children.

In order to study these speech-associated variables I need to administer a few questionnaires to children who do and do not stutter. The data that result from the children's responses on these self-report tests will aid speech-language pathologists in both differentially determining whether or not a child stutters, and in choosing the most successful approach to therapy.

The self-report tests that your child will be asked to fill out are part of the well-regarded Behavior Assessment Battery (BAB). The BAB (Brutten, 1967, 1984; Brutten & Vanryckeghem, 1992, 1997, 2003) consists of three questionnaires: the Communication Attitude Test, the Speech Situation Checklist and the Behavior Checklist. These questionnaires will explore your child's speech-associated attitude, reaction to speech situations and speech-related behaviors by asking your child to circle 'true or false', 'yes or no' or to rank his or her reaction to speech situations on a 5-point scale. Administration takes between 20 to 30 minutes, depending on the questionnaire and the age of the child.

This investigation has been approved as risk free by the Institutional Review Board of the University of Central Florida. The information gathered will be kept strictly confidential. The participants will not be asked to give their name. The forms will only carry an assigned number. In other words, no identification will be used at any point. Participation or non-participation in this study will not affect the children's grade or placement in any program. You and your child have the right to withdraw consent for your child's participation at any time without consequence.

If you have any questions regarding this project or would like to get more information relative to this research study, please feel free to contact me at (407) 823 4808, via e-mail at martinev@mail.ucf.edu, or regular mail at the University of Central Florida, Department of Communicative Disorders, HPA-2 Suite 101, PO Box 162215, Orlando, FL 32816-2215.

Questions or concerns about research participants' rights may be directed to the UCFIRB office, University of Central Florida Office of Research, Orlando Tech Center, 12443 Research Parkway, Suite 207, Orlando, FL 32826. The hours of operation are 8:00 a.m. until 5:00 p.m.,

Monday through Friday except on University of Central Florida official holidays. The phone number is 407-823-2901. In the meantime I would like to thank you for your cooperation.

Sincerely yours,

Martine Vanryckeghem, Ph.D., CCC-SLP
Associate Professor
ASHA Fluency Specialist

_____ I have read the procedure described above.

_____ I voluntarily give my consent for my child, _____, to participate in Dr. Vanryckeghem's study of with the Behavior Assessment Battery

_____ _____
Parent/Guardian Signature Date

_____ _____
2nd Parent/Guardian Signature Date

APPENDIX H

INSTITUTIONAL REVIEW BOARD APPROVAL

University of Central Florida

Office of Research

February 6, 2004

Martine Vanryckeghem, Ph.D.
Department of Communicative Disorders
College of Health and Public Affairs
University of Central Florida
4000 Central Florida Boulevard
Orlando, Florida 32816

Dear Dr. Vanryckeghem:

With reference to your protocol entitled, "A Normative and Inter-Correlational Investigation with the Behavior Assessment Battery for Children," I am enclosing for your records the approved, executed document of the UCFIRB Form you had submitted to our office.

Please be advised that this approval is given for one year. Should there be any addendums or administrative changes to the already approved protocol, they must also be submitted to the Board. Changes should not be initiated until written IRB approval is received. Adverse events should be reported to the IRB as they occur. Further, should there be a need to extend this protocol, a renewal form must be submitted for approval at least one month prior to the anniversary date of the most recent approval and is the responsibility of the investigator (UCF).

Should you have any questions, please do not hesitate to call me at 823-2901.

Please accept our best wishes for the success of your endeavors.

Cordially,

Chris Grayson
Institutional Review Board (IRB)

Copies: Susha Verghese
IRB File

APPENDIX I

GENERAL INSTRUCTIONS FOR TEST ADMINISTRATION

Instructions before BAB Test Administration

- Have the children fill out the information on the cover sheet

- This is not a test like you do in school – there are no points to be earned, this is not going to be graded

- The purpose is to obtain information about your speech. You will be asked to fill out different questionnaires. They all relate to your speech

- There are not right or wrong answers. Whatever you answer relates to what you think about your speech, or what you do to help your speech or how you feel about particular speech situations

- These questionnaires are personal: this means that the answer only relates to you. Your friend or neighbor might give a completely different answer. That is OK. So, don't look at what the person next to you circles

- You only circle your answer. If you were wrong, don't erase, but cross out that answer and circle the new answer

- If you have trouble reading something, or you don't understand a word, please raise your finger and I will come and help you

- When you are done, please look over the questionnaire and make sure that you did not skip any answer

- Then raise your finger. I will pick up the questionnaire and you can read a book until everybody is ready

APPENDIX J

TEST PROTOCOL

BEHAVIOR ASSESSMENT BATTERY FOR CHILDREN

TEST PROTOCOL

General comments:

The **order** in which the tests are to be administered will differ from child to child.
Please be sure to follow the test orders that are provided.
It is very important that the different test forms for each participant are completed within relatively close proximity to each other. This will serve to reduce the variable error that might well result if the tests are taken many days apart.
On the test forms, the child's **ID # and initials** should be placed where there is space provided for name.

All **test instructions** are to be read to the child as he/she follows along. The **examples** on the cover sheet are to be filled out together so that the child understands what needs to be done.

Children in the **first and second grade** should be asked to respond after each item is read aloud by the clinician as he/she follows along silently. It is our experience that, from third grade on, children can read and fill out the questionnaires on their own. However, if the child reports that he/she does not understand a statement, it should be explained in a non-leading way.

The children should be told that the questionnaires that they fill out will help tell us what they **think** about their **own speech**. They need to know that this is not a test, and that there are no "good" or "bad" answers. It is vital that their answer indicate only what they think about their own speech.

Speech-Situation Checklist: SSC-ER (Emotional Response) and SSC-SD (Speech Disruption)

The instructions on the front page should be read together with the child and the example provided should be completed by the child.

Before starting to fill out **SSC-ER**, it is important to determine if the children fully understand that they are being asked to indicate whether or not they are '**afraid**' of one or another of the speech situations described.

Similarly, in **SSC-SD** the children need to know that they are being asked if they have **'trouble speaking'** with respect to the different speech situations described.
When reading the instructions on the cover sheet it is useful, by means of an example, to explain the statements:

"Are there times when the same sound or same word comes out over and over again?" (e.g. "p-p-p-p-pepper" or "I I I I I want a cookie") and
"Are there sounds or words that are stretched out, hard to get out, or that sometimes will not come out?" (e.g. "sssssssoup" or "p…..aper").

APPENDIX K

ORDER OF TEST PRESENTATION

INSTRUCTIONS FOR ORDER OF TEST PRESENTATION

All children will fill out five different tests that are part of the Behavior Assessment Battery (BAB) (Brutten, 2003). The BAB consists of:

The Communication Attitude Test (CAT)
The Communication Attitude Test-Form B
The Speech Situation Checklist-Emotional Response (SSC-ER)
The Speech Situation Checklist-Speech Disruption (SSC-SD)
The Behavior Checklist (BCL)

The **order** in which the different tests are to be administered has been **randomized** and differ from child to child. Please, do not deviate from the pre-set test order presented on the next page.

Each of the potential participants in your practice has received an identification number. Please identify each of the subjects with a number and use this number on each form that is to be filled out. Also, please write the child's initials on each form. Attached, you will find, for each identification number, the order in which the tests should be administered.

More than one test per day can be administered if they are not two forms (CAT and CAT-B) or two sections (SSC-ER and SSC-SD) of the same test. This will be dependent on the pre-set order of the tests to be given to a child.
If, for example, for a certain child the order is: C.A.T., S.S.C.-SD, S.S.C.-ER, BCL, C.A.T.-B; then C.A.T. and S.S.C.-SD can be administered the same day, but S.S.C.-SD and S.S.C.-ER can not be filled out the same day.
Each form is given to the participant separately and the child should not be informed that he/she will have to fill out additional forms.

ID #	Test Order				
	Test 1	Test 2	Test 3	Test 4	Test 5

APPENDIX L

SSC RAW SCORES

SSC Raw Scores: Nonstuttering Children

Subject ID	SSC-ER Score	SSC-SD Score
1	71	87
2	63	63
3	75	92
4	96	83
5	55	-
6	-	102
8	61	104
10	59	-
12	98	79
13	79	-
14	57	77
15	83	91
16	56	-
17	77	94
18	86	132
19	92	104
20	112	120
23	114	87
24	86	66
25	87	104
26	87	98
27	85	98
29	61	83
30	79	96
31	58	64
32	66	59
33	106	74
34	91	99
35	94	81
36	121	84
37	71	78
38	81	-
39	64	59
55	-	101
56	61	69
57	82	98
58	79	79
59	74	60
60	73	65

Subject ID	SSC-ER Score	SSC-SD Score
61	71	61
62	-	73
64	55	56
65	67	72
66	126	139
68	62	64
69	78	94
70	93	93
71	-	66
72	94	82
73	62	-
74	87	77
75	60	61
76	67	67
77	73	60
78	71	82
79	95	131
80	151	150
81	118	161
82	76	89
83	68	87
84	58	59
85	71	73
86	78	87
87	66	73
88	96	114
89	63	62
90	65	76
91	86	91
92	64	109
93	55	55
94	60	76
95	97	109
96	103	105
97	65	79
98	61	86
99	75	82
100	59	67
101	55	72

SSC Raw Scores: Stuttering Children

Subject ID	SSC-ER Score	SSC-SD Score
1	152	152
2	139	125
3	94	122
4	79	80
5	74	83
6	168	121
7	106	114
8	73	74
9	101	96
10	80	112
11	55	106
12	150	128
13	77	90
14	141	126
15	149	121
16	149	113
17	110	136
18	88	80
19	96	100

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