ASSESSMENT OF SELF EFFICACY IN COMMUNICATION FOR ADOLESCENTS WITH STUTTERING

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MAY, 2016

CERTIFICATE

This is to certify that the dissertation entitled "Assessment of self efficacy in

Communication for adolescents with stuttering" is the bonafide work submitted in part fulfillment for the degree of Master of Science (Speech-Language Pathology) of the student (Registration No.14SLP023). This has been carried out under the guidance of a faculty of this institute and has not been submitted earlier to any other University for the award of any other Diploma or Degree.

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This is to certify that the dissertation entitled *Assessment of self efficacy in communication for adolescents with stuttering* has been prepared under my supervision and guidance. It is also certified that this has not been submitted earlier in any other University for the award of any Diploma or Degree.

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DECLARATION

This is to certify that this dissertation entitled "Assessment of self efficacy in communication for adolescents with stuttering" is the result of my own study under the guidance of Mrs. Sangeetha Mahesh, Department of Clinical Services, All India Institute of Speech and Hearing, Mysore, and has not submitted earlier in any other University for the award of any Diploma or Degree.

Mysore   **Register No: 14SLP023**

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CHAPTER I

INTRODUCTION

Communication is a form of social behavior, used to exchange information about one's needs, desires, perception, and knowledge. Inability to communicate effectively leads to speech and language disorders. Speech is the most effective means of communication; communication gets affected when there is any disorder of speech, and thereby affects individuals' ability to interact with others. Amongst the communication disorders stuttering is gaining more attention.

Stuttering as defined by the World Health Organization (WHO, 1997) relates to "disorders in the rhythm of speech in which the individual knows precisely what he wishes to say but at the time is unable to say because of an involuntary repetition, prolongation or cessation of a sound", Johnson (1946) reported that "A person who stutters, does to avoid stuttering and it is an anticipatory apprehensive and hypertonic avoidance reaction", Brutten and Shoemaker (1967) defined "Stuttering is a form of fluency failure that results from conditioned negative emotion". It is a speech disorder which interrupts the forward flow of speech, manifested mainly during childhood and is characterized by dysfluent speech. The dysfluencies are majorly classified as Other Disfluencies (ODs) involving interjections, revisions, multisyllabic/ phrase repetitions which are manifested in early developmental periods in young children due to language formulation difficulties and another kind of dysfluencies are known as stuttering like dysfluencies (SLD's) which are characterized by part-word repetitions, syllable repetitions, block, prolongation and broken words seen in individuals with stuttering.

Most of individuals with stuttering learn coping strategies (eye blinking, nose flaring, facial grimace and avoidance strategies) to compensate speech interruption during conversation. Over the time, individuals with stuttering experiences more negative reactions and the self-perception towards stuttering also changes. These two factors may vary with the severity of problem, duration of stuttering experience and the environment reactions to the performance outcomes. PWS exhibit both overt features and covert features, overt features involves behaviors which are visible or evident as a listener interacts with PWS, which includes disfluencies (frequency), rate of speech, speech naturalness, coping mechanisms, etc., whereas covert features involves invisible or hidden aspects of PWS, such as, emotional reaction, anxiety, fears, feelings, avoidance, motivation, self perception, etc.

Currently, the researchers have been majorly focused on covert features and new trends are sprouting to assess and to design the treatment program. In that, anxiety is one of the major factors included in research as it plays a major role in stuttering and it is a major component of advanced stuttering leading to the increase in the frequency and severity of dysfluencies. Stuttering may be associated with the negative emotions i.e., embarrassment, frustration and apprehension of negative social emotions. The presence of this anxiety and negative emotions in person with stuttering (PWS) leads to maladaptive physical adjustment in their speech mechanism (Hulit, 2004). Children who stutter often feel inadequate as speakers, and therefore their self-confidence tends to be very low. As normal children tease or bully, the children with stuttering develop adverse reactions to their speech and to also their self-esteem tends to decrease further (Starkweather & Givens-Ackerman, 1997).

Authors have proposed string of tests to assess covert and overt features, and few of them are mentioned as follows; Perception of Stuttering Inventory (PSI), was developed by Woolf (1967) to measure awareness of struggle, avoidance, and expectancy behaviors; Stuttering Severity Instrument (SSI) by Riley in 1994 to measures dysfluencies and secondary behaviors; The Erickson Modified 24 Scale (Erickson, Andrews & Cutler, 1974) to measures communication attitude of persons with stuttering (PWS); Locus of Control of Behavior (LCB) by Craig, Franklin, and Andrews (1984) measures person belief in persons with stuttering; and Overall assessment of speaker's experience of stuttering (OASES) by Yaruss (2006) assesses the quality of life (QOL). The common ways to assess these features of PWS is either by interview or questionnaire method/ rating scale. A questionnaire is a type of self-report method consists of a set of questions usually in a highly structured written form. Self-report frequently plays a role in clinical evaluation and intervention for people who stutter. The self-report measures are mainly of three types. Firstly, assesses attitude toward interpersonal communication; secondly, those that were a merge of self-evaluative attitudinal and behavioral items; and thirdly, evaluates a speaker's reaction to specific speaking situations. These measures offer the clinician to measure the manner in which speakers view their speech and react to various speech situations. It forms bridge between what can be observed in the clinical setting and behaviors that occur beyond the clinical setting, and identifying thoughts and feelings that are beneath the surface. The Self-report measures for a range of constructs have been development for use in both research and clinical practice, such procedures have been popular to gather the information regarding, anxiety, stigma, self-efficacy because they were found to be more reliable than physiological measurements related to

anxiety. However, the major drawback of self-report is the difficulty to measure behavior in many situations; this drawback can be overcome through the use of questionnaires, which became major tool in eliciting reactions to a wide array of speaking situations that encounter in speaker's daily routine.

Some of the questionnaires available for different age groups that are OASES-A for adults, OASES-C for children and OASES-T for teenagers to measure the quality of life in individuals with stuttering; Self-Efficacy Scale for Adult with Stuttering (SESAS) for adults and self-efficacy scale for adolescents (SEA-scale) to measure confidence level across situations in individuals with stuttering. This age related questionnaires are important to tap specific information related to changes that happens in children, adolescents and adults. The study of biopsychological effects of the stuttering disorder on children and adolescents who stutter is particularly important, because research till date has not fully delineated the nature and extent of the negative attitude in PWS. In addition, cognitive reactions such as low self-esteem, diminished self-confidence and reduce feelings of self-efficacy also are common (Blood & Blood, 2004; Manning, 2010; Ramig & Dodge, 2005; Yarus, 1998; Yaruss & Quesal, 2004, 2006) in individuals with stuttering.

Bandura (1977) developed a scaling technique that they termed as "self-efficacy." Self-efficacy is defined as a measure of an individual's confidence regarding successful performance of particular behaviors (Bandura, 1986; Ornstein & Manning, 1985).

Further support is derived from Manning's (1985) investigation with intervention program that there was a substantial reduction in stuttering and the participants also showed significant increase in their self-efficacy for fluent speech as measured by the

Self-Efficacy Scale for Adult with Stuttering (SESAS). The SESAS measures the confidence level of adult clients have in maintaining fluency in various speaking environment which was further modified for adolescents and it was termed it as "Self-efficacy for adolescent scale" (SEA-scale). In 1994, Manning designed the Self-Efficacy for adolescents Scale (SEA-Scale) with stuttering which analyses the confidence level of young people in a variety of speaking situations. It consists of 100 everyday speaking situations under 13 sub categories which are scored on a scale of 1 to 10 for the degree to which self-efficacy for verbal fluency is anticipated ,where 1 is low and 10 is high. The low scores indicate decreased self-efficacy and high score indicates increased self-efficacy for verbal fluency while entering into various speaking situations. Bandura et al. (1986) argued that self-efficacy expectations were an accurate predictor of performance. A key aspect of this scale, according to Manning (2003), is that self-efficacy scaling procedure is designed to provide an indication of how individuals who stutter will perform beyond treatment, especially in real-life speaking situations.

The adolescents who stutter spent many years adjusting to their speech behavior and coping with problems which may also lead to negative thoughts and beliefs. The LCB assesses the externality (which means that the participants have external locus of control of behavior) and internality (which means participants believe in themselves and present self-confidence to face difficulties). Craig, Franklin, and Andrews (1984) stated that PWS have higher score on LCB indicating high externality compared with normal individuals.

Need for the study

Stuttering onset occur between the age of 2 and 5 years. During the course of development of stuttering children repeat word, syllables and phrases or other dysfluencies, intern direct the child to develop anxiousness and tension to an assortment of factors (environment and constitutional) and are habituated further which aggravates the condition. The amount of experience of stuttering in the childhood along with the assortment factors can affect a person's self concept, personality and personal reaction. To understand the entirety about stuttering, it's necessary to consider the individual's reactions to stuttering, the difficulty the child experiences when communicating in different situations and experiences while communicating in different situations. Hence, it is important to incorporate subjective feelings of individuals with stuttering during the assessment and treatment process. The Speech- Language Pathologists should be aware of the consequences of stuttering on individual's life in terms of his family and social relationships and the problems being faced by the individual at school and other places. Assessing and evaluating the entire stuttering disorder can pose a challenge, since at present, there is a dearth of tool clinically available designed to evaluate the self-efficacy in communicative contexts among person with stuttering in Indian scenario. Hence, there is a need to develop self efficacy scale for adolescents in Indian context and perform a comprehensive assessment using the scale in adolescents with stuttering.

Aim of the study

The aim of the present study is to investigate the Self-efficacy in communication for adolescents with stuttering.

Objectives of the study

The specific objectives of the study were:

1. To adapt the self- efficacy for adolescent (SEA-scale) to the Indian context

2. To compare the self-efficacy in communication across adolescents with and without stuttering

3. Comparison of self-efficacy between adolescents with and without therapy.

4. To assess the self-efficacy of adolescents across degrees of severity of stuttering.

5. To investigate the relationship between personality traits and self efficacy in adolescents with stuttering and without stuttering.

CHAPTER II

REVIEW OF LITERATURE

Conventionally, several researchers have proposed definitions of stuttering (Johnson, 1959; Brutten & Shoemaker, 1967; Wingate, 1964; Peters & Guitar, 1991; Shapiro, 1999). These definitions focused on overt behavior (part word repetition, prolongation, block, filled and unfilled pauses) as the central features of the stuttering. These behaviors may or may not be accompanied by escape and/or avoidance behaviors (Gifford & Hayes, 1999). Other definitions of stuttering have incorporated covert behavior (cognitive-emotional) reported from the speaker's perspective such as, the individual experiencing excessive mental effort (Guitar, 1998), loss of control (Perkins, 1990, experiencing a change in emotional state (Wingate, 1964), lower self-efficacy (Perkins, 1993; Prins, 1993), internalize negative attitudes of society (Corrigan & Watson, 2002; Crocker & Major, 1989) and diminished self-esteem (Corrigan, Larson & Rusch, 2009). The overt and covert features depend on the severity and the experience of stuttering after the onset. For example, in individuals with more severity and many years of stuttering experience exhibit more covert and overt behavior and in some individuals both the severity and experience of stuttering are associated with only overt features or sometimes he/she exhibits both covert and overt but the impact will be comparatively less.

Several studies have been attempted to quantify the differences between gender and across age groups. In particular, Tomaiuoli and Gado (2014) found that CWS, when compared across age group and gender using *MIDA* (multidimensional, integrated, differentiated, art-mediated) profiling system, female exhibited more overt aspects (mean

percentage stuttered syllables) in the adolescence period and male exhibited more in adulthood, where in covert aspects (experiences and the impact of stuttering) both male and female adolescent group scored more compared to adult and children group. Almost all the adolescents who stutters scored more compare to adolescents who do not stutter on measures of communication apprehension (*Blood*, *Blood*, Bennett, Tellis & Gabel, 2001) and social anxiety (Mulchay, Hennessey, Beilby & Byrnes, 2008) and each adolescents with stuttering view themselves as being less able communicators than the fluently speaking individuals (Blood et al., 2001). There are evidences that adolescents who stutter are already accessible to the risk of experiencing increased covert aspects.

Influence of Bulling/ Teasing on Adolescence with stuttering (AWS)

"Adolescence" is a halfway epoch of physical and psychological human development generally occurs during the period from childhood to legal adulthood and considered to be important developmental period which is exemplified by emotional conflicts that probably interact with the negative attitudes associated with stuttering (Manning, 2001). Lower levels of peer support and acceptance have been reported in socially anxious adolescents. From the study carried out by La Greca and Lopez (1998), Voci, Beitchman, Brownlie and Wilson (2006) reported that lower levels of peer support and acceptance in socially anxious adolescents. Although the research for the past two decades confirms that adolescence period of development is not inherently dysfunctional and problematic, but some obscurity that appear in individual's life have negative lifelong impact. Bullying, rejection from peers and victimization during adolescence are tribulations that lead to serious and negative lifetime outcomes (Olweus, 1993; Rigby, 1997; Geffner, Loring, & Young, 2001; Garbarino & deLara, 2002; Garrett, 2003).

Several studies on the prevalence of bullying have been investigated between stuttering adolescents and non-stuttering controls showed stuttering adolescents are at significantly higher risk of being bullied. One of the study conducted by Langevin, Bortnick, Hammer and Wiebe, (1998) found that 59% of children who stuttered had been bullied about their exhibiting dysfluencies while conversing, with 56% of those children being teased at least once a week. Blood and Blood (2004) conducted a study on adolescents group of children and he found that significant negative correlation between their self-perceived communication competence and adolescent's risk of bullying. It would be reasonable that adolescents with poor self-perceived communication competence have more chances of being introverted, quiet and antisocial which could lead to negative stereotypes. It have been found that an increased risk of bullying rates range from 43 to 61% in stuttering adolescents, compared with 9% to 22% for non stuttering controls (Blood & Blood, 2004, 2007; Blood, Blood, Tramontana , Sylvia, Boyle & Motzko, 2011).   Davis, Howell, and Cooke (2002) also found that adolescents who stutter are twice as likely to be rejected by fluent speaking students of same age.

Anxiety and adolescent stuttering

Anxiety is defined as an aversive emotional and motivational state occurring in perceived threatening circumstances (Eysenck, Derekshan, Santos & Calvo, 2007) and the lives of adolescents can be negatively affected by high levels of anxiety. An anxiety consists of mainly two components i.e., state and trait anxieties. Researchers had studied anxiety level across the age group (children, adolescent and adults) in person with stuttering and results have showed remarkable difference between these groups. As explained by Davis and Shisca (2007) anxiety levels in adolescents who stutter have

higher state anxiety than adolescents who do not stutter but no significant higher trait anxiety observed in AWS. Likewise, Miller and Watson (1992), however, found no difference between AWS and AWNS group either in state or trait anxiety levels. Craig and Hancock (1996) found that similar response in trait anxiety between CWS and CWNS of a similar age. State anxiety was found to be associated with greater risks in CWS (Weiss & Zebrowski, 1992). The literature on attitudes, anxiety and coping strategies seen in PWS shows the existence of negative attitudes and anxiety in PWS. Mulcahy (2008) examined the relationship between anxiety, attitude toward daily communication and stuttering symptoms in 18 adolescents with stuttering between the ages of 11-18 years. The participants who stuttered were age matched as a cohort to a control group, with 18 participants in the fluent control group (11-18 years). The results revealed that AWS showed more prolongations and blocks than repetitions and also observed higher level of social anxiety which in turn experienced difficulty with functional communication than did control participants (Blood, Blood, Maloney & Meyer, 2007). These findings suggest that AWS are at risk of developing higher levels of anxiety than AWS. The authors concluded that the results are both clinically and theoretically significant and advocate the need for a multidisciplinary perspective when dealing with AWS. Findings convey that "stuttering as a disorder that potentially features psychosocial conflict regardless of its surface features".

Gordon and Ingrid (2006) studied overall anxiety indices, overall self- esteem and relationship anxiety and self-esteem in adolescents who stuttered. Thirty- six adolescents who stuttered (AWS) and 36 adolescent who do not stuttered (AWNS) were considered. Their results proclaimed that AWS demonstrated higher level of anxiety than the AWNS

and high-positive correlation between self- esteem and level of anxiety were found in both the groups. AWS and AWNS with higher levels of anxiety also scored lower on the general self esteem scale.

Several studies have reported that people who stutter have been labeled as nervous, anxious, afraid, tense, shy, insecure, withdrawn, quiet, non assertive, introverted (Craig, Tran, &Craig, 2003; Hughes, Gabel, Irani, & Schlagheck, 2010; Woods & Williams, 1971, 1976; Yairi & Williams, 1970). This stereotyped thinking has been observed in individuals who stutter with different situation (telephone conversation, classroom conversation, seminars in college, ordering food in restaurant, crowd etc) and with different individuals (teachers, strangers, opposite sex, parents, relatives, friends etc). The number of studies advocates that the negative emotions which are introvert or extrovert in nature, exhibited by the stuttering individuals may have a harmful educational, social and vocational impact (Betz, Blood & Blood, 2008). According to Wingate (1964), there are some associated features that supplement stuttering which include indication of excitement, anxiety, personal reactions, feelings, or attitudes. The attitude of PWS regarding their communication problems may vary depending on their age, personality characteristics and their levels of emotional upsets from any real or perceived communication failure, frustration and anxiety.

Impact of stuttering on adolescents

Individuals who stutter experience a variety of cognitive reaction such as low self-esteem, diminished self-confidence, and reduced feeling of self-efficacy and affective or emotional reaction such as clumsiness, tension, fear, shame, guilt, anger, loneliness, inadequacy and other emotions accompanying stuttered speech. The studies are majorly

focused on adults in studying emotional and cognitive reaction in individuals who stutter, with limited investigation in children and even less in adolescents. However, findings from empirical research on this population have been less than consistent. Reviews of research explored in the field of stuttering and its impact on individual's life, with respect to present study are as follows.

Beilby, Byrnes and Yaruss (2012a) investigated the impact of stuttering on western Australian children and adolescent using Overall assessment speaker's Experience of stuttering for teenagers (OASES- T) and children (OASES-S) proposed by Yaruss and Quesal in 2006, 2010 and correlation of negative impact and stuttered speech frequency as a measured by percentage syllable stuttered (%SS). The study consisted of 95 young people with stuttering, out of which 50 children in the age range of 8 to 11 years and 45 adolescents in the age range of 12 to 17 were included. Each of the children and adolescent stuttering group consisted of 50 children and 45 adolescent who do not stutter with the age and gender matched to the individuals in the stuttering group. They used modified version of original OASES that has be adapted for use of children and adolescents who stutter. The impact of stuttering was measured under 4 sections, section 1 (general information, section 2 (reactions), section 3 (communication in daily situations), and section 4 (quality of life). Overall, each version consisted of 100 questions, scored on 5 point rating scale, with lower score indicating lesser negative impact. Adapted test was administered on children and adolescents with and without stuttering and conversational speech were elicited and recorded for each person and results revealed that children and adolescents who stuttered experienced greater negative impact on their lives and also found that positive correlation between percentage syllable

stuttered and reaction towards stuttering, self- perception of stuttering, difficulties in daily communication and quality of life.

Similar studies have been conducted on adults in Western and Indian population using OASES to measure the impact of stuttering on individual's life. Craig, Blumgart and Tran (2009) opined that individuals with stuttering experience more negative reactions that in turn affect the quality of life in the domains such as vitality, social functioning, emotional functioning and mental health status. Also it is suggested that people who stutter with increased levels of severity may have a higher risk of poor emotional functioning. Franken and Stolk (2011a) concluded that moderate to severe degree of stuttering had an adverse impact on overall quality of life. Blumgart, Tran, Yaruss and Craig (2012) established Australian normative data values for the OASES-A version. The findings revealed no significant correlation between OASES scores for gender, age and educational level of the participants. However, the participants with more severe stuttering had higher negative scores for the sections such as "General Information", "Communication in Daily Situations" and for the overall OASES score. It was also found that for all the three datasets, i.e., Australian, American and Holland, mean scores of adults with stuttering fell predominantly in the moderate category.

John, Marie and Janne (2011) investigated impact of stuttering on romantic opportunities across AWS and AWNS. The study consisted of 343 males and 393 females, each participant were asked to describe the picture which depicts the person of his or her opposite sex. The samples were analyzed by comparing the picture and audio sample of each participants and investigators scored the attractiveness of the person based on 10 point-rating scale, where 1 being lowest and 10 being highest. Results indicated

that to some extent adolescents and young adults attracts the peers who stutter less than fluently speaking peers and because of their problems, they are less likely to engage in a romantic relationship. Finally, authors have suggested the need for clinicians to be aware of the barriers that adolescent and young adult with stuttering may have to face in society and to assist them in developing strategies to cope with forthcoming challenges.

In Indian literature studies have been conducted which supports the previous findings. A study by Tanu and Pushpavathi (2006) used original version of OASES. The study consisted of 31 adults with stuttering within the age range 18-30 years. The scores of the OASES were compared against various variables like educational status, employment, SSI and LCB. Results revealed that majority of the subjects had moderate impact rating as total impact rating (51.6%) which is followed by mild to moderate (22.6%), moderate to severe (19.4%) and the least was mild (6.5%) and significant correlation between effects of OASES (I, IV and total score) and LCB. However, there was no significant relation between educational status and employment of the participants on their performance on OASES.

Self-efficacy

"Self-efficacy" refers to an individual's belief about their capacity to execute behaviours necessary to produce specific performance achievements (Bandura, 1977, 1986, 1997). Self-efficacy reflects confidence in the ability to exert control over one's own motivation, behavior and social environment. The individual with a "high self-efficacy" are highly motivated to take on challenges, increased determinations and dedication towards their life. Individuals who suffered from "low self-efficacy" tend to have a negative attitude towards problem which arises, often viewing them "tougher than

they really are" (Pajares, 2001). Further, Self-efficacy is divided into social self- efficacy and academic self efficacy. According to Smith and Bertz (2009), social self-efficacy is an individual's confidence about his/her ability to engage in the social interactional tasks (pursuing romantic relationships, making friends, social assertiveness, activities in public situation etc) which is important to initiate and preserve interpersonal relationship. Self efficacy is a concept related to self esteem.

Self- esteem

According to Webster's dictionary (2010) "self esteem" is defined as a confidence and satisfaction in oneself. It reflects a person's overall subjective emotional estimation of own worth and also reflects keystone of a positive attitude towards society. It is very important because it affects how we think, act and even how we relate to other people. Positive self esteem gives us the strength and flexibility to take charge of our lives and grow from our mistakes without the fear of rejection. Few Signs of positive self-esteem are confidence, self-direction, non-blaming behavior, awareness of personal strengths, ability to make mistakes and learn from them, ability to accept mistakes from others, optimism, ability to solve problems, feeling comfortable with a wide range of emotions, good self-care and the ability to say 'NO'. Low self-esteem is a debilitating condition that inhibits individuals from realizing their full potential. The person with low self-esteem always feel unworthy, incapable and incompetent. In fact, because the person with low self-esteem feels so poorly about him or herself, these feelings may actually cause the person's continued low self-esteem. Some signs of low self-esteem are negative view of life, perfectionist attitude, mistrusting others even to those who show signs of affection,

blaming behavior, fear of taking risks, feelings of being unloved and unlovable, dependence (letting others make decisions), and fear of being ridiculed.

Self- efficacy theory

Albert Bandura's social cognitive theory mainly emphasize on three factors i.e., behaviors, environment and personal or cognitive factors. These factors play an important role in communication and all these factors interact with each other to determine the motivation and performance of the individual. Based on the work of social cognitive theory, the self-efficacy theory was put forward by Bandura in 1977. The self- efficacy theory mainly depends on the activities, effort, persistence, and achievement. It explains that the individuals possess more self-efficacy when it comes to ease and effortless work that they encounter daily in their lives which leads in achievement of the task and those individuals who have less self-efficacy experience struggle to complete the activities with ease in their environment which leads to failure in the task.

Bandura (1977) mentioned four factors that individuals utilize to judge their efficacy. They are performance outcomes, vicarious experiences, verbal persuasion, and physiological feedback. These factors aid individuals decide the capability to accomplish specific tasks.

Performance outcomes		Vicarious experiences
	Self-efficacy	
Verbal persuasion		Physiological feedback
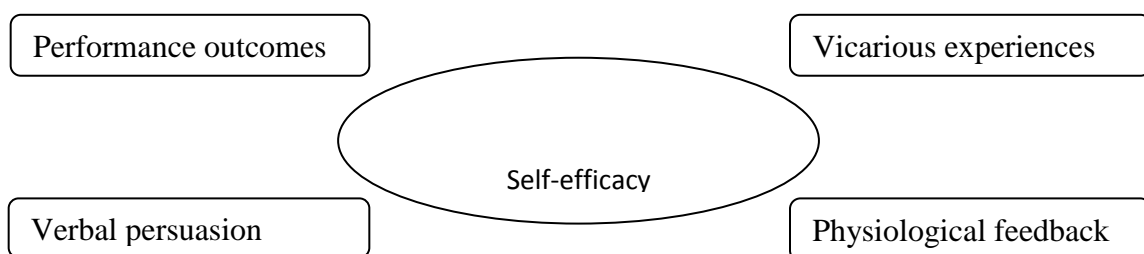
Figure 2.1.Components of self-efficacy

Performance outcomes: According to Bandura (1977) it emphasizes about the previous task experience, if the individual has performed the task well previously then he/ she may feel more capable and perform the same task without any difficulties when it encounters again, but if the previous experience associated with the failure he/ she may feels less capable in complete the task when they encounter with the same task. Here, the role of either negative or positive experience plays an important role.

Vicarious Experiences: According to Bandura (1977), self-efficacy can be developed by individuals by comparing other individual's performances, which may be positive or negative.

Verbal persuasion: According to Redmond (2010), self-efficacy can be influenced by encouragement and discouragement pertaining to an individual's performance or ability to perform. The verbal persuasion may act positively (praising others) or negatively (admonishment by others) on self-efficacy.

Physiological Feedback: This factor majorly focuses about the feedback experienced by the individuals during or completion of the activities like formal presentation, taking exams, etc. which leads to agitation, anxiety, sweaty palm, and/or a racing heart (Redmond, 2010) and these also influence self-efficacy. All these factors which influence the self-efficacy, if individuals are ease with the task he/she could do or else exhibits problem in all ways. It can be applied for both non-speech and speech tasks.

McCroskey (1998) reported that "effective communicators demonstrate responsiveness, assertiveness and flexibility. These skills allow speakers to make requests, conversation initiation, actively disagree, express their feelings, maintain, and disengage in conversations". They also allow individuals to be more flexible in multiple

settings and with different conversation partners. Richmond and Croskey (1982) reported that perceived communicative competence is positively related to high self-esteem, confident attitudes toward communication, and adept social skills.

Self-efficacy in persons with stuttering

In person with stuttering (PWS) based on their amount of dysfluencies and the previous negative experiences leads to communication breakdown. Unfortunately, the PWS exhibit low confidence, low self-esteem and negative attitude towards communication and thus make them more conscious to speak in variety of speaking situations like vocational, social, and educational settings (e.g., introducing friends at a shopping mall; ordering through a speaker at a fast food restaurant, conversing with the teachers, arguing with friends etc).

In the year Bray and colleagues (2001) considered 21 adolescents who stutter for the study. Matched controls were selected based on age, sex, grade level and academic achievement by speech-language pathologists (SLP) and teachers. All adolescents who stuttered were receiving fluency shaping therapy for their stuttering, and diagnosed with moderate to severe severity by SLPs. For the measure of confidence on speaking, SEA-scale was used to assess speaking confidence in social, family and academic situations. The Self-Efficacy for Academic Tasks (Baum & Owen, 1988) and the Reynolds Adolescent Depression Scale (Reynolds, 1986) were used to evaluate the level of confidence for academic tasks and depression respectively. The results indicated that adolescents who stutter exhibited lower scores for speaking confidence than control matched group. However, there were no differences in the academic task and adolescent depression between adolescents with and without stuttering in the study, which is in

contrast to reports of academic difficulties and depression as a consequence of stuttering (Ardila et al., 1994; Hugh-Jones & Smith, 1999). In addition, adolescents who stutter in this study were receiving therapy at the time of the study which may affect their perceptions and attitudes towards stuttering.

Bray, Kehle, Lawless and Theodore (2003) aimed to study the relationship between self-efficacy for verbal fluency, academic self-efficacy and depression between adolescents who stutter and fluent speakers. Results indicated that self-efficacy for speech was the sole significant variable which differentiated person who stutter and do not stutter, but there was no relationship found between academic self-efficacy and depression across groups. Further, authors have concluded that self-efficacy for verbal fluency is worthy to promote treatment gains and the corresponding goals of transfer and maintenance of the newly acquired Speech skills.

Fry, Millard and Botterill (2013) investigated effectiveness of intensive treatment program in reducing overt and covert aspects of stuttering in individuals aged above 16 years. This is a repeated-measures, single-subject experimental design was replicated across 3 male participants aged 17:7, 17:11 and 18:10, monolingual English speakers. The study consisted of a 5-week baseline phase, 2-week intensive treatment phase, 5-week consolidation phase and 10-month follow-up phase. During different phases of therapy participants were asked to complete self-report questionnaires i.e., Self-Efficacy Scale for Adolescents (SEA-SCALE), Fear of Negative Evaluation (FNE) Scale, The Wright and Ayre Stuttering Self-Rating Profile (WASSP) and The Locus of Control of Behavior Scale (LCB) along with these percentage of stuttered words were calculated. Results indicated that reduced frequency of stuttering were found for all three participants

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during all the phases and also reported increased self-efficacy about speaking and reduced overt and covert aspects of stammering.

Locus of control

In psychology, Locus of control is considered to be an important aspect of personality. The concept was given by Rotter (1966) based on Bandura's idea of reciprocal determinism. In general term, locus of control refers to a person's beliefs about the degree of personal control that can be exercised over his/her environment. A person locus of control may be internal or external. The principle with internal locus of behavior believes that the reinforcements in life are directed by their own decision and efforts, mostly every internalized individual tend to be more confident in academic and social achievement, positive attitudes towards the society and better interpersonal relations. If they do not succeed, they blame themselves, rather than the society. The principle with external control of behavior views the life as being controlled by fate, luck or by other people in the environment. Externalized people tend to blame outside circumstances for their mistakes and tribute their success to luck rather than to their own efforts. If they do not succeed, they believe it is due to forces outside the control. Lefcourt (1976) reported that those individuals who are less motivated are more likely to have external control and are less likely to confront challenges.

Personal Construct Theory (PCT)

PCT evolved from the work of Kelly (1955) on development of 'the theory of personal construct'; Fransella (1972), explored stuttering in terms of personal construct theory. Kelly noted that a person is nothing but a bundle of constructs. As a person experiences life, they develop a view about the world by developing systems of personal

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constructs that allow meaningful interpretation of experience, and to anticipate or predict how further events will unfold and these constructs become the person's reality. According to PCT, loosening construing (personal dimensions of awareness of fear, guilt, anxiety, etc.) leads to being able to make more choices, and ultimately to obtain better control in managing behaviour.

Locus of control of behavior in stuttering

Over the years, the externality and internality behavior of PWS were assessed using a scale called Locus of Control of Behaviour (Craig, Franklin & Andrews, 1984). The results indicated that PWS exhibited high scores on LCB scale which is the indicative of external locus of control (Dharitri, 1985; Craig, Franklin & Andrews, 1984; Craig & Andrews, 1985).

In general, LCB scale in PWS was carried out to predict the effectiveness of treatment and the relapse of the stuttering. In particularly, Craig et al., (1984) administered LCB scale on 45 adult PWS, after attending a three-week fluency treatment program. The participants were re-administered during follow-up after 10-months. Results revealed that out of 45 participants, 32 maintained their post treatment fluency, while other 13 participants showed a significant relapse. The majority of the recovered participants were reported to have a higher internality score on LCB scale and an association between internalized LCB scores and maintained recovery. An externalized LCB was associated with those who relapsed. The authors reported that the 11 of the 13 participants who relapsed had either shown no change or showed the higher scores towards externality.

Indian studies have been conducted using LCB scale in PWS which is restricted to therapy outcomes. Dharitri (1985) investigated the therapeutic improvements in AWS within the age range 18 to 24 years in relation to their locus of control. A study consisted of 28 participants, who were involved in stuttering treatment using prolongation and shadowing techniques (45 minutes in each session, twice a week). Rotter's I-E scale was administered on all participants at pre and post therapy level (after 16 therapy sessions). Results revealed that 17 out of total 28 participants showed higher internality after therapy whereas 11 participants showed lower internality scores on Rotter's scale. The authors concluded that the direct relationship between internality and therapeutic progress made by the participants in the study since participants who had scored high internality scores showed more benefit from therapy. Also, it has been reported that a low motivation level may relate to an external locus of control in individuals with stuttering. Rajarathnam (1979), found a significant positive correlation between internality and achievement motivation. He concluded that a good motivation level is an important aspect in therapeutic progress, especially in individuals with stuttering.

In contrary to findings, few studies reported that LCB failed as a predictor of treatment outcomes. De Nil and Kroll (1995) studied relationship between locus of control and long-term stuttering treatment outcome in adult stutterers. Twenty-one subjects participated in a 3-week intensive treatment program based on the Precision Fluency Shaping Program. Thirteen subjects could be contacted again 2 years later to participate in a follow-up evaluation. While most subjects showed a significant long-term improvement in fluency, no predictive relationship was found between scores on the LCB scale and the level of fluency, measured in percentage of words stuttered, post-treatment

or at follow-up. Ginsberg (2000) investigated the three psychological constructs such as "shame", "self-consciousness" and "locus of control" for predicting three behaviours such as "struggle", "avoidance" and "expectancy", on 19 adults with stuttering. The results revealed that the factors of shame and self-consciousness were found to be significant psychological predictors of stuttering dimensions whereas locus of control was not found to be a predictor.

To conclude, the literature on self-efficacy and LCB in PWS suggests low confidence level across situations and externality behavior. It also provides emphasis regarding evaluation and treatment to improve confidence level and to change individual's belief towards internality.

CHAPTER III

Method

The focal point of this study was to adapt the SEA- scale (Manning, 1994) and to assess the confidence level of adolescents who stutter in Indian population. The participants were recruited from All India Institute of Speech and Hearing (AIISH), Mysuru, who underwent evaluation and therapy services at the institute. A formal consent was obtained from all the participants before including them in the study.

Participants:

A total of sixty adolescents who currently enrolled in school and college were included in the study. Participants included two groups of 60 adolescents within the age range of 12 to 17 years.

Group1 consisted of 30 adolescents without stuttering (AWNS) and **Group 2** consisted of 30 adolescents with stuttering (AWS). All adolescents in control group met the criteria such as, no repetition of a grade level and absence of communication disorders. In clinical group, the participants with a history of physical and intellectual disorder such as cerebral palsy, mental retardation, other language disorders, syndromic disorders and also previous exposure to language intervention were excluded from the study. The 30 AWS in clinical group were further sub grouped into 15 AWS who attended therapy and 15 AWS who did not attend therapy. The inclusion criteria for the clinical group as follows.

- Diagnosed as having mild to severe degree of stuttering by a qualified Speech-Language Pathologists based on Stuttering Severity Index (SSI-3; Riley, 1994) .

- Should be able to read the statements in English language provided in the scale.

- The subgroup in clinical group (15 AWS) should have received minimum 10 sessions of speech therapy to improve fluency skills fluency treatment at AIISH, Mysore. Further, another subgroup (15 AWS) who had not received fluency treatment was considered. In each group all 15 adolescents were distributed across the severity levels of mild, moderate and severe. 30 AWS were age and gender matched with the control participants in group.

Demographic Data:

Participants included 30 AWS in the age range of 12 to 17 year, with the gradual onset and no associated problems or family history of stuttering. The details of each participant are presented in table 4.1. The 30 AWNS were age and gender matched to the clinical group. As mentioned in Table 4.1, most of the participants in the age range of 15 to 17 years had attended less therapy sessions (falls in the criteria of minimum 10 sessions) due to busy academic schedule. The data was collected in these participants during the vacation time (sep-Oct 2015 and mar-Apr 2016). Most of them are attended demonstration therapy for 15 days and few of them are attended more than a month and discontinued. In the age range of 12-14 years most of them have been attended therapy for 2 months and discontinued rate was less.

Table 3.1

Demographic data of each participant representing age, gender, SES, severity and therapy details

Participants	Age(years and months)	Gender	SES	Severity	Rx duration (no of session)
P1	13.9	M	Mid	Severe	Not attended
P2	14	M	High	Moderate	Not attended
P3	15.2	M	Mid	Mild	Not attended
P4	16.6	M	Mid	Moderate	Not attended
P5	14.4	M	Mid	Mild	Not attended
P6	12.8	M	Mid	Severe	40sessions
P7	12.7	M	Mid	Moderate	Not attended
P8	16.6	M	Mid	Mild	Not attended
P9	15.3	M	Mid	Severe	12 sessions
P10	14.2	M	Mid	Severe	Not attended
P11	16.9	M	Mid	Moderate	14 sessions
P12	12.6	M	Mid	Mild	Not attended
P13	13.9	M	Mid	Mild	Not attended
P14	16.7	M	Mid	Severe	16 sessions
P15	14.4	M	Mid	Moderate	Not attended
P16	17.6	M	Mid	Severe	13 sessions
P17	15.7	M	Mid	Mild	14 sessions
P18	15.2	M	Mid	Mild	11 sessions
P19	12.3	M	Mid	Moderate	30sessions
P20	12.4	M	Mid	Severe	22 sessions
P21	13.6	M	Mid	Moderate	26 sessions
P22	15.2	M	Mid	Mild	15 sessions
P23	13.8	M	Mid	Severe	Not attended
P24	15.2	M	Mid	Mild	18 sessions
P25	11.10	F	Mid	Moderate	32sessions
P26	14.3	M	Mid	Severe	18 sessions
P27	11.10	F	Mid	Moderate	32session
P28	15.2	F	Mid	Mild	16sessions
P29	12.8	M	Mid	Severe	Not attended
P30	11.10	M	High	Moderate	18session

Note. SES = socioeconomic status, SSI = stuttering severity instrument, Rx duration = treatment duration.

Materials

- NIMH SES scale revised version (Venkateshan, 2011) was administered to determine the status of socio-economic status. It consists of four sections: Pooled Monthly Income, Highest Education, Occupation and Family properties. Each section consists of 5 questions and ranging from 1 to 5. To interpret, all scores are summed up and compared with the normative values (SES1= 0-4; SES2= 5-8; SES3= 9-12; SES4= 13-16; SES5= 17-20)

- The Stuttering Severity Instrument or SSI-3 (Riley, 1994) was administered to determine the frequency, duration and physical concomitants and also to estimate the stuttering severity (very mild, mild, moderate, severe and very severe). The scores differs for children and adult population

- A questionnaire was prepared by researchers to gather information from the participants regarding the age of onset of problem, cause of problem, family history, duration of therapy, type of speech therapy and relapse of stuttering and was administered on all individuals with stuttering.(Appendix II)

- WHO disability checklist was administered on group 1 participants to rule out disabilities

- Adapted SEA-scale was administered to assess the confidence level of AWS in different situations in both control and clinical group.

- Locus control of behavior (Craig, Franklin, & Andrews, 1994) administered on both the groups to measure personality traits of the individuals.

Procedure

The study was conducted in clinical set-up and inside a quiet room. Only those who satisfied inclusion criteria were recuited for the study. The present study was conducted in three phases:

Phase 1: Adaptation of Self-efficacy for adolescent scale (SEA-scale)

Here the original SEA scale (Manning 1994) was adapted to Indian context. The original scale were given to 10 SLP's for the purpose of adaptation to Indian context in AWS. The certified Speech Language Pathologists (SLP's) were informed to check suitability of statements in Indian context and also to rate with respect to simplicity, arrangement of questions in each sub-scales, and applicability of questions. The rating for content validation required experts to provide their rating in terms of relevance on a 3-point scale where a rating of 3 indicated an item to be extremely relevant and a rating of 1 signified the item to be not at all relevant. Based on the ratings obtained from the experts, the Content Validity Index (CVI) was calculated for further judgment about the items of the questionnaire. CVI was calculated for each questions in the original scale based on the average score obtained by the ten speech language pathologists. The content validity index was calculated by the following formula:

$$\text{Content validity index} = \frac{\text{Number of speech language pathologists who rated the item as either 4 or 5}}{\text{Total number of speech language pathologists}}$$

The questions with an average score more than 0.8 were included and score less than 0.8 were rejected. The value of 0.8 was considered as being significant based on Indian study by Bajaj, Vargese, Bhat and Deepthi, 2014.

Phase 2: Administration of general questionnaire / WHO checklist / SSI-3

Initially, the participants were involved in informal conversational interaction, during which a questionnaire was administered to elicit the information on nature of stuttering and historical information. After a brief description of the study, a written consent indicating willingness to participate was obtained from AWS. The NIMH socio economic scale (Venkatesan , 2011) was administered on all participants to all were catergorized as low, middle and high class. For group1 participants WHO disability checklist was administered to rule out disabilities, if any the individuals were excluded from the study. SSI-3 were also administered to determine the degree of severity of stuttering in group 2 participants.

Phase 3: Administration of adapted SEA-scale and LCB

The adapted version of SEA-scale was administered on both the groups 1 and 2. This scale consisted of statements related to various speaking situations such as telephone conversation, argument with a friend, stranger and family, one to one conversation with a family and superiors, group conversations with a known and unknown group, questioning a friend, family, stranger and superiors, situations involving time constraints and memorizes content. Self-efficacy scale is a self- rating scale and it required participants to read each statement and rated based on a 5-point likert scale indicating, 1- least degree of confidence, 2- very uncomfortable speaking, 3- unsure, 4- somewhat comfortable speaking and 5- high degree of confidence. The participants were instructed as follows "Read each statement carefully and rate the degree of confidence while entering the specific communicative situations".

Further the LCB questionnaire was administered on participants in both the groups along with SEA-scale. It consists of 17 statements which determine the personality of the participant (group 1) only. The participants will be instructed as follows "Read each statement carefully and respond by rating the appropriate numerical value. Here, 0 indicates strongly disagree, 1 indicates generally disagree, 2 indicates somewhat disappear, 3 indicates somewhat agree, 4 indicates generally agree and 5 indicates strongly.

Scoring:

- The overall SEA-scale scored was obtained by averaging the scores for all 75 items. Items not checked are scored as zero

$$\text{Overall SEA scale score} = \frac{\text{Total score obtained in all 75 items}}{\text{Total number of questions}}$$

- The LCB scoring was done by transposing the values of 1, 5, 7, 8, 13 and 16. So the value of 5 was transposed to be as 0, 4 as 1, 3 as 2 and vice versa. After this, all scores were added up resulting in one total value. Higher scores indicate externality and the lower scores indicated internality.

STATISTICAL ANALYSIS

The statistical analysis was done using SPSS (version 20.0) software package. The below mentioned statistical analyses were performed:

1. Cronbach's alpha co-efficient was calculated for test- retest reliability
2. Descriptive statistic analysis including mean and standard deviation of the scores of modified SEA-scale across 13 sub- scales for the groups and stuttering severity were carried out.

3. Mann Whitney-U test was done to compare the overall modified SEA- scale score and LCB scores between the 2 groups of children

4. Kruskal wallis was carried out to compare between groups and stuttering severity in the study

5. Spearman's correlation was carried out to determine the relationship between LCB and modified SEA- scale

CHAPTER IV

RESULTS

The present study aimed to determine the confidence level and personality traits of adolescents who   stutter (AWS) compared to Adolescent who do not stutter (AWNS).

The results of the study are presented under the following headings:

1. Test- retest reliability for SEA-scale and LCB

2. Tests of normality

3. Adaptation of self- efficacy for adolescent (SEA-scale) to the Indian context

4. Comparison of self-efficacy in communication across adolescents with and without stuttering

5. Comparison of self-efficacy between adolescent with and without therapy

6. Comparison of self-efficacy of adolescents across degrees of severity of stuttering.

7. Correlation between personality traits and self efficacy in adolescents with stuttering and without stuttering.

I.   Test retest reliability

The adapted SEA-scale and LCB scale were readministered on 15 participants post 1 week of initial administration. Acceptable level of reliability was achieved for all the subscales, overall scores of SEA-scale and LCB scale. Table 4.1 indicates the results of Cronbach's alpha coefficient for reliability testing. The subscales of adapted SEA-scale Cronbach's alpha value ranges from 0.70 to 0.97 indicated of good reliability. The overall SEA-scale and LCB had the value of 0.96 and 0.74.

Table 4.1

Cronbach's alpha coefficients for test- retest reliability of LCB and SEA-scale

Sub-scale	Cronbach''s coefficient (α)
SS1	0.85
SS2	0.79
SS3	0.90
SS4	0.76
SS5	0.72
SS6	0.85
SS7	0.97
SS8	0.96
SS9	0.82
SS10	0.90
SS11	0.90
SS12	0.87
SS13	0.97
Overall	0.96
LCB	0.74

Note. SS= subscales of SEA-scale, LCB= locus control of behavior

When compared to the original SEA-scale to the adapted SEA-scale, the overall value was almost similar and which indicates excellent reliability. In original scale it was calculated for 100 questions under 13 subscales and in adapted version only 75 questions were included under 13 subscales. In study conducted by Craig, Franklin and Andrews (1984) who measured one week test- retest reliability with a non clinical sample and value of LCB was 0.72 and in Persian version of Locus of control of behavior, the test-retest reliability was 0.87 in adult with stuttering. However, the alpha value of LCB in the present study differs from Persian version but it is indicative of moderate correlation.

II. Test of normality

It is important to establish whether the data show a deviation from normality. The total variables included in SEA- scale and LCB were 15 for normal and clinical group.

Out of 15, 5 variables with a p-value of > 0.05 indicated normal distribution of the data, while for 10 variables the data were not normally distributed (p-values < 0.05)

Outlier identification:

Box plots analysis were employed to identify the outliers and for the comparing the distribution of the sample within data. The analysis revealed that the participants who stood as an outlier differed across few variables considered in the study. The participants who stood as outliers for the various scores obtained in SEA-scale and LCB under the investigation for normal (1, 6, 18, 26) and clinical group (56, 57, 58, 59, 60, 31, 32, 33, 34 and 35) respectively.

For the purpose of achieving normality, the participants identified as outliers were excluded from the sample. Even though the outliers were removed, the results remained relatively same regardless of the presence or absence of outliers and also it would have been resulted in insufficient data. Hence, statistical measures were adapted by retaining the outliers. Non-parametric tests were carried out to test the variables across the groups due to reduced sample size

III.   Adaptation of self- efficacy for adolescent (SEA) scale to the Indian context

The original SEA-scale (Manning, 1994) consisted of 100 questions under 13 sub-scales. They were questions related to telephone conversation, argument or conflict with a friend or family, argument or conflict with a stranger, one-to-one conversation with a family member, one-to-one conversation with an authority figure, group conversation with a known group (informal), group conversation with an unknown group (formal), formal presentation, questioning a friend/family member for information/action,

questioning a stranger for information/action, questioning an authority figure for information/action, situations involving time constraints, situations involving memorized or unchangeable content. These 13 subscales mentioned in the original scale SEA-scale were retained in the adapted scale. However, the statements were modified to suit the Indian context. The content validity index scores obtained by the ten speech language pathologists was calculated using the formula; total number of SLP's who rated 2 and 3 for each questions to total number of SLP's rated. The CVI score of more than 0.8 was considered to be relevant and less than 0.8 as irrelevant. The details of content validity index of all the questions are mentioned in Table 4.2. Further, the data analyses for the content validity specified that majority of questions had a value of higher than 0.8 indicating high content validity. However few questions such as; Q3, Q4, Q11, Q18, Q19, Q22, Q28, Q33, Q34, Q39, Q42, Q44, Q47, Q48, Q49, Q58, Q64, Q66, Q82, Q86, Q88, Q92, Q93, Q94 and Q98 (discussed in chapter V) had less CVI scores . The adapted version of SEA-scale consisted of 75 questions which are distributed under 13 subscales to determine the confidence level in various situations. (Appendix I)

The selected questions are listed under each subscales: *Subscale 1*consisted of Q21 (Calling your best friend on the telephone just to talk), Q24 (Talking with a grandparent on the telephone), Q27 (Talking on the telephone with a classmate about your homework assignment), Q36 (Calling a theater to see when a movie starts), Q38 (Talking on the telephone with relatives to live in another city), Q41 (Taking a telephone message for a brother or sister), Q67 (Answering the telephone at a friend's house), Q72 (Talking on the telephone with a classmate of the opposite sex) and Q84 (Leaving a message on someone's telephone answering machine); *Subscale 2* consisted of Q7

(Leaving a message on someone's telephone answering machine), Q35 (Arguing with a friend about who gets to go first in a game), Q40 (Arguing with two friends about which movie you should see), Q60 (Accusing a friend because you believe he or she copied your homework), Q61 (Asking a stranger for directions to get to a restaurant), Q68 (Telling a friend that he or she tore a pair of jeans they borrowed from you) and Q74 (Telling a parent about a bad report card); *Subscale 3* consisted of Q32 (Telling one of your classmates that he or she picked your pencil by mistake.), Q43(Arguing with another student because you let a friend cut in a line in front of you), Q46(Confronting someone who cuts in front of you in line) and Q90 (Explaining to your school principal why you were sent to school office); *Subscale 4* consisted of Q1 (Talking with a parent about a movie you recently saw together) and Q2 (Talking to a brother or sister at the dinner); *Subscale 5* consisted of Q31 (Telling a police officer your home address), Q75 (Talking to a teacher about something that is bothering you), Q76 (Introducing yourself to a new friend), Q80 (Explaining to a teacher why you were absent from school), Q81(Asking an adult if this is the house where your friend lives) and Q87 (Explaining to the school principal why you are in that hall during a class); *Subscale 6* consisted of Q10(Talking with a group of friends as you have lunch at school), Q15 (Talking with three friends at about a new student in your in your class), Q16 (Talking with a group of classmates during a meeting at school), Q25 (Explaining how to play a new game to a group of friends) and Q83 (Telling a joke to group of friends at a party); S*ubscale 7* consisted of Q26 (Talking with two new people in your class who just began attending your school), Q37 (Talking to other student at new school), Q57 (Introducing yourself to a group of new students at your school), Q57 (Beginning a conversation with a group of three strangers at a party), Q59 (Introducing yourself to a group of five students at a new school), Q77(Going to a party when the only person you know is the one giving the party)and Q79 (Giving directions to a group of adults

who are driving by your home in a car); *Subscale 8* consisted of Q89 (Taking part in a spelling contest), Q91(Reading a paragraph from a book to the people in your class at school), Q95 (Reading aloud to a group of seven adults), Q96 (Reciting a poem in your English class), Q97 (Being videotaped when giving a report to your history class), Q99 (Making a five-minute speech in a school assembly) and Q100 (Reading an announcement to everyone in your school over the intercom); *Subscale 9* consisted of Q5 (Asking a friend to come to your house after school), Q6 (Asking a parent if a friend can spent the night at your house), Q8 (Asking a parent if you can spend the night at a friend's house), Q9 (Asking a friend to help you with your homework after school), Q12 (Asking a parent for permission to study with a friend), Q13(Asking a parent for permission to go to see a movie with friends) and Q14 (Asking a friend to come to your birthday party); S*ubscale 10* consisted of , Q29 (Asking a librarian for help in finding a book) , Q30 (Asking a sales clerk about the cost of an item in a store), Q45 (Asking a stranger where the nearest telephone is located) Q55 (Asking someone in a group of five people the correct time) and Q62 (Asking a stranger for directions to get to a restaurant); *Subscale 11* consisted of Q51 (Asking a question in class) , Q53 (Telling the teacher you were not the one who was talking in class), Q56 (Asking a coach of a sports team at school how to join the team), Q65 (Telling your teacher you do not understand an assignment), Q7O (Telling an usher at a movie theater that you are old enough to see a particular movie) ,Q71 (Asking your classroom teacher to move your desk to the front of the classroom) , Q73 (Questioning a teacher about letting the same student always be first in line), Q78 (Explaining to a teacher why you were absent from school) and Q85 (Walking door to door and asking unfamiliar neighbors to buy items you are selling); *Subscale 12* consisted of Q52 (Raising your hand in order to give an answer before the teacher calls on someone else), Q63 (Taking your turn ordering when you are having dinner in a restaurant with your family) and Q69 (Asking for directions from someone who is in a hurry) and *Subscale 13* consisted of Q12 (Asking a parent for permission to study with a friend),

Q20 (Giving your place and date of birth to an official of your school) Q21(Calling your best

friend on the telephone just to talk) and Q50 (Answering a question in class).

Table 4.2
Relevance and Content validity index for questions in the SEA- scale as judged by ten speech language pathologists.

Sl.no	SLP1	SLP1	SLP3	SLP4	SLP5	SLP6	SLP7	SLP8	SLP9	SLP10	CVI	Selected/ / eliminated
1	1	3	1	2	3	3	3	3	3	2	0.8	selected
2	2	3	2	3	3	3	3	3	3	3	1	Selected
3	1	2	1	1	2	3	1	1	2	0	4	Eliminated
4	2	2	1	2	1	1	1	2	1	2	5	Eliminated
5	2	3	2	3	3	3	3	3	3	3	1	Selected
6	2	1	2	3	3	2	3	3	3	2	0.9	Selected
7	3	3	3	3	3	2	3	3	3	3	1	Selected
8	3	1	3	3	3	3	3	3	3	3	0.9	Selected
9	3	2	2	3	3	3	3	3	3	3	1	Selected
10	3	3	2	3	2	2	3	3	3	3	1	Selected
11	2	0	1	2	1	2	1	2	1	0	0.4	Eliminated
12	3	2	2	3	3	3	3	3	3	3	1	Selected
13	2	2	3	3	3	3	3	3	2	3	1	Selected
14	2	3	2	3	3	2	3	3	2	3	1	Selected
15	3	3	1	3	3	3	3	2	2	3	0.9	Selected
16	2	3	2	3	3	2	2	3	2	3	1	Selected
17	2	1	3	3	2	3	3	3	2	3	0.9	Selected
18	2	1	2	1	2	1	2	1	2	1	0.5	Eliminated
19	0	1	2	0	2	1	1	3	2	1	0.4	Eliminated
20	2	2	3	3	3	2	3	3	3	3	1	Selected
21	2	3	2	3	3	1	3	3	3	3	0.9	Selected
22	2	3	1	1	1	1	2	2	2	1	0.5	Eliminated
23	3	2	2	3	3	3	3	3	3	3	1	Selected
24	2	2	2	3	3	2	3	3	3	3	1	Selected
25	3	3	3	3	3	3	3	3	3	3	1	Selected
26	2	1	2	3	2	3	3	2	3	3	0.9	Selected
27	2	2	2	3	3	1	3	3	3	3	0.9	Selected
28	2	1	2	0	1	2	3	2	1	2	0.6	Eliminated
29	2	3	3	3	3	1	3	3	3	3	0.9	Selected
30	2	1	3	3	2	0	3	3	3	2	0.8	Selected
31	1	3	3	3	0	2	3	3	3	1	0.8	Selected
32	1	1	2	3	3	2	3	3	3	3	0.8	Selected
33	3	2	3	1	1	1	2	1	1	0	0.4	Eliminated
34	1	0	1	3	1	2	0	2	1	2	0.6	Eliminated

Sl.no	SLP1	SLP1	SLP3	SLP4	SLP5	SLP6	SLP7	SLP8	SLP9	SLP10	CVI	Selected/ / eliminated
35	1	2	2	3	3	2	3	3	2	3	0.9	Selected
36	1	2	1	3	2	2	3	3	3	3	0.8	Selected
37	2	2	0	3	2	2	3	3	3	3	0.9	Selected
38	2	3	0	3	1	3	3	3	3	3	0.8	Selected
39	2	1	2	2	2	1	1	1	3	1	0.5	Eliminated
40	1	1	0	3	3	3	3	3	2	2	0.8	Selected
41	1	2	1	3	1	3	3	3	2	3	0.8	Selected
42	3	1	2	2	1	2	0	0	1	2	0.5	Eliminated
43	1	2	1	3	3	2	3	2	2	3	0.8	Selected
44	3	2	1	1	1	0	2	1	3	1	0.4	Eliminated
45	2	2	2	3	2	2	3	1	1	1	0.8	Selected
46	1	2	2	3	2	1	3	2	2	2	0.6	Selected
47	2	0	0	1	2	0	1	1	1	2	0.3	Eliminated
48	2	0	2	1	0	3	1	0	2	3	0.5	Eliminated
49	2	2	1	3	1	2	3	1	2	1	0.6	Eliminated
50	2	3	3	3	3	3	3	3	3	3	1	Selected
51	2	3	3	3	3	3	3	3	3	3	1	Selected
52	1	3	3	3	1	2	3	3	2	3	0.8	Selected
53	1	3	2	2	2	2	3	2	1	2	0.8	Selected
54	2	3	2	3	3	2	3	2	1	2	0.9	Selected
55	2	2	2	3	2	2	3	3	2	3	1	selected
56	2	1	2	1	3	2	3	3	2	3	0.8	Selected
57	2	2	3	3	2	2	2	3	1	3	0.9	Selected
58	1	0	2	3	2	3	3	2	2	3	0.7	Eliminated
59	2	2	2	2	3	2	1	2	1	2	0.8	Selected
60	1	1	2	2	3	3	2	3	2	2	0.8	Selected
61	2	2	2	2	0	2	3	2	1	3	0.8	Selected
62	2	3	2	3	3	1	2	3	1	3	0.8	Selected
63	1	2	2	3	3	2	2	3	2	3	0.9	Selected
64	2	1	0	3	0	1	0	2	1	3	0.4	Eliminated
65	2	3	2	2	2	2	2	2	2	2	1	Selected
66	1	2	0	2	2	1	0	3	1	2	0.5	Eliminated
67	0	2	2	2	2	2	3	2	3	3	0.8	Selected
68	1	2	2	3	1	2	2	2	2	3	0.8	Selected
69	2	2	2	2	1	2	2	1	2	3	0.8	Selected
70	1	1	2	3	2	2	2	2	2	3	0.8	Selected
71	2	2	3	2	0	3	3	2	1	3	0.8	Selected
72	1	3	3	2	2	0	3	2	2	3	0.7	Selected
73	1	1	3	2	3	2	2	2	2	3	0.8	Selected
74	1	2	2	3	2	3	3	3	2	3	0.9	Selected
75	2	3	2	2	3	3	3	3	2	3	1	Selected

Sl.no	SLP1	SLP1	SLP3	SLP4	SLP5	SLP6	SLP7	SLP8	SLP9	SLP10	CVI	Selected/ / eliminated
76	2	2	3	2	1	3	2	3	2	3	0.9	Selected
77	1	2	2	2	2	3	3	2	2	3	0.9	selected
78	2	3	2	3	2	2	3	3	2	3	1	Selected
79	3	3	1	3	2	0	3	2	2	3	0.8	Selected
80	3	3	2	3	3	0	3	3	2	3	0.9	Selected
81	2	1	2	3	2	3	3	2	2	3	0.9	Selected
82	2	2	2	2	1	2	2	3	1	2	0.7	Eliminated
83	3	2	2	3	2	3	3	3	2	3	1	Selected
84	3	2	2	2	2	0	2	2	2	3	0.9	Selected
85	3	1	3	1	2	2	2	2	3	3	0.8	Selected
86	2	1	2	2	0	3	2	1	0	1	0.5	Eliminated
87	3	2	3	3	1	3	3	2	3	3	0.9	Selected
88	2	1	2	1	2	1	3	1	1	1	0.4	Eliminated
89	1	2	3	3	2	1	2	3	2	3	0.8	Selected
90	2	2	3	3	1	3	3	3	3	3	0.9	Selected
91	3	3	2	3	1	3	2	3	3	3	0.9	Selected
92	2	1	2	2	2	3	2	1	3	2	0.7	Eliminated
93	0	1	2	2	1	2	3	1	2	1	0.5	Eliminated
94	2	2	1	3	1	1	1	3	2	2	0.6	Eliminated
95	3	2	3	3	0	3	2	3	1	3	0.8	Selected
96	3	3	2	3	2	3	2	3	2	3	1	Selected
97	1	3	3	3	3	0	2	2	2	3	0.8	Selected
98	2	1	2	1	1	1	0	3	2	2	0.5	Eliminated
99	2	3	3	3	3	3	2	3	3	3	1	Selected
100	2	3	2	3	2	1	2	3	0	3	0.8	Selected

Note. **0**= not at all relevant, 1= may or may not be relevant, 2= relevant and 3= extremely relevant

VI. Comparison of self-efficacy in communication among adolescents with and without stuttering

Adapted Self-efficacy scale for adolescents (SEA-scale) was used to assess the confidence level in various situations in the 2 participant groups i.e. AWS and AWNS. The adapted SEA-scale included 13 sub-scales such as telephone conversation argument or conflict with a friend or family, argument or conflict with a stranger, one-to-one conversation with a family member, one-to-one conversation with an authority figure, group conversation with a known group (informal), group conversation with an unknown

group (formal), formal presentation, questioning a friend/family member for information/action, questioning a stranger for information/action, questioning an authority figure for information/action, situations involving time constraints, situations involving memorized or unchangeable content. The scale was administered on both AWS and AWNS groups. The overall score (average of all questions) and sub-scale scores were compared across the groups.

a) *Comparison of overall score of adapted SEA-scale for AWNS and AWS*

Results of overall scores on adapted SEA-scale among AWNS and AWS are displayed in Figure 4.1. It is evident that the 2 groups scored differently from each other for SEA-scale questionnaire. The adolescents who do not stutter (AWNS) had a mean of 306.37 (SD=7.280) as compared against the adolescents with stuttering (AWS) who presented with a mean of 229.47 (SD=36.649). However, on comparison of the raw mean scores; AWS had a lower overall SEA-scale score as compared to AWNS. The results of Mann-Whitney U test revealed significant difference across AWNS and AWS ($|z|$= 6.58, $p < 0.00$). The results revealed that AWS overall score was much lesser than AWNS. It suggests that AWS group exhibited decreased confidence level across various settings due to the presence of the speech disruption.
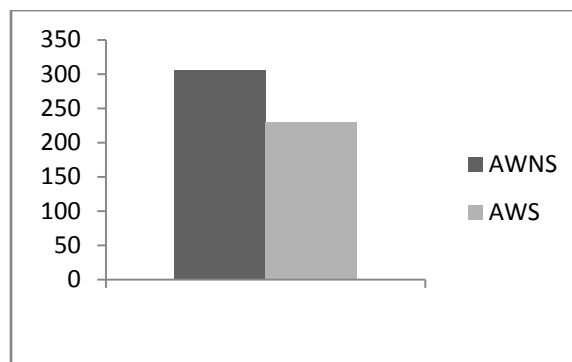

Figure 4.1. Mean SEA-efficacy overall score group 1(AWNS) and group 2 (AWS)

b) *Comparison of subscales scores of SEA-scale for AWNS and AWS*

The mean scores of all 13 subscales of SEA-scale were analyzed and compared across AWNS and AWS. Table 4.3 illustrates the mean, median and standard deviation for all subscales in both the groups. Results of Mann- Whitney U test was employed to compare both the groups which indicated a significant difference on all subscales. The comparison across the groups suggested that AWS scored lesser on all the subscales of SEA-scale than AWNS. Detailed analysis revealed that AWS scores were reduced which indicated low confidence level across various situations than compare to AWNS. Table 4.4 depicts the results of Mann Whitney U test for all the subscales of SEA-scale while comparing both the groups.

Table 4.3
Illustrate the mean raw scores, median and standard deviation for all subscales in both the groups

Subscales	Group 1			Group 2		
	Mean	SD	Median	Mean	SD	Median
SS1	37.57	1.92	37.00	31.40	4.94	30.50
SS2	29.57	1.07	29.50	21.13	5.23	22.00
SS3	17.13	1.43	17.00	10.27	2.18	10.00
SS4	9.13	0.97	10.00	7.27	1.85	08.00
SS5	23.60	1.92	24.00	14.11	2.52	14.00
SS6	21.67	1.42	21.00	17.92	2.65	19.00
SS7	27.80	1.95	28.00	20.53	4.38	19.50
SS8	25.73	1.48	25.50	17.70	4.08	16.00
SS9	29.93	2.05	30.00	28.00	1.39	28.00
SS10	19.53	1.52	20.00	13.47	2.14	13.00
SS11	33.73	1.79	34.00	27.63	7.20	2450
SS12	12.90	1.18	13.00	5.97	2.29	05.00
SS13	18.07	0.90	18.00	14.00	1.68	14.00

Note. SS = subscale scores.

Table 4.4

Results of Mann- Whitney U test for subscales scores of SEA-scale in both the groups

Sub-scale	|z|	*p-value*
SS1	4.56	0.00*
SS2	6.37	0.00*
SS3	6.69	0.00*
SS4	4.36	0.00*
SS5	6.66	0.00*
SS6	5.63	0.00*
SS7	5.57	0.00*
SS8	5.38	0.00*
SS9	3.70	0.00*
SS10	6.50	0.00*
SS11	2.52	0.01*
SS12	6.64	0.00*
SS13	6.47	0.00*

Note. * Significant at 0.00 level

It is evident from Table 4.5 that the AWNS had low Scores and the scores in the ascending order included SS8 (73.4%) , SS11 (75%), SS10(78.1%), SS5 (78.7%), SS7(79.4%), and high scores in the decreasing order included SS4 (91.3%), SS13 (90.3%), SS6 (86.67%), SS12 (85.93%), SS3 (85.67%),SS9 (85.60%), SS2 (84.70%) and SS1 (83.43%). The data analyses suggested 70-80% confidence in situations such as Formal presentation (SS8), Questioning an authority figure for information/action (SS11), Questioning a stranger for information/action(SS10), One-to-one conversation with an authority figure (SS5), Group conversation with an unknown group (formal) (SS7) ; 81-90% confidence in situations like Group conversation with a known group (informal) (SS6), Situations involving time constraints (SS12), Argument or conflict with a stranger (SS3) , Questioning a friend/family member for information/action (SS9), Argument or conflict with a friend or family(SS2), Telephone conversation (SS1) and above 90% confidence in situations such as One-to-one conversation with a family

member (SS4) which is followed by Situations involving memorized or unchangeable content (SS13). In the study no one reported 100% confidence in AWNS group.

Table 4.5

Percentage Mean, Median and Standard deviation for subscales in both the groups

Subscales	Group 1			Group 2		
%scores	(%)Mean	SD	(%)Median	(%)Mean	SD	(%)Median
SS1	83.43	4.24	82.00	69.67	10.93	68.50
SS2	84.70	3.21	84.50	60.43	15.08	63.00
SS3	85.67	7.16	85.00	51.33	10.90	50.00
SS4	91.33	9.73	100.0	72.67	18.55	80.00
SS5	78.63	6.41	80.00	47.13	8.49	47.00
SS6	86.67	5.68	84.00	71.87	10.63	76.00
SS7	79.40	5.72	80.00	58.70	12.55	55.50
SS8	73.37	4.21	72.00	50.67	11.52	46.00
SS9	85.60	5.86	86.00	80.00	4.16	80.00
SS10	78.13	6.10	80.00	53.87	8.58	52.00
SS11	75.03	4.02	76.00	61.50	15.27	54.50
SS12	85.93	7.88	87.00	39.83	15.27	33.00
SS13	90.33	4.53	90.00	70.00	8.40	70.00

It is evident from Table 4.5 that the data analyses of scores with AWS had low scores and the scores in the ascending order included SS12 (39.8%), SS5 (47.1%), SS8 (50.6%), SS3 (51.3%), SS10 (53.9%), SS7 (58.70), SS2 (60.4%), SS11 (61.5%) and high scores are discussed in decreasing order which included SS9 (80%), SS4 (72.7%), SS6 (71.9%), SS13 (70%), SS1 (69.7%). The data analyses suggested 30-40% confidence in situations involving time constraints (SS12); 41-50% confidence in situations such as One-to-one conversation with an authority figure (SS5) and Formal presentation (SS8); 51- 60% confidence in situations such as Argument or conflict with a stranger (SS3), Questioning a stranger for information/action (SS10), Group conversation with an unknown group (formal) (SS7); 61- 70% confidence in situations like Argument or conflict with a friend or family (SS2), Questioning an authority figure for information/action (SS11), Situations involving memorized or unchangeable content

(%SS13), Telephone conversation (%SS1) and 71- 80% confidence in situations like Questioning a friend/family member for information/action (%SS9), One-to-one conversation with a family member (SS4) which is followed by, Group conversation with a known group (informal) (SS6). It is striking to note that no one scored above 81% in AWS group.

Both the groups exhibited low confidence in approaching and performing situations like conversation with strangers, authority figures and formal presentation, however AWNS had better scored compared to AWS. In addition, on these subscales AWS demonstrated problem with pressure inducing situations (ordering food, asking direction someone who is in hurry, answer questions in the classroom).

V.   Comparison of adapted SEA-scale scores between AWS with and without therapy

The clinical group included 15 AWS who attended therapy with a minimum of 10 sessions and 15 AWS who did not attended therapy. Each participant's details and number of sessions are mentioned in table 3.1(method). In AWS who attended therapy were under gone either fluency shaping therapy or stuttering modification or combination of both and in AWS who did not attended therapy since childhood. The adapted SEA-scale was administered on both the group.

a) Comparison of overall and sub-scales scores of adapted SEA-scale in AWS with and without therapy

In this section, the mean scores of the overall and subscale scores of SEA-scale were compared in AWS who attended therapy and AWS who did not attend therapy. Table 4.6 illustrates the descriptive statistics for overall and sub-scales of SEA-scale. As

can be observed from Table 4.6 AWS who attended therapy had scored more than AWS who did not attend therapy scores in overall and subscales of SEA- scale.

Table 4.6
Mean, Median and Standard deviation for adapted SEA-scale in clinical groups

SEA-scale Scores	AWS with therapy			AWS without therapy		
	Mean	SD	Median	Mean	SD	Median
SS1	32.60	3.64	32.00	30.20	5.85	29.00
SS2	24.67	2.61	24.00	17.60	4.80	18.00
SS3	11.47	2.10	12.00	9.70	1.52	09.00
SS4	8.47	0.51	8.00	6.07	1.94	07.00
SS5	15.53	2.20	16.00	12.73	2.05	13.00
SS6	19.13	1.24	09.00	16.80	3.18	17.00
SS7	22.87	4.12	23.00	18.20	3.34	18.00
SS8	19.87	4.17	17.00	15.53	1.50	15.00
SS9	28.07	1.58	28.00	27.63	1.22	28.00
SS10	13.73	2.40	13.00	13.20	1.89	13.00
SS11	27.87	7.34	25.00	27.40	7.22	24.00
SS12	6.73	2.90	05.00	5.40	1.35	05.00
SS13	14.20	1.89	14.00	13.80	1.47	14.00
Total	245.00	33.59	232.00	213.93	33.72	209.00

The Mann-Whitney U test was performed to compare the overall and subscale scores of SEA-scale. Results of Mann-Whitney U test revealed that the overall score of AWS who attended therapy did not differ significantly with AWS who did not attend therapy. Hence, both the groups differed in raw scores but statistical significant difference was not there. The subscales score of SEA-scale had significantly higher scores for majority of subscales than compared to AWS who did not attend therapy and data are displayed in table 4.7.

On comparison of all the subscale scores in clinical group revealed that statistically significant difference was observed in all subscales except SSI, SS9, SS10, SS11, SS12 and SS13. It indicates that both the clinical groups performed similarly in SS1, SS9, SS10, SS11, SS12 and SS13 irrespective of therapy.

Table 4.7
Results of Mann- Whitney U test results for adapted SEA-scale AWS across clinical groups.

Sub-scales	|z|	p-value
SS1	1.33	0.18
SS2	3.57	0.00*
SS3	2.98	0.00*
SS4	4.03	0.00*
SS5	2.88	0.00*
SS6	1.99	0.04*
SS7	2.88	0.00*
SS8	3.38	0.00*
SS9	0.21	0.83
SS10	0.52	0.59
SS11	0.31	0.75
SS12	0.55	0.57
SS13	0.53	0.59
Overall	2.36	0.18

Note.*= significant at 0.05 level

a) ***Hierarchical representation of adapted subscales scores of SEA-scale in AWS with and without treatment***

The mean percentage, median percentage and standard deviation were calculated for both clinical groups and is illustrated in tables 4.8 and 4.9. The results revealed that the hierarchy pattern slightly differed in clinical groups. AWS who attended therapy exhibited high mean percentage in all subscales when compared to AWS who did not attended therapy. These finding suggests that the therapy influenced positively in AWS who attended therapy.

Table 4.8
Hierarchical representations of adapted SEA-scale scores in AWS with therapy

AWS with therapy		
Rank order	Subscales	(%)Mean
1	SS4	85.33
2	SS9	80.92
3	SS6	78.13
4	SS1	73.33
5	SS13	73.00
6	SS2	71.40
7	SS7	67.07
8	SS11	63.40
9	SS3	61.00
10	SS8	58.53
11	SS10	57.33
12	SS5	54.33
13	SS12	48.00

Table 4.9
Hierarchical representations of adapted SEA-scale scores in AWS without therapy

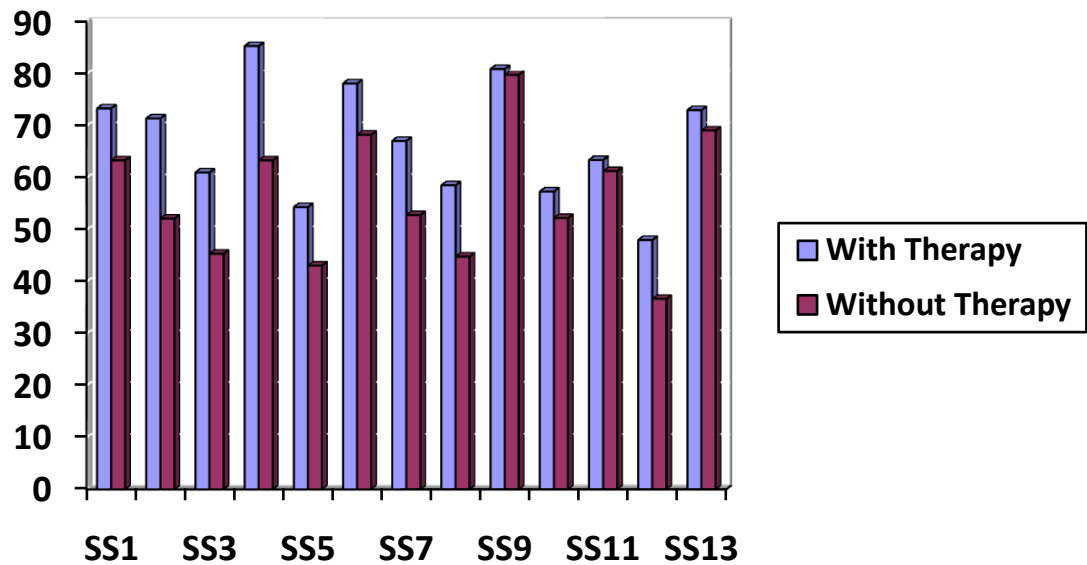| AWS without therapy		
Rank order	Subscales	(%)Mean
1	SS9	79.80
2	SS13	69.08
3	SS6	68.27
4	SS1	67.60
5	SS4	63.33
6	SS11	61.27
7	SS7	52.80
8	SS10	52.24
9	SS2	52.13
10	SS3	45.37
11	SS8	44.81
12	SS5	43.07
13	SS12	36.67

Figure 4.2. Depicting percentage mean of SEA-scale across clinical group

As indicated in table 4.8 AWS who attended therapy had more confidence that range from 85% to 75% in SS4, SS6 and SS9; 76% to 60% in SS1, SS1, SS2, SS7, SS11 and SS3 and low confidence which ranged from 59% to 50% in, SS8, SS10, SS5 and SS1. It is evident from Table 4.9 that AWS who did not attend therapy had more confidence level in SS9 with confidence level of 79.80% followed by SS13, SS6, SS1, SS4 and SS11with the confidence level range from 69% to 55% and 54% to 35% confidence level in SS7, SS10, SS2, SS3, SS8, SS5 and SS12.

VI. Comparison of self-efficacy of adolescents across degrees of severity of stuttering.

The clinical group consisted of 30 AWS and were distributed based on severity (mild, moderate and severe), 10 in each group. The mean percentage, median percentage and standard deviation of SEA-scale scores across severity which is depicted in Table

4.10. As can be observed, mild group performed better than moderate group and moderate group performed better than severe group.

Table 4.10
Mean Percentage and standard deviation of overall and subscale scores of SEA-scale across stuttering severity groups in AWS

%scores	Severity 1		Severity 2		Severity 3	
	(%)Mean	SD	(%)Mean	SD	(%)Mean	SD
SS1	80.70	6.29	70.60	6.42	60.10	7.93
SS2	73.80	7.77	60.90	8.42	50.60	11.29
SS3	61.00	8.44	55.00	8.04	43.50	8.83
SS4	82.00	6.34	79.40	7.44	62.00	18.55
SS5	55.20	4.35	41.70	7.99	43.10	7.22
SS6	79.00	6.47	76.00	8.43	64.40	10.33
SS7	69.00	10.39	61.20	5.87	48.90	8.25
SS8	60.80	10.43	48.90	6.44	45.40	3.09
SS9	69.40	4.45	79.40	8.99	78.20	3.22
SS10	79.90	9.34	53.20	4.46	47.60	2.95
SS11	59.40	8.44	58.20	8.44	48.90	4.16
SS12	77.50	8.66	36.10	4.45	30.60	3.99
SS13	72.10	7.66	70.50	12.87	65.00	3.09

Kruskal-Wallis test was performed to examine confidence level across stuttering severity groups. It revealed that there was significant difference in confidence level across stuttering severity groups except SS4 (one to one conversation with family member). The total score and 12 subscales scores had significant difference across severity which implies that the confidence level varied across the degree of severity in stutters. Table 4.11 depicts the results of Kruskal- Wallis test across stuttering severity groups in AWS.

Table 4.11

Results of Kruskal- Walli's test for stuttering severity groups in AWS

Severity	χ2 (d.f=2)	*p-value*
SS1	23.60	0.00*
SS2	12.39	0.00*
SS3	15.38	0.00*
SS4	2.49	0.22
SS5	14.29	0.00*
SS6	16.63	0.00*
SS7	18.79	0.00*
SS8	10.62	0.00*
SS9	9.35	0.00*
SS10	21.56	0.00*
SS11	23.21	0.00*
SS12	20.72	0.00*
SS13	18.37	0.00*
Overall	21.80	0.00*

Note.*= Highly significant at 0.00 level

a) *Comparison between mild and moderate AWS group*

To compare across severity the Mann- Whitney U test was employed to study the confidence level in various situation and results are depicted in Table 4.12. The comparison of mild and moderate degree of severity in AWS for the overall and subscale scores revealed that there was a statistical significant difference in majority of subscales except SS3, SS4, SS9 and SS11. Both the severity groups performed similarly in situations such as; Argument or conflict with a stranger (SS3), One-to-one conversation with an authority figure (SS5), Questioning an authority figure for information/action (SS9). Further analyses indicated that both the severity groups exhibited low scores in these situations suggesting low confidence. However, the scores obtained by the mild group were significantly better compared to moderate group. The subscales which had statistical significant difference were SS1, SS2, SS5, SS6, SS7, SS8, SS10, SS12 and SS13.

b) *Comparison between moderate and severe group in AWS*

Table 4.12 depicts statistical results while comparing the moderate and severe degree of AWS for the overall and subscale scores on adapted SEA-scale. The results revealed statistical significant difference in overall and few subscales such as telephonic conversation (SS1), Argument or conflict with a stranger (SS3), Group conversation with a known group (informal) (SS7) and Questioning an authority figure for information (SS11) and Situations involving time constraints (SS12). However, significant difference not found for overall and 9 subscales such as SS2, SS4, SS5, SS6, SS8, SS9, SS10 and SS13. Though, not significant subscales had higher scores for moderate group compared to severe degree of severity. The data analyses indicates that most of the subscales on the SEA-scale moderate degree group performed better compared to severe degree of stuttering.

Table 4.12
Results of Mann Whitney-U test for overall and subscale scores of SEA-scale across stuttering severity groups in AWS

Severity	**1&2**		**2&3**		**1&3**	
	|z|	*p-value*	|z|	*p-value*	|z|	*p-value*
SS1	3.80	0.00*	3.03	0.00*	3.80	0.00*
SS2	2.81	0.00*	1.18	0.24	3.05	0.00*
SS3	1.30	0.19	2.68	0.00*	3.75	0.00*
SS4	0.77	0.43	1.21	0.24	1.53	0.12
SS5	1.94	0.05*	2.29	0.23	3.49	0.00*
SS6	2.89	0.00*	1.96	0.52	3.53	0.00*
SS7	2.69	0.00*	2.63	0.00*	3.79	0.00*
SS8	2.78	0.00*	0.19	0.85	2.99	0.00*
SS9	1.71	0.10	1.16	0.28	3.10	0.00*
SS10	3.75	0.00*	2.08	0.52	3.88	0.00*
SS11	3.81	0.06	2.85	0.00*	3.82	0.00*
SS12	3.75	0.00*	1.17	0.31	3.85	0.00*
SS13	3.16	0.00*	2.06	0.05*	3.71	0.00*
TOTAL	3.78	0.00*	2.31	0.02*	3.78	0.00*

Note. 1= mild; 2= moderate; 3= severe; *= significant at 0.00 level.

c) Comparison between severe and mild group of AWS

Table 4.12 displays the comparison of severe and mild degree of severity in AWS for the overall and subscale scores. The results revealed that there was a statistical significant difference in overall and all subscales except SS4. In depth analyses revealed that the mild group varied to greater extent in all subsections except SS4 which suggested increased confidence in all subscale.

To summarize the results across degree of severity, AWS in mild group performed better than moderate which was followed by severe group. It suggested that the severity of stuttering does influence the performance in various situations in AWS. Greater the degree of stuttering severity lesser will be the confidence level.

VII.   Correlation between personality traits and self efficacy in adolescents

Locus control of behavior (Craig & Andrews, 1984) scale was administered on AWS and AWNS groups to determine personal belief. It can be measured in terms of externality (meaning they believe their decisions and life are controlled by environmental factors which they cannot influence, or by chance or fate) and internality (the person believes they can control their life) of behavior and it was compared across groups.

a) Comparison between SEA-scale and LCB scores in AWNS and AWS

The scores of LCB obtained by both the groups (AWS and AWNS) are compared with the overall SEA-scale scores in the present study. The raw scores of mean, median and standard deviation were obtained from both the groups are presented in table 4.13. It suggests that the AWNS had less LCB score and more SEA-scale scores which indicated that more of internality and more confidence and in AWS had more LCB scores and less SEA-scale scores which indicated more externality and low confidence. According to the

above findings it indicates that both LCB scale and SEA-scale are negatively related to each other.

Table 4.13
Mean, Median and standard deviation of overall score of SEA-scale and LCB score of AWS and AWNS.

Groups	SEA- scale TOTAL	LCB
AWNS		
Mean	306.37	26.27
Median	307.00	26.50
Standard deviation	7.20	1.17
AWS		
Mean	229.47	34.13
Median	220.50	34.50
Standard deviation	36.64	2.94

The Mann-Whitney U test was performed to compare between LCB and SEA-Scale acoress AWNS and AWS. It revealed significant difference in both the groups for SEA-scale ($|z|=6.58$, $p < 0.00$) and LCB scale ($|z|=6.69$, $p < 0.00$). It indicated that AWNS overall score of SEA-scale was higher and score of LCB was lower compared to AWS. Low LCB scores indicate internality and high scores indicates externality. Results suggest that, AWS exhibited low confidence level across situations and externality behavior and AWNS exhibited more confidence and internality behavior. Externality in AWS refers to the fact that individuals 's life is controlled by others and blames more on environment rather than themselves.

b) *Comparison of overall SEA-scale score and LCB score in clinical groups*

The raw scores of mean, median and standard deviation of AWS who did not and who attended therapy are presented in table 4.14. It can be noted that clinical groups exhibited high scores on LCB and low scores on SEA-scale scores. In both the clinical

groups, LCB score was almost similar which explains that even with fluency therapy the personality belief did not differ with that of AWS who did not attend therapy.

Table 4.14
Mean, Median and standard deviation of overall score of SEA-scale and LCB score in AWS with therapy and AWS without therapy

Clinical group	SEA- scale TOTAL	LCB
AWS with therapy		
Mean	245.00	33.47
Median	232.00	34.47
Standard deviation	33.54	2.38
AWS without therapy		
Mean	213.47	34.80
Median	209.50	35.00
Standard deviation	33.64	3.34

The Mann-Whitney U test was performed to compare between LCB and SEA-Scale in AWSwho attended therapy and AWS who did not attend therapy. It revealed no statistical significant difference in both the groups for SEA-scale ($|z|=0.18$, $p > 0.00$) and LCB scale ($|z|=0.250$, $p > 0.00$). It indicated that both the clinical groups did not differ in SEA-scale and LCB scale. Though, not significant the AWS with therapy group had slightly better scores than AWS without therapy group in both the scales.

c) Comparison of overall SEA-scale score and LCB score across severity

Table 4.15 represent the mean, median and standard deviation of LCB and overall scores of SEA-scale across severity (mild, moderate and severe). It revealed mild group had lowest scores (indicating internality) and highest scores (indicating externality) in moderate and severe groups. On comparison across severity the LCB score in mild group was low almost near to the normal which indicated internality and other severity group had more scores than mild group which indicated externality. A negative relationship was found with SEA-scale scores indicating that as severity increased the confidence level decreased.

Table 4.15

Mean, Median and standard deviation of overall score of SEA-scale and LCB score across stuttering severity in AWS

Severity	SEA- scale TOTAL	LCB
Mild		
Mean	272.70	30.70
Median	272.00	31.00
Standard deviation	18.00	0.949
Moderate		
Mean	220.00	34.80
Median	220.50	35.00
Standard deviation	14.13	0.84
Severe		
Mean	195.70	37.10
Median	195.70	37.50
moderate	18.99	1.79

Kruskal Wallis test was administered to compare LCB and SEA-scale scores across degree of severity of the participants. Statistically Significant difference was obtained across severity. The results indicated that there is a relationship noted between LCB and SEA-scale across stuttering severity. Since the scores were significant across severity, the Mann Whitney U test was performed. The results are depicted in Table 4.16 it suggests severity 1& 2; 2 & 3 and 3 &1 had significant difference on LCB and SEA-scale scores. While considering both SEA-scale and LCB score the analyses suggested that severity of stuttering not only have an impact on confidence in facing situations but also on the overall personality traits.

Table 4.16

Mann-Whitney U test scores of SEA-scale and LCB scores across severity

Mann-whitney scores	1&2	2&3	3&1
SEA-scale			
|z|	3.78	2.31	3.7
p- value	0.00	0.02	0.00
LCB			
|z|	3.83	2.93	3.8
p- value	0.00	0.00	0.00

Note. *=significant at 0.05 level, 1=mild, 2=moderate, 3=severe

d) *Correlation between LCB scores and overall SEA-Scale scores*

Spearman's correlation was carried to find the relationship between these two variables and it indicated negative excellent correlation between LCB and overall SEA-scale *which is* represented below:

Table 4.17
Spearman's correlation of SEA-scale and LCB score

Spearman's Correlation	SEA-scale Overall score	LCB
r	1	-.909
p-value	.000**	.000**

Note. **. Correlation is significant at the 0.01 level (2-tailed).

The above table 4.17 shows a significant negative correlation seen between LCB scores and overall SEA-Scale score and it was excellent correlation. These findings suggested that if the LCB score is high then the overall SEA- scale scores should be low. The participants with external locus of control of behavior believe that their problem are because of external source and to control them is not in their hands due to which they exhibit less confidence level across situations where as, in the participants with internal locus of control of behavior believe in themselves and they have self confidence to battle all the difficulties which they face due to their problems.

CHAPTER V

DISCUSSION

The purpose of the current study was to adapt the original SEA-scale to the Indian context and to administer the adapted SEA- scale to investigate the confidence level in various situations and also the personality traits of AWS. To this end, comparisons were made between 30 AWS and 30 matched AWNS, on the following sets of measures: (1) adaptation of self- efficacy for adolescent (SEA-scale) to the Indian context; (2) comparison of self-efficacy in communication across adolescents with and without stuttering; (3) comparison of self-efficacy between adolescent with and without therapy; (4) comparison of self-efficacy of adolescents across degrees of severity of stuttering; (5) correlation between personality traits and self efficacy in adolescents with stuttering and without stuttering. Discussion concerning to the results obtained are presented below, along with a deliberation of study limitations, clinical implications, and future directions.

As explained by Multi-factorial models, stuttering comprises of complex and multiple factors that influence one's ability to produce fluent speech. The factors that influence the behavior are motor, cognitive, language, social, prosodic, emotional, central neuro-physiological processing and various environmental factors. Several factors lead to certain attitudes like avoidance, low confidence, internalized stigma, anxiety etc. This will be further hamper the individual's problem. So, all individuals with stuttering should be assessed from multi-dimensions. There are a number of instruments available for assessing the wide ranging aspects of stuttering, such as Self-efficacy scale of stuttering, Self Stigma of Stuttering Scale (4S), Speech-related anxiety assessments, Speech situation checklist and Overall assessment of the speaker's experience of stuttering. All

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of these above-mentioned instruments aid to enhance the clinician's understanding about adults who stutter. The present study was an attempt to investigate the confidence level in various situations among adolescents who stutter in the Indian context. A study was majorly divided into two phases. The first phase involved the adaptation of SEA-scale to the Indian context which involved content validity determined by the 10 SLP's. The second phase involved administration of adapted SEA-scale on participants and to correlate with these adapted SEA scale scores, locus control of behavior scale was also administered to know the confidence level in various situations and also to correlate personality belief with confidence level. Therefore, the discussion of results of the present study has been equipped in a similar sequence manner.

I.   Adaptation of self- efficacy for adolescent (SEA-scale) to the Indian context

The adapted/ modified SEA-scale for the present study aimed at assessing the confidence level of adolescents who stutter across various situations. It consisted of 13 subscales; each situation was categorized into a subscale that consisted of varying number of questions to overview the confidence level among AWS. Specific subscales that are mentioned in the scale are classified into subscale one (argument or conflict with a friend or family), subscale two (argument or conflict with a stranger), subscale three (one-to-one conversation with a family member), subscale four (one-to-one conversation with an authority figure), subscale five (group conversation with a known group (informal)), subscale six (group conversation with an unknown group (formal), subscale seven (formal presentation), subscale eight (questioning a friend/family member for information/action), subscale nine (questioning a stranger for information/action), subscale eleven (questioning an authority figure for information/action), subscale twelve

(situations involving time constraints),subscale thirteen (situations involving memorized or unchangeable content). In the present study, the above-mentioned thirteen subscales were considered as they assess one of the covert behaviors of the stuttering disorder. Many adolescent who stutter frequently exhibits speech-related negative feeling, anxiety, and emotional tension. In comparison to adults and children, adolescents who stutter exhibit more emotional issues. This is because at this age biological changes that take place in every individual will trigger the existing behavior even more and thus they possess most negative attitudes. It is most important to measure all covert and overt features of stuttering. The present study addresses one of the major covert feature i.e. confidence level in various situations.

The original SEA-scale (Manning, 1994) was given to ten SLP's to rate for the relevance to the Indian context and content validity index was calculated for each question. The results revealed that Q3, Q4,Q11, Q18, Q19, Q22, Q28, Q33, Q34, Q39, Q42, Q44, Q47, Q48, Q49, Q58, Q64, Q66, Q82, Q86, Q88, Q92, Q93, Q94 and Q99 had content validity less than 0.8 suggesting non- suitability to Indian context. These eliminated questions are listed under subscale wise, Subscale-1 consisted of Q34 (Calling a store clerk to see what time the store opens); Subscale-2 consisted of Q19 (Telling a parent that you do not deserve to be grounded), Q39 (Arguing with a friend about who gets the last piece of candy), Q44 (Telling a parent that you have to stay after school because you were disruptive in class), Q48 (Arguing with an older, larger, friend about who gets the last coke), Q49 (Arguing with a friend about a boy/girl that you both like) and Q64 (Telling a group of friends that you will not smoke with them); Subscale-4 consisted of Q3(Talking with a brother or sister about what TV program you would like

to watch); Subsclae-5 consisted of Q66 (Talking on the phone with a teacher about attending a class party); Subscale-6 consisted of Q4 (Talking with three friends your own age during lunch at school about a movie) and Q11(Talking about your homework to the people who go with you to school); Subscale-7 consisted of Q42 (Talking with a group of four new students in your class the first week of school); Subscale-8 consisted of Q86 (Reading aloud to a group of seven classmates), Q92 (Introducing a speaker to a club or religious group), Q94 (Giving a book report in front of the class) and Q98(Taking a speaking part in a school); Subscale-9 consisted of Q22 (Asking a parent for permission to stay out one hour later than usual) and Q28 (Telling your parents the allowance you are giving is not enough); Subscale-10 consisted of Q33 (Asking a sales clerk if a particular item is in stock) , Q88 (Asking a girl/boy to dance at a school part) and Q93 (Asking a person in your school to go with you to a school dance); Subscale 11 consisted of Q47 (Raising your hand and asking your teacher for permission to leave the room); Subscale-12 consisted of Q82 (ordering something at a fast food restaurant when they are very busy); Subscale-13 consisted of Q18 (Giving your locker number to a teacher) and Q58 (Going to a fast food restaurant with your family and ordering a sandwich) were eliminated.

The reasons for low content validity index were that some of these questions would be questions which did not suit the Indian context. For e.g., questions such as "Introducing a speaker to a club or religious group" and "Telling a group of friends that you will not smoke with them" and few questions almost had same meaning which included "ordering something at a fast food restaurant when they are very busy". All 13 subscales mentioned in original scale were included because all the situations which are

presented are important for adolescence the period. Most of the time individuals will be indulged in conversation with family, friends, strangers and teachers. Educational setting gives importance on presentations or verbal communication skills like friend's interaction, reading aloud, reciting poem and announcement. Students who stutter report of having problem in oral presentation, clarifying doubts in class, participating in discussions etc (Blood et al., in 2001). In the present study, the selected 75 questions were effective in measuring the confidence level among individuals with stuttering across situations and it is less time consuming. Clinically, there is agreement among SLP's that stutters exhibits low confidence during conversation which triggers to increase their dysfluencies even more and make them avoid to participate in communication. Researchers and clinicians who deal with adolescents with stuttering reported that stuttering may have negative reactions towards communications, predominantly, on self-esteem and self-efficacy. Till date to our knowledge no one addressed the questionnaire to assess the confidence level in various situations AWS stutters, but the present study made an attempt to measure on Indian population. This scale helps in gathering information regarding confidence level which was earlier not performed by SLP's during routine assessment and treatment.

II.   Comparison of self-efficacy in communication across adolescents with and without stuttering

The results of adapted SEA-scale indicated that the scores were low in overall and each subscale among AWS compared to AWNS which suggested differences in performance across the group. It suggested that AWS had difficulties in approaching/ performing various situations when compared to AWNS. Even though the AWNS group exhibited high scores none of them scored 100% confidence level in any of the situations,

which indicated that even AWNS confident level will also be affected in few situations but it was not as prominent to that of AWS group. According to Croskey (1998), to maintain good communication between speakers, the communicators should demonstrate responsiveness, assertiveness and flexibility. These skills allow speakers to make requests initiate, actively disagree, express their feelings, maintain, and disengage in conversations" Communication skills are positively related to high self-esteem, confident attitudes toward communication, and adept social skills (Richmond & Croskey, 1984). However, individuals with stuttering exhibit low confidence level, low self-esteem and internalized stigma due to which the communication breakdown that happens every time when they approach the various situations (e.g., introducing friends at a shopping mall; ordering through a speaker at a fast food restaurant, conversing with the teachers, arguing with friends etc). These negative experiences which they previously encounter enable the individuals to restrict themselves to participate in successful communication environment.

In agreement with the current study Brown and Hull (1942) found that adult individuals who stutter exhibited lack of confidence and speaking enthusiasm when compared to those who do not stutter. AWS may speak relatively less in social situations, experience embarrassment and a sense of shame while speaking, as a result of loss of control of behaviors. The authors also stated that, PWS believe themselves to be less efficient to communicate properly and thus sometimes withdrawal is often seen in addition to speaking less frequently. Likewise, Blood (2004) reported that AWS increased likelihood of being bullied may lead to negative self-esteem which intern affects the communicative competence and hinder them to participate in situations like

group discussions, interpersonal conversations, and when talking to strangers. The lack of experience, fear of failure, prior negative reactions, and increased communicative pressure and stress could result in increased isolation, negative stereotyping by peers, and poor self-esteem. As discussed in chapter 2 low confidence in communicative competence was also linked to low self-esteem. Poor esteem and a lack of confidence in communication skills could be a direct result of dealing with the negative consequences of stuttering

In the present study, AWS exhibited 40% to 70% confidence level in situations involving time constraints, one to one conversation authority figure and strangers (includes argument and questioning), group conversation with unknown group, formal presentation, and situations involving memorized content and 71% to 80% confidence level in telephone, one-to-one conversation and group conversation with friends, family and with known group. The results indicated that the situations in which AWS scored between 40 %to 60% confidence level and those are considered as higher anxiety provoking situations where all AWS exhibited low in specific to each situation. In few situations AWS exhibited 71% to 80% confidence level and those are less anxiety provoking situations such as talking to family members and to a familiar person. Few evidences that suggest adolescents or young adults believe their friends than their parents with respect to the reactions linked with stuttering. However, there is enough literature to support and justify the findings among participants with stuttering. For e.g., Yaruss (1997) conducted a study on disfluent behavior in five different speaking situations such as parent-child interaction, play with a clinician, play with pressures imposed, story retell, and picture description. It included 45 preschool children with stuttering. Data analysis

revealed that the pressure inducing situation elicited a significantly higher frequency of stuttering behaviors than other situations. He concluded that in pressure inducing situations the anxiety will be compare to non- pressure inducing situations.

The self- efficacy theory (Bandura, 1977) was used to explain the relationship between communication competence and self-efficacy. The main principle of Self-Efficacy theory is that individuals are more likely to engage in activities for which they have high self-efficacy and less likely to engage in those who have low self. As Bandura stated, performance outcomes or past experiences plays an important role of self-efficacy. Positive and negative experiences can influence the ability of an individual to perform a given task. The principle of Self- efficacy theory was correlated with our findings among AWS and AWNS. On Comparison across groups, AWNS also exhibited slight variations in confidence level across situations but it was not much significant as in AWS group. In AWS exhibit low self- efficacy because of the negative experiences (bullying, adverse reactions from the parent, strangers and friends) for the past events as explained in the theory. These negative experiences act as a major factor to affect self-efficacy, stigma and self-esteem which intern leads to communication breakdown in various contexts. The above point also holds good to some extent for AWNS group.

The present study is in agreement with the findings by Craig (2002) where he stated that Stuttering reduces in less threatening situation such as talking to family members/ friends and to a familiar person. However, stuttering turns out to be even more severe when they are exposed to challenging or threatening situations such as speaking to a large group of listeners, speaking to a listener who seems to be uninterested and speaking to a higher authority. Miller (1992) conducted a study in lawyers and factory

workers who stutter with age, gender and profession matched individuals were recruited. He observed factory workers who stuttered to be less friendly, talkative, dominant, coordinated and aggressive, and poor self confidence. The lawyer who stuttered were more affected than the factory workers who stuttered and observed them as more fearful, anxious, uncomfortable, lazy, dependent, and disorganized than control group.

Anxiety is described as an aversive emotional and motivational state occurring in perceived threatening circumstances (Eysenck, Derekshan, Santos, & Calvo, 2007) and high levels of anxiety can negatively affect the lives of adolescents. Anxiety in different social situations involves shame and the persistent fear of humiliation that limits AWS to participate in public conferences and social gathering. Individuals with Stuttering usually are associated with higher level of anxiety, which results in severe distress and hampers day-to-day activities. When the individuals with stuttering are exposed to challenging or threatening situations the pre-existing covert and overt behaviors are triggered which by worsens the performance. It is not compulsory that each and every individual should exhibit anxiety, low confidence level and low self-esteem when they encounter various situations. It may depend on individual's years of experiences about communication, severity and capacities to approach those situations.

III. Comparison of self-efficacy between adolescent with and without therapy

Overall, the results of the present study suggested that AWS who attended therapy performed better than the AWS who did not attend therapy. The AWS who attended therapy showed differences in performance in situations involving argument or conflict with a friends or family members, strangers, one to one conversation with family and authority figures, group conversation with a known group and formal presentations

compared to AWS who did not attend therapy. It can be concluded that the therapy influenced them to perform better. All 15 individuals in therapy group were guided with fluency shaping and stuttering modification strategies to overcome the problem. All participants were trained with the appropriate techniques while conversing and breathing (if needed) by SLP's. Once the technique was appropriate by used and with the significant improvement in the reduction of dysfluencies, the SLP's introduced them for various situations like group conversation with other clinicians, one to one conversion with other clinician and telephone conversation with other individual who has stuttering for generalization session. The tasks mainly involved in these situations are debate, discussions or explanation and reading. The telephonic conversation was followed by only few SLP's in the clinical set up. If the SLP's had included other situations and effective counseling to overcome the negative attitudes towards the communications and his problems, it would have enhanced the performance in other situations like situations involving time constraints, situations which arouses questions with the involvement of friends, family, strangers and authority figures. These findings suggest that AWS should be keenly observed for the occurrence of covert and overt features before planning the intervention strategies. Even though it is difficult to deal with psychological aspects, the SLP's must provide effective counseling to change their belief and motivation level and should monitor each and every client in maintenance and transfer stage through frequent follow ups and booster sessions.

It can be inferred from the present study that AWS who attended therapy session varied between 11 to 40 sessions across severity. Most of them attended less than 20 sessions it could be reason that resulted in same performance in overall score across

adolescents who attended and who did not attend therapy. Number of therapy sessions plays an important in reducing the individual's dysfluencies and psychological belief. According to literature, it is suggested that treatment program should range from 3 months to 3 years, with variable number of sessions or lasting for 2 weeks to 3 months. According to Reddy, Sharma and Shivasankar (2010), the program should consist of 22 to 23 sessions in total for intervention program.

However, the AWS who attended therapy differed significantly from AWS who did not attend therapy in some situations involving with argument with a friend or family member and stranger; situations involving group conversation with unknown and unknown group and in formal presentations. This is because most of the individuals who attended more sessions were involved in situations like conversation with strangers, debates and discussions regarding specific topic and also few clinicians involved participants in presentations of small topic in front of clinicians. Thus, the performance was improved in above mentioned situations. In few situations both the groups performed similarly which included situations involving memorized or unchangeable context because these are less anxiety provoking situations. In addition situations involving memorized and unchangeable context does not require much effort to recall.

On comparison of the current findings of lowered self-efficacy in AWS to the study by Fry et al., (2013) who noted reduced frequency of stuttering and also reported increased self-efficacy in speaking and reduced overt and covert aspects of stammering after attending fluency treatment program. Similarly, Vanryckeghem (2006) reported that intervention for stuttering results in an overall positive effect, and no one treatment approach for stuttering demonstrates significantly greater effects over another treatment

approach. To conclude, no single treatment is effective for every PWS and also because everyone is different, and thus some treatments need to be tailored to the individual.

IV. Comparison of self-efficacy of adolescents across degrees of severity of stuttering

The participants were divided into three groups based on severity levels which included; mild, moderate and severe. A total of 75 questions of SEA-scale were administered on each group of severity. The results revealed that mild group performed better than moderate group and moderate group performed better than severe group. It is evident that overall and subscales scores decreases (low confidence) as the severity increases. The results of the present study revealed that there was a significant difference across mild and moderate group. This indicated both the groups performed in a different way on SEA-scale for SS1, SS2, SS5, SS6, SS7, SS8, SS10, S11, SS12 and SS13. In comparison of moderate and severe group, there was a significant difference only for SS1, SS3, SS7 and SS11. The comparison of severe with mild there was significant difference on SEA-scale for all domains expect SS4. This indicated SEA-scale is very sensitive to differentiate between mild, moderate and severe groups though not on all subscales.

The main implication of one of the finding is to assess each and every situation which had significant differences with respect to each severity groups in SEA-scale to get better details of the individuals and would further aid in intervention strategies. Our findings indicated that mild group performed better in SEA-scale than moderate and severe group. It is reasonably well justified that moderate and severe AWS may experience differently than mild AWS because of the dysfluencies exhibited across situations and the negative experiences. In support to our findings Craig et al., (2006)

also found similar findings who suggested that PWA with increased severity levels had higher risk of negative impact of life in the domain of emotional functioning. In general, there is a tendency of positive correlation relating to anxiety, attitude and severity. It attributes to greater the severity of speech problems greater shall be the anxiety and negative attitudes in individuals.

V. Correlation between personality traits and self efficacy in adolescents with stuttering and without stuttering

The obtained LCB score was compared to the overall SEA-scale score across AWNS and AWS, clinical groups and across severity. The results showed that there was a significant difference among AWNS and AWS in overall SEA-scale and LCB scores. It revealed that AWNS group showed more of internality and high scores in SEA-scale where as AWS group showed more of externality and less in confidence score. This indicated that the AWS exhibited more externality because they tend to blame the environment rather accepting that the changes can be made within themselves and also believe the luck factor rather than hard work. AWS exhibited low confidence in approaching different situations and findings of both the scores indicated that personal belief and self-efficacy is inter-related to each other.

The present study supports the finding of Dharitri (1985). The author investigated the therapeutic improvements in AWS within the age range 18 to 24 years in relation to their locus of control and they found direct relationship between internality and therapeutic progress made by the participants as AWS who had scored high internality showed more benefit from therapy. Also, it has been reported that a low motivation level may relate to an external locus of control in individuals with stuttering. Another study which supports the current findings by Rajarathnam (1979), also found a significant and

positive correlation between internality and achievement motivation and stated that a good motivation level is an important aspect in therapeutic progress, especially in individuals with stuttering.

Comparison between AWS who attended therapy and AWS who did not attend therapy scores were not significant in both SEA-scale and LCB scores. Both the groups exhibited low confidence and externality behavior but no difference existed between clinical groups. This is because the duration of therapy taken by each individual varied between 11 sessions to 36 sessions and few were still attending the fluency treatment which didn't affect the personality belief of individual. So, this finding suggests that therapy need to be effective in changing the individual behavior for a better outcome. In consensus with our study, Ginsberg (2000) investigated the three psychological constructs such as "shame", "self-consciousness" and "locus of control" for predicting three behaviours such as "struggle", "avoidance" and "expectancy", on 19 adults with stuttering. The results revealed that the factors of shame and self-consciousness were found to be significant psychological predictors of stuttering dimensions whereas locus of control was not found to be a predictor. In addition, De Nil and Kroll (1995) also stated that LCB failed as a predictor of treatment outcome.

Another comparison between SEA-scale and LCB SCORES were made across severity. It revealed that mild stuttering group was better in SEA-scale and LCB score than compared to moderate and severe stuttering severity group. The mild group had almost similar score to that of AWNS group which indicated internality behavior. This is because of the less negative experience of stuttering in mild group made them less affected in personal belief and motivation levels. Hence, the score was almost similar that

of control group participants. Tanu and Pushavathi in 2013 studied the effect of stuttering severity on LCB. They found that very mild stuttering had low scores indicating internality which is followed by mild, moderate and then severe degree of stuttering. The results of the above findings provided an insight of considering stuttering severity as one of the variable while focusing on LCB.

The present study revealed strong negative correlation between SEA-scale and LCB scores. It can be interpreted as PWS who has increased externality experiences low confidence level across the situations. The results obtained could not be compared to the earlier studies as to our knowledge there are no studies carried out in the literature on LCB and SEA-scale. However, an Indian study by Tanu and Pushpavathi in 2013 considered LCB and OASES. Their finding supports our study as they found negative attitudes towards communication in PWS. A significant correlation was between LCB and impact scores for section 1(general information); section IV (quality life) and overall impact scores. Thus, comparing both the study it can be concluded that if the person has externality behavior he would experience more negative attitude towards communication.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Over the last decade, the stuttering has been studied based on the cause, overt symptoms and techniques to treat the individuals with stuttering. The self-report tests which tackle the information about speech related anxiety in different situations (covert behavior) are limited. The adapted SEA-scale is a self- reported questionnaire which helps the clinician to obtain overall depiction about confidence level.

The present study aimed to explore the combination of LCB and SEA-scale on different group and across levels of stuttering severity. A total of 60 participants in the age range of 12 to 17 years were included in the study. The participants included were adolescents with stuttering and another 30 adolescents without stuttering. All participants in AWS groups were divided based on severity level and also those who attended therapy and who did not attend therapy. The participants were administered with the Locus of control of behavior (Craig et al., 1984) scale along with adapted SEA-scale to determine the individual's external or internal behavior and also both tests were correlated across groups and severity level.

The findings indicated that there was significant difference across SEA- scale scores in all the subscales between AWS and AWNS. This may be due to the fact that AWS exhibit negative attitude towards the communication which were gained as a consequences of difficulties in speaking situations.

The confidence level in AWS who attended therapy and AWNS who did not attend therapy was also investigated. The findings indicated that there was no significant difference across clinical group on the overall score of SEA-scale. It can be due to less

number of sessions attended by most individuals and also intervention was restricted within the clinical setup (conversation and discussion with /clinicians and other individuals with stuttering).   But, in few subscales such as SS2, SS3, SS5, SS4, SS6, SS7 and SS8 there was statistical significant difference were observed. This may be because of the influence of therapy only in particular subscales which were treated by clinicians.

The confidence level across mild, moderate and severe degrees of severity was determined. Findings revealed that as the severity increased the confidence level across communicative situations decreased. This may because of the impact of negative experiences in approaching the few situations. In moderate and severe stuttering severity group had more negative experiences probably due to frequent communication breakdown that made them to exhibit less confidence.

The relationship between SEA-scale and LCB scores on groups and different levels of severity were investigated. In clinical group, there was no significant difference observed for LCB and SEA-scale scores. This may be because of the number of sessions attended could not play a significant role to change the behavior. Comparison of SEA-scale and LCB across stuttering severity levels indicated that as the severity increased the externality behavior also increased. This is because as the individual's acceptance of themselves decreased it resulted in low motivation level and low self efficacy.

In summary, SEA-scale helps in identifying in confidence level across situations in adolescents with stuttering and also helps to examine the treatment effectiveness. For SLP's who rehabilitate the adolescents with stuttering gives complete knowledge regarding particular situation which they feel very anxious to encounter and these

identification of particular situation gives and comprehensive findings for improving the effectiveness of therapy program.

Clinical Implications

The study used adapted SEA-scale on adolescents with stuttering with different degrees of stuttering severity, adolescents who attended therapy and who did not and different personality attributes having either external or internal locus of behavior. The current study focused confidence level in varying communication situations that are in general affected in all individuals with stuttering. The current study provided abundant results to use the questionnaire and also helps Speech Language Pathologist to use the adapted version of SEA-scale for adolescents with stuttering to gathering data on confidence level which is usually not performed during the initial assessment and management. Further the professionals would have better, global and comprehensive understanding of the disorder. This tool might be useful in making the persons with stuttering much more aware of their problems and sensitize them towards understanding the nature of occurrence of stuttering. Based on LCB questionnaire few participants were ranked on external scores and few were ranked on internal scores. The participants who had external locus of control suggest with motivation and do not accept their mistakes rather blame on others. This finding explained about the therapy strategies to achieve an internal locus of control and should be able to take responsibilities for his/her own behavior. The combination of both questionnaires used was complementary to each other and results were effective in gathering information on the negative attitudes of individual of stuttering. This is a preliminary attempt to use Self-efficacy scale and LCB in Indian population with varied degrees of stuttering. This may lead to other researches and its use

in clinical settings. As a part of intervention strategies the confidence level in adolescents with stuttering could be improved by working on the areas of self-efficacy.

Limitations of the study

- The sample size considered in the study was too small for each severity level and also in clinical groups, AWS who attended therapy and did not attend therapy.

- Time consuming, as the questionnaire included 75 questions and might get tired and lose their interest in filling questionnaires.

Future directions

- SEA- scale can be studied by considering large sample size

- SEA-scale can be investigated across gender, Socio- economic status and education.

- SEA-scale can be investigated to document therapy effectiveness

- SEA-scale could be standardized in various Indian languages

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APPENDIX I

ADAPTED SELF-EFFICACY FOR ADOLESCENTS SCALE

(SEA-Scale)

Name   Date
Date of birth   Gender
Grade   Treatment Duration
Clinician   School/college

Instructions

You are asked to consider a list of 75 speaking situations. Even though you may not typically find yourself in some of these situations, indicate how confident you are about entering into and speaking in each situation by placing one of the following numbers after each situation.

EXAMPLE:

SITUATION	CONFIDENCE
1. Lift a 05 pound box above your head.	5
2. Lift a 15 pound box above your head.	4
3. Lift a 25 pound box above your head.	3
4. Lift a 40 pound box above your head.	2
5. Lift a 50 pound box above your head.	3

PRACTISE:

SITUATION	CONFIDENCE
1. Jump over a fence 1 foot high.	_____
2. Jump over a fence 2 foot high.	_____
3. Jump over a fence 3 foot high.	_____
4. Jump over a fence 4 foot high.	_____
5. Jump over a fence 5 foot high.	_____

If you are sure that you understand what you are to do, please respond to the following 75 speaking situations by indicating your degree of confidence in your ability to enter into and speak in that situation. When ranking your confidence use a number from 1 to 5. If you do not feel that you can do a particular speaking task, do not enter a number.

SITUATION   **CONFIDENCE**

1. Talking with a parent about a movie you recently saw together.   ————
2. Talking to a brother or sister at the dinner.   ————
3. Asking a friend to come to your house after school.   ————
4. Asking a parent if a friend can spent the night at your house.   ————
5. Arguing with a brother or sister.   ————
6. Asking a parent if you can spend the night at a friend's house.   ————
7. Asking a friend to help you with your homework after school.   ————
8. Talking with a group of friends as you have lunch at school.   ————
9. Asking a parent for permission to study with a friend.   ————
10. Asking a parent for permission to go to see a movie with friends.   ————
11. Asking a friend to come to your birthday party.   ————
12. Talking with three friends at about a new student in your in your class.————
13. Talking with a group of classmates during a meeting at school.   ————
14. Telling a new friend the names and ages of your brothers or sisters. ————
15. Giving your place and date of birth to an official of your school.   ————
16. Calling your best friend on the telephone just to talk.   ————
17. Telling your teacher at school your name and address.   ————
18. Talking with a grandparent on the telephone.   ————
19. Explaining how to play a new game to a group of friends.   ————
20. Talking with two new people in your class who just began attending your
     school.   ————
21. Talking on the telephone with a classmate about your homework assignment.

                                                                                                           ————

22. Asking a librarian for help in finding a book.   ————
23. Asking a sales clerk about the cost of an item in a store.   ————
24. Telling a police officer your home address.   ————
25. Telling one of your classmates that he or she picked your pencil by mistake.

                                                                                                           ————

26. Arguing with a friend about who gets to go first in a game.
27. Calling a theater to see when a movie starts.   ————
28. Talking to other student at new school.   ————
29. Talking on the telephone with relatives to live in another city.   ————
30. Arguing with two friends about which movie you should see.   ————
31. Taking a telephone message for a brother or sister.   ————
32. Arguing with another student because you let a friend cut in a line in front
     of you.   ————
33. Asking a stranger where the nearest telephone is located.   ————
34. Confronting someone who cuts in front of you in line.   ————
35. Answering a question in class.   ————
36. Asking a question in class.   ————
37. Raising your hand in order to give an answer before the teacher calls on
     someone else.   ————

38. Telling the teacher you were not the one who was talking in class. ———

39. Introducing yourself to a group of new students at your school. ———

40. Asking someone in a group of five people the correct time. ———

41. Asking a coach of a sports team at school how to join the team. ———

42. Beginning a conversation with a group of three strangers at a party. ———

43. Introducing yourself to a group of five students at a new school. ———

44. Telling a parent that you just broke your neighbor's window with a ball. ———

45. Accusing a friend because you believe he or she copied your homework. ———

46. Asking a stranger for directions to get to a restaurant. ———

47. Taking your turn ordering when you are having dinner in a restaurant with
your family. ———

48. Telling your teacher you do not understand an assignment. ———

49. Answering the telephone at a friend's house. ———

50. Telling a friend that he or she tore a pair of jeans they borrowed from you. ———

51. Asking for directions from someone who is in a hurry. ———

52. Telling an usher at a movie theater that you are old enough to see a particular movie. ———

53. Asking your classroom teacher to move your desk to the front of the classroom.
———

54. Talking on the telephone with a classmate of the opposite sex. ———

55. Questioning a teacher about letting the same student always be first in line. ———

56. Telling a parent about a bad report card. ———

57. Introducing yourself to a new friend. ———

58. Talking to a teacher about something that is bothering you. ———

59. Going to a party when the only person you know is the one giving the party. ———

60. Explaining to a teacher why you were absent from school. ———

61. Giving directions to a group of adults who are driving by your home in a car. ———

62. Explaining to a teacher why you were absent from school. ———

63. Asking an adult if this is the house where your friend lives.

64. Telling a joke to group of friends at a party. ———

65. Leaving a message on someone's telephone answering machine. ———

66. Walking door to door and asking unfamiliar neighbors to buy items you are
selling. ———

67. Explaining to the school principal why you are in that hall during a class. ———

68. Taking part in a spelling contest.

69. Explaining to your school principal why you were sent to the school office. ———

70. Reading a paragraph from a book to the people in your class at school.

71. Reading aloud to a group of seven adults. ———

72. Reciting a poem in your English class. ———

73. Being videotaped when giving a report to your history class. ———

74. Making a five-minute speech in a school assembly. ———

75. Reading an announcement to everyone in your school over the intercom. ———

OVERALL

AVERAGE:

Note: The overall SEA-Scale score is obtained by averaging the scores for all 75 items. Items not checked are scored as a zero.

Clinical Notes:

SUBSCALE 1: Telephone conversation
        9 items: 16, 18, 21, 27, 29, 49, 31, 54, 65
SUBSCALE 2: Argument or conflict with a friend or family
        7 items: 30, 50, 5, 26, 44, 45, 56
SUBSCALE 3: Argument or conflict with a stranger
        4 items: 25, 32, 69, 34
SUBSCALE 4: One-to-one conversation with a family member
        2 items: 1,2
SUBSCALE 5: One-to-one conversation with an authority figure
        6 items: 24, 57, 58, 62, 63, 67
SUBSCALE 6: Group conversation with a known group (informal)
        5 items: 8, 64, 12, 13, 19
SUBSCALE 7: Group conversation with an unknown group (formal)
        7 items: 20, 28, 39, 42, 43, 59, 61
SUBSCALE 8: Formal presentation
        7 items: 68, 70, 72, 74, 71, 73, 75
SUBSCALE 9: Questioning a friend/family member for information/action
        7 items: 3, 4, 6, 7, 9, 10, 11
SUBSCALE 10: Questioning a stranger for information/action
        5 items: 22, 23, 33, 40, 46
SUBSCALE 11: Questioning an authority figure for information/action
        9 items: 48, 52, 55, 66, 36, 38, 41, 53, 60
SUBSCALE 12: Situations involving time constraints
        3 items: 37, 47, 51
SUBSCALE 13: Situations involving memorized or unchangeable content
        4 items: 14, 15, 17, 35

APPENDIX II

DEMOGRAPHIC AND STUTTERING-RELATED INFORMATION

Name: **Age/ Gender:**

Case no.:   **Contact no.:**

Address: **Education:**

Socio-economic Status:

Medical History:

Onset and Development of Stuttering:

1. Age of onset of stuttering:

2. Nature of onset:

3. First noticed by:

4. Early treatment:

   (If **Yes**) Duration and type of treatment obtained:

5. Relapse:

6. Awareness:

7. Variability (situation, language, individuals):

8. Possible cause (familial, environmental, psychological, unknown):

9. Family history of stuttering/ stutterers:

Associated Problems:

1. Any other associated problems other than stuttering: Yes / No

2. If any specify:

Fluency evaluation details:

Stuttering Severity Index (SSI):

Frequency:

Duration:

Physical concomitants:

Total score:

Severity:

Type of dysfluencies:

Secondary behaviours:

Belief about the future of your stuttering:

Importance of speaking fluently:

How helpful was the therapy: