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PSYCHOSOCIAL ISSUES IN ADOLESCENTS WHO STUTTER: AN INTEGRATIVE REVIEW

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ABSTRACT

Stuttering is a disability that affects more than 3 million people in the United States. Speech-language pathologists (SLPs) must work on the stuttering behaviors, attitudes the individual has toward speaking and stuttering and feelings they have developed as a result of living daily with a variable but chronic, life-long problem.

PURPOSE: The purpose of this review was to examine the existing research literature in the area of psychosocial factors and their impact on the lives of adolescents who stutter. This information should assist SLPs working with adolescents who stutter in designing evidence-based, high-quality treatment programs.

METHODS: Using two on-line databases, a comprehensive review was conducted. Eight hundred and seventy-seven articles spanning four decades (published between 1973 - 2013) were included in the search. This resulted in a selection of 12 studies in four broad categories for detailed review, analysis and comparison.

RESULTS: Detailed analyses of the 12 studies were included in the review. This was followed by an analysis and comparison of the studies on multiple variables (e.g., sample characteristics, specific tests/ instruments employed, and outcomes) regarding differences between adolescents who stutter and adolescents who do not stutter.

DISCUSSION: The discussion provides evidence for SLPs to collaborate with other school and health professionals in offering services for adolescents who stutter, as well as advocacy efforts for these individuals on their caseloads. The need for future studies to increase the knowledge base in this area was also discussed.

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Chapter 1

Introduction

Stuttering is an early onset, developmental disorder affecting males more than females, with a high genetic susceptibility, occurring in more than 3 million people in the United States (Felsenfeld, Kirk, Statham, Neale, & Martin, 2000; Guitar, 2013; Manning, 2010; Yairi & Seery, 2011). Although there are varying definitions of stuttering, key components usually include the attitudes, behaviors and cognitions surrounding the moment of communicative disruption. According to Blood (1998),

> *"Stuttering is a multifaceted disorder of perception and production. It is distinguished by a high proportion of with-in speech disfluencies. It is often accompanied by struggle, tension, and concomitant movements. It is a form of speech disfluency described by the speaker as a perceived "loss of control" (p. 161).*

These behaviors, and resulting struggle, attitudes and thoughts about stuttering negatively impact the communication and quality of life for children, youth and adults who stutter (Blood, 1995a, b; 1998; Blood & Blood, 2004; 2007; Blood, Blood, Dorward, Boyle, & Tramontana, 2011; Blood, Blood, Tellis, & Gabel, 2001; 2003; Blood, Blood, Tellis et al, 1998; Blood, Blood, Tramontana, Sylvia, Boyle, & Motzko, 2011). Therefore, it is important to examine and understand the psychosocial sequelae of stuttering and the overall impact this communication disorder has on the quality of life for people who stutter (PWS) across the lifespan. An increased understanding of the multiple facets of

the stuttering coupled with an enhanced knowledge of the ways in which PWS cope and deal with stuttering as a daily chronic stressor should enhance the provision of high quality, evidence-based services by speech-language pathologists (SLPs) and ultimately improved therapeutic outcomes for PWS.

Psychosocial Development During Adolescence

Psychosocial development is a crucial aspect of adolescence. During this developmental process individuals are able to develop, question and preserve their own values and beliefs while trying to "fit them in" to the overall peer and community views and expectations which are influencing their decisions. Psychosocial development is an ongoing process throughout the lifespan. Marcia (2010) describes the adolescent phase as a period of growth, evaluation, and re-evaluation of differing attitudes and beliefs which assist in forming the individual's self-identity.

According to Marcia's model (2010), after successfully realizing one's own identity and having confidence in one's attitudes and beliefs, the next stage of psychosocial development is intimacy. It is vital that individuals form their own identity and are confident and comfortable with their identity before they develop intimacy with another person. Intimacy requires the individual to risk their vulnerability in order to engage in a relationship of trust with another. The individual must be able to empathize with other people and not be self-absorbed. Finally, the individual must develop realistic expectations about their lifestyles based on this period of exploration and change.

Marcia's model also presents four identity levels that individuals experience to arrive at their identity status. *Identity Achievement* was labeled the highest level on his

hierarchy while *Foreclosure, Identity Diffusion and Moratorium* are the other four stages. Individuals on this Identity Achievement level have had the opportunity to engage in many decision-making situations. This experience allows them to be confident and commit to personal jobs and personal goals necessary for adaptive attitudes and behaviors during adulthood. He also suggested that there were specific personality characteristics associated with the four different identity levels. For example, during the moratorium stage, which is also referred to as the "identity crisis" stage during which individuals struggle with life principles and goal direction, personality traits such as anxiety, poor self-esteem, and rejection of authority figures are common. These personality states may cause considerable stress for the adolescent. Additionally, different levels of identity awareness and psychosocial development warrant different ways of thinking. Marcia (1966; 1980; 2010) reported those who reached the Identity Achievement stage were able to successfully problem-solve stressful situations. For adolescents who daily deal with peer pressure, victimization, autonomy issues, decisions about risky behaviors, this stage of analyzing problems and challenges, seeking social support, obtaining correct information and positive reappraisal are crucial to a positive self-identity. In contrast, those adolescents in other stages of Marcia's psychosocial development may not be able to successfully respond to these daily stressful situations with positive outcomes. The individual who has achieved higher status on the identity hierarchy is more likely to think about cognitive and behavioral tasks using comprehensive, far-reaching and systematic methods. For example, a person with Identity Achievement would be able to think of multiple solutions to solve a problem, while an individual who is considered to be an

Identity Diffusion will either not be able to come up with a solution, or may ask someone else to provide them with the solution. Although this may be a short-term solution, the adolescent needs to develop these skills to successfully cope with major stressors and even minor hassles in his or her daily life. According to Newman and Newman (2011), this developmental pattern for adolescents has specific implications for dealing with problems and developing adaptive coping mechanisms. Adolescents transition through these stages with obvious stress but many manage to adapt successfully in developing a strong sense of self and healthy personal relationships. Some adolescents struggle through this period of growth and may even become paralyzed by specific episodes (e.g., death of a friend, social isolation by peers, victimization and bullying, social stigma due to disability or disease).

Stress and Adolescence

Adolescence is a crucial time of development between childhood and adulthood. It is a time where the individual is faced with the challenge of determining his or her own sets of attitudes and beliefs. The individual is going through a series of biological, cognitive, psychological and social changes which will help to define their adult self and identity. This is a developmental period characterized by changes in identity separation from family and parents, a new sense of belonging to other groups and the development of healthy relationships (Erickson, 1980). However, the inability to develop adaptive coping strategies for problems, stressors and challenges during this time may set the stage for a lifetime of maladaptive coping and poor quality of life (Newman& Newman, 2011). Frydenberg (2008) suggests there are many sources of stress during adolescence. The

three main sources of stress include: a) success in academics and future endeavors, b) relationships with family and friends and c) social problems (e.g., environmental issues, low socioeconomic status, and concern for others less fortunate). These stressors may become obstacles for some adolescents learning to develop adaptive skills for general well-being and positive self-esteem.

Lazarus and Folkman (1984) defined psychological stress as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 19). This relationship is filtered through what they referred to as the cognitive appraisal process. In their classic 1984 work, they categorized the cognitive activity that occurs between encountering a situation and the individual's reaction as "cognitive appraisal" and stated it was at the core of understanding human stress. Lazarus and Folkman identified three types of appraisals: primary, secondary and reappraisal. Primary appraisal addressed the question: "Is this a harmful situation?" The individual appraised the situation as: a) irrelevant, b) benign-positive, or c) threatening. Based on the outcomes of the cognitive process, a secondary appraisal could be made, which consisted of addressing the question: "What must I do at this time to change this situation?" If the situation was appraised as benign-positive (a positive outcome was expected) or threatening or challenging, specific actions could be employed. If anytime during this situation and the person's reaction, new relevant information was acquired, then the third type of process of appraisal (reappraisal) was immediately made resulting in new tactics or option in how to respond. When an individual either misperceived the threat, was

unable to consider options, or not capable of processing new information, Lazarus and Folkman identified them as "vulnerable." Individuals who were vulnerable to stress were unable to access, develop, or use any coping resources. The short- and long-term negative effects of stress on adolescents are reported in the literature (Antonovsky, 1987; Bouma, Ormel, Verhulst, & Oldehinkel, 2008; Byrne, Davenport, & Mazanov, 2007; Charbonneau, Mezulis, & Hyde, 2009; Lerner & Steinberg; 2009; Hampel, & Peterman, 2006; McLaughlin & Hatzenbuehler, 2009; Moksnes, Byrne, Mazanov, & Espnes, 2010).

Frydenberg (2008) described stress in adolescents as a perceptual imbalance between events and resources. She stated that stress for adolescents existed on a continuum from the perception of having nothing to do ("underload" or boredom) to having too much to do ("overload" or excess demands) while not having the resources to deal with situations on the continuum adequately. Many adolescents develop social support groups, positive peer relationships, effective problem solving skills, optimistic reframing and multiple successful ways to deal with this perceptual imbalance between events and resources. These skills are learned through trial and error and positive outcomes generate continued use and access to these resources. In a similar manner, the use of strategies of less constructive strategies such as: denial, avoidance, escape, acting out, immediate gratification are also experimented with and can lead to continued use during stressful times. These less constructive strategies are not adaptive in the long-term and often cause problems for positive adult adjustment and general well-being.

According to Frydenberg (2008), stress can be explained in a variety of ways. It can be perceived as "acute" or something occurring within a specific time period (e.g.,

having a cold). It can also be described in terms of "stressor sequences," (e.g. dealing with a family divorce) or "chronic intermittent," events with intermittent time intervals (e.g. the stress of winning while participating in a school sport). Finally, it can be described as "chronic" or long lasting (e.g., the stress of living with a disability). In addition, stress can also be described as situational. In this case, the stress only occurs based on the situation (e.g., the student who generally feels stressed only at school, or only at her job, or only when meeting new people).

Coping, Stress and Psychosocial Issues During Adolescence

Hobfoll in 1998 advanced a model of dealing with stress labeled the Conservation of Resources (COR). The COR Model suggests that individuals guard their personal values and identity by conserving their coping resources in anticipation of losing them. The fear of not having enough coping strategies or being able to access their coping resources, which protects their values and identity, when they need them during an upcoming crisis, makes them "hoard" these resources. In a way, the individual begins to conserve and save their resources for the anticipated, proverbial "rainy day". If personal resources are perceived as threatened or scare, according to the model, individuals will experience stress. To prevent this stress, individuals will do whatever they can to maintain and protect their current values and aspirations. Hobfoll (1998) suggests this is best accomplished by planning ahead and accumulating/saving as many coping resources as possible. In some ways this is similar to the individual who reports having a headache but decides not to take any over-the-counter pain medicine. Their explanation for not taking any pain medicine is that the headache will inevitably get worse and they will

"conserve/save" their medication until they really need it. The hidden thinking behind this process is three-fold: a) the pain will increase, b) the individual wants to be able to take something when the pain increases, and c) if the individual takes the medicine too early (makes use of their current resources) it will not be available when they really need it to be effective. The resources described above address a multitude of different things. Resources can range from physical belongings such as a meaningful photograph to more abstract things such as socioeconomic status and specific personality traits like honesty. Importantly, the context of the situation plays a critical role in understanding the definition of resources and being able to conserve or save them for another time. Finally, "energy resources" such as money and power, which can help attain other resources, are another essential component of the resource definition (Frydenberg, 2008).

Stress can be caused by a number of factors. Frydenberg (2008) suggests that one of the most significant causes of stress is loss. For example, when a person loses a parent, they are not just losing a person in their life, but all of the personal and sometimes even financial support/resources that the parent provided. Loss of money, good health, and relationships are other typical examples of loss. Notably, depression is the most common effect of loss. Even though coping strategies are a way to deal with these negative life events, they can also cause stress as well, particularly when the costs of a situation outweigh the benefits, according to Frydenberg (2008). For example, a person attends a four-year university to earn a degree in finance, but the costs of his loans far surpass the money he will eventually make at his job.

Frydenberg also suggests that reevaluating a stressful situation and interpreting the situation as a challenge can lead to conservation of resources using the model proposed by Hobfull (1998). For example, a baseball coach does not play one of his players. In order to combat this stressful situation, the player can evaluate the no playing time as a challenge and therefore train harder to earn a playing position.

Loss is negatively associated with resource attainment. As individuals build and conserve their resources, they are less likely to be negatively affected by stressful situations. Conversely, individuals that are not motivated to attain resources and who have a lack of resources are more likely to be negatively influenced by stressful situations.

Personal appearance is another issue that many adolescents deal with, particularly in girls. An individual's self-esteem is related to how they and others' view themselves. Generally, a person's weight plays a significant factor in perceived appearance and self-esteem. In today's society, the media portrays thinness as ideal for women and high muscle tone for men. Therefore, individuals who deviate from this ideal appearance are spurned by society. The author also mentions that women are more self-conscious about having friendly relationships and how society views them individually.

In a recent study, the author examined adolescents' views on important resources. The study was comprised of 97 females and 75 males ranging in age from 11 to 18 years of age, among three different schools in Australia. Participants were asked to rate importance of resources on a scale ranging from "always" to "never" important. Findings showed that adolescents regarded the following as essential resources: peer relationships,

at least one close peer relationship, sufficient shelter, parental support, sufficient food, self-expression, family stability, independence, monetary means to survive, and humor (Frydenberg, 2008).

When adolescents experience stressful situations, the use of coping strategies can be used to combat or better the situation. Frydenberg (2008) defines coping during adolescence as: "the response to the ongoing cognitive and behavioral demands that are taxing or exceeding the resources of the person" (p. 22). Essentially, it is a way or ways of restoring resources that were lost as a result of a stressful situation. There are four categories of stressors that are associated with adolescents: "traumatic events", such as the loss of a parent or friend; "major chronic stressors," such as poverty; "normative events," such as the start of menstruation in pubertal girls; and "daily hassles," such as waiting in line at the coffee shop. Individuals deal with these stressors in different ways, and it is the way that they deal with them, or not deal with them that classifies them as coping strategies. Additionally, coping strategies can differ depending on the timing and situation, amount of social support, and personal confidence during adolescence

Coping strategies can be classified in two ways according to Frydenberg (2008): functional or dysfunctional. Functional strategies actively face the issue, with or without support from others. Conversely, dysfunctional strategies such as worrying and self-persecution are considered "non-productive" because they do not actively face the issue. "Productive" strategies, a subcategory of dysfunctional strategies, are considered as adjusting positively to the situation," such as when a student accepts the fact that he was rejected from a university, but still does nothing to combat the situation (p. 24).

There are several different types of coping strategies. Communal coping occurs when an individual relies on the community, such as family members or a peer group, to evaluate and deal with stressful situations. Dysfunctional coping, as stated earlier, encompasses worrying and self-persecution. Individuals who exhibit this method typically develop depression, poor self-esteem, low academic achievement, suicide contemplation, and drug abuse. Proactive coping occurs when individuals plan for the future with the intent of achieving success or optimal results. For example, an individual scheduled for a job interview will dress appropriately and review the company's agenda and mission statement to adequately prepare himself to succeed in the interview and subsequently get hired. People who are considered "high achievers" usually exhibit proactive coping. Also, individuals who use proactive coping are less susceptible to stress. These types of coping can have particular importance for adolescents who are trying to cope with daily hassles and stressors. They become even more important for adolescents who are also dealing with the added stress of chronic life-long problems and disabilities.

Rationale and Purpose of the Present Review

As mentioned earlier, stuttering is a developmental problem. However, because four out of every five children who stutter recover with assistance or do not continue into adulthood, adolescence becomes a critical time for these individuals. Blood et al, (2011) indicated that for the 20% of the population who develop a chronic, persistent stuttering disability, adolescence is often the first time they need to confront or deal with the reality of a life-long struggle with the disability. Many children and parents believe the

individuals will outgrow their stuttering but the relapse literature is clear about the unlikely probability of that occurring after the age of 12 years (Ayra, 2013; Craig, 1998; Howell, 2011). A number of studies have been conducted examining the psychosocial factors affecting adolescents who stutter including anxiety, coping, stigma, self-disclosure techniques, self-esteem, and bullying. To date no comprehensive review of these studies has been completed.

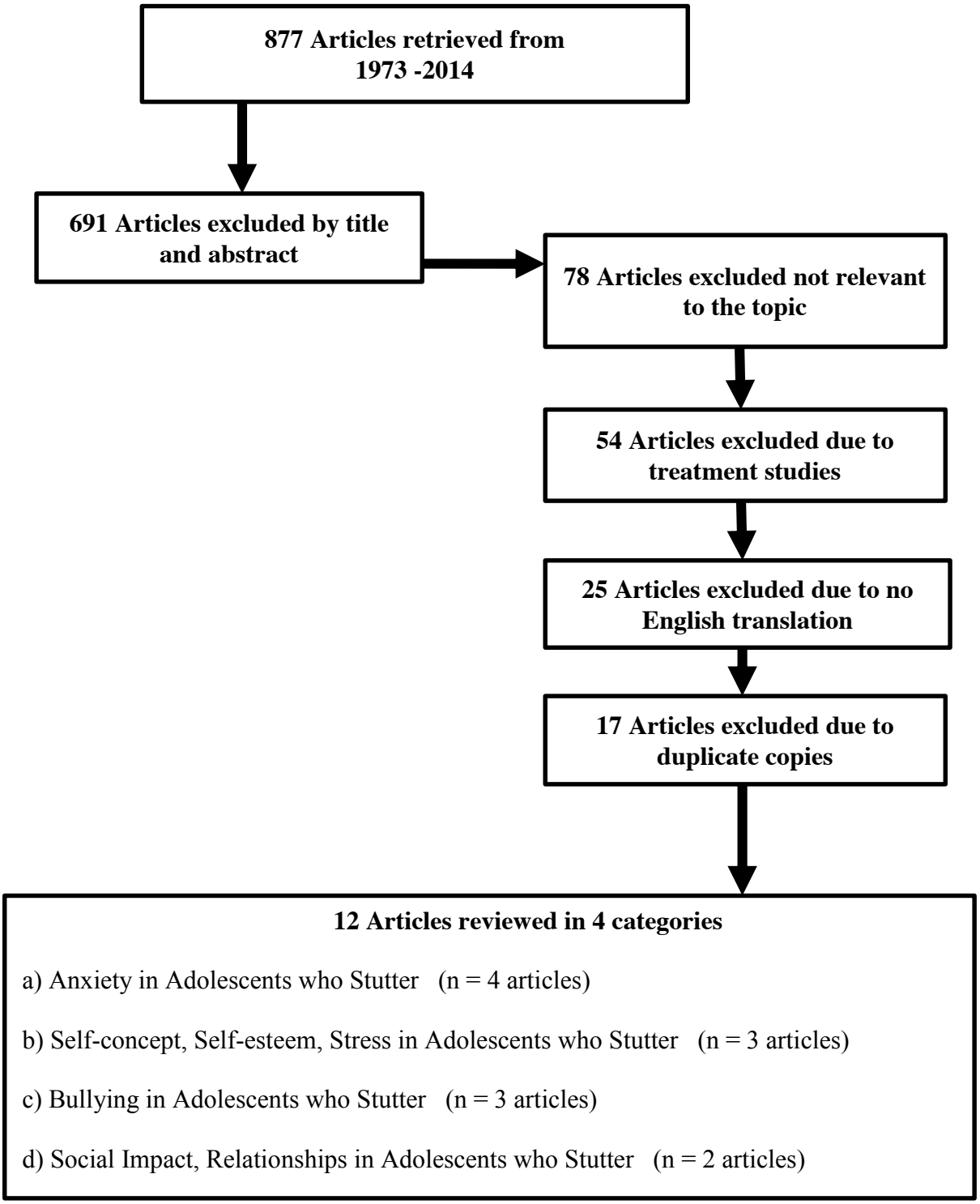
The purpose of this review is to outline and analyze a number of critical studies which showcase the psychosocial (e.g., anxiety, bullying, coping) problems in adolescents who stutter. This paper addresses the critical need for SLPs to be informed and educated in working with these students who stutter. The long range implication of these studies may affect and guide future research in this area and assist SLPs to become more aware of the need to advocate for adolescents who stutter and must deal with not only the behavioral components of their stuttering but also manage the psychosocial consequences of stuttering on a daily basis. SLPs may use the information to provide evidence-based, high-quality services to adolescents who stutter when working on the attitudinal and cognitive components of stuttering.

Chapter 2

Methods

A review of the literature was performed through a search of two data on-line bases (ProEd Multiple Databases and PubMed) for this critical analysis on psychosocial factors in adolescents who stutter. The search process consisted of selecting articles for inclusion which were peer-reviewed using the following key words: “stuttering”, “adolescents”, “adolescence”, “psychosocial”, “stress”, “anxiety”, “self-esteem”, “fear”, “bullying”, “victimization”, learned resourcefulness”, and “coping”. Initially, no date parameters were placed on the search. This resulted in 877 possible articles retrieved for inclusion in the review. This initial review was reduced by 691 articles which were excluded after reviewing the title and abstracts of the articles. The exclusion criteria left 186 articles which were then carefully reviewed for inclusion. Seventy-eight articles were excluded because they were not relevant to the topic of study and 54 were excluded because they had a treatment component as the major focus of the investigations. An additional 25 articles were excluded because they were not written in English (e.g. Japanese, Russian, Polish, German, Italian). This left a total of 29 articles for the review. Seventeen of these articles were duplicates of the same peer-reviewed article leaving a total of 12 articles for inclusion. After obtaining the full text of each article, a systematic review was initiated. Figure 1 presents a graphic overview of this process.

Figure 1. Selection of articles for inclusion in this review.



Chapter 3

Results

Category 1. Anxiety in Adolescents who Stutter

Study 1

In 2007, Blood, Blood, Maloney, et al., created a study to compare anxiety levels and perceived self-esteem for 36 adolescents who stuttered and 36 adolescents who did not stutter. Participants were students who were currently enrolled in grades 7 through 12 in both rural and urban school settings. Participants who stuttered were chosen based on whether they had received prior treatment. Students who had received at least some treatment were the focus of the study. Participants who did not stutter were chosen based on the similarity they had to the group who stuttered in terms of grade, age, gender, and ethnicity. Prior to the commencement of the study, stuttering participants were screened with the Stuttering Severity Instrument-3 (SSI-3) to analyze stuttering severity. The results of this screening indicated that the majority (27.7%) of participants exhibited a "moderate" degree of stuttering severity. The Revised Children's Manifest Anxiety Scale (RCMAS) and the Rosenberg Self-Esteem Scale measured participants' anxiety levels and perceived self-esteem, respectively. Participants were evaluated on an individual basis. Students who stuttered were provided with the Assessment for Fluency Disorders to determine information regarding the nature, onset, self-evaluations regarding their stutter, etc. Speech samples were collected to measure stuttering severity. Additionally, an interview was performed so participants could disclose whether they exhibited co-

occurring disorders. The interview indicated that 44.4% of the stuttering group had other existing disorders.

Results showed that 83% of adolescents who stuttered and 97% of adolescents who did not stutter were consistent with typical anxiety levels of adolescents. Also, the majority of both groups tested as being within normal limits for self-esteem as well. Increased anxiety was exhibited by adolescents who stuttered compared to individuals who did not. However, the adolescents who stuttered who reported increased anxiety were still considered to be in the normal range, but on the more extreme end. There was no significant evidence indicating a difference in self-esteem between those who stuttered and those who did not stutter.. Co-occurring disorders in adolescents who stuttered played a significant role in increasing their anxiety levels. The authors recommended paraprofessionals to avoid the high anxiety and poor self-esteem stigmas previously associated with adolescents who stutter, given their research findings that suggest the majority of adolescents who stutter have typical anxiety levels and self-esteem as their non-stuttering peers.

Study 2

Davis, Shisca, Howell (2007) designed a study to determine whether differences exist between adolescents who persist in stuttering, adolescents who have recovered from stuttering, and adolescents with no prior history of stuttering in relation to personality and anxiety manifestations. For this study, anxiety was divided into two major categories: trait and state anxiety. Trait anxiety is defined as “stable individual differences in the tendency to respond in anticipation of threatening situations” (p. 399). State anxiety is

defined as an “unpleasant emotional arousal in the face of demanding or dangerous situations” (p. 399).

Fifty-seven adolescents (43 males, 11 females) ages 10-16.7 years old from the Speech Research Team at University College London’s database participated in the study. Three children were excluded from the final results due to incomplete responses on the provided questionnaires. All participants were required to be native English speakers. The adolescents who did not stutter were recruited and matched on age and gender, and had no prior history of a language disorder.

Adolescents who stuttered were required to attend an initial interview to collect a 20 minute speech sample. The Stuttering Severity Instrument 3 (SSI-3) was used to rate and determine the participants’ stuttering severity. All adolescents who stuttered were classified as displaying a “mild” stuttering severity. After the interview, adolescents who stuttered were required to attend a rigorous 1 or 2 week speech therapy session.

One year later, participants were re-evaluated to determine whether their stuttering symptoms had persisted. Then, the adolescents who stuttered group was subdivided into two groups: adolescents who persisted to stutter and adolescents who recovered from their stuttering. A questionnaire pertaining to speech performance was provided to the adolescents. A questionnaire regarding speech performance was also provided to the parents of the adolescents to gauge their views on their children’s stuttering. The researchers also evaluated the participants’ and parents’ speech perceptions during a 90-minute, face-to-face house-call interview. State and trait anxiety evaluations were obtained from the State-Trait Anxiety Inventory for Children Scale

(STAI-C) (Spielberger, 1973). Participants were asked to self-evaluate their anxiety in a variety of prescribed situations, (e.g. talking to a friend).

Results showed no difference across the three participant groups for trait anxiety levels. However, significant evidence indicated that higher state anxiety was exhibited most by persisting stutterers, compared to adolescents who recovered from stuttering and adolescent peers who did not stutter (Davis et al., 2007).

The authors concluded that anxiety in adolescents who stutter does not stem from having an anxious personality (trait anxiety), but rather from particular situations that arouse a state of anxiety. These situations vary depending on the individual. Situations which arouse the most anxiety, as indicated by participants, are: "asking for something in a shop, talking to a friend on the phone, and answering a question in front of a whole class," (p.411). Therefore, identifying the cause of anxiety for persons who stutter can be helpful in planning an effective intervention plan.

Study 3

Mulcahy, Hennessey, Beilby, et al., (2008) examined 19 adolescents who stuttered and 18 adolescents who did not stutter (37 adolescents total) ranging from 11-18 years of age to examine a possible relationship regarding social anxiety, severity, and typography of stuttering. The participants in the study consisted of students from different schools in rural and suburban Australia. The student participants were matched by age to either a stuttering or non-stuttering counterpart. Participants were provided with three questionnaires. The first questionnaire, the State and Trait Anxiety Inventory, asked participants to evaluate and rate their own levels of anxiety through a series of 20 questions. The Fear of Negative Evaluation Scale required participants to read 30

questions and contemplate their fears associated with peer evaluations and judgments. The Overall Assessment of the Speaker's Experience of Stuttering Teen Version was the third questionnaire used in the study. This questionnaire allowed stuttering participants to record their self-perceived communication skills with having fluency issues. For this study, this questionnaire was modified to accommodate the fluent participants. Instead of fluent participants reporting their "stuttering" experiences, they were asked to record their self-perceived communication skills. Prior to receiving the questionnaires, participants were screened to evaluate fluency. After the screening, experimenters then administered a ten-minute speech sample from all participants. These samples were used to determine the severity of stuttering of participants and also the type of stuttering they exhibited. Only two types of stutters were present in the sample: word repetitions and sound prolongations.

Results showed that the majority of the participants who stuttered exhibited moderate (47%) to severe (41%) stuttering severity. Additionally, the majority of participants who stuttered had prolongation fluency issues, rather than repetitions. The study found that adolescents who stutter had an increased fear of being negatively perceived by peers, higher anxiety, and poor self-confidence in communication skills, than their non-stuttering counterparts.

Study 4

Gunn Menzies, O'Brian, Onslow, Packman, Lowe, Iverach, Heard, & Block (2013) designed a study to determine anxiety and psychological operations in adolescents who stuttered and were pursuing therapy. They reported that previous research found conflicting findings about anxiety and other mental health issues such as psychological

distress in adolescents who stutter. For example, David et al., (2007) and Mulcahy et al.,(2008) reported adolescents who stutter display higher anxiety levels compared to their peers that do not stutter. However, Blood et al., (2003) reported adolescents who stutter exhibited normal ranges of self-esteem when compared with adolescents who do not stutter. To address this controversy, 37 adolescents who stutter from Australia, 36 males and 1female were recruited. Adolescents were subdivided into two age groups: younger (12-14 years old) and older (15-17 years old) to determine a possible relationship between age and psychosocial differences. Inclusion criteria for the study were: a) stuttering onset prior to 12 years of age, b) actively pursuing therapy, c) previous diagnosis of stuttering by an SLP, d) English proficiency, and e) diagnosis of stuttering confirmed by clinic personnel through speech samples. Adolescents who stuttered were evaluated using a computer program (e.g. Voice DISC) and several questionnaires. In addition, parents/guardians of each participant were also provided with a questionnaire about their adolescent's behavioral, emotional, and social issues for completion. The stuttering severity scale used a 9-point rating scale to assess adolescents' perceived reactions to 8 different speaking scenarios. The Diagnostic Schedule for Children (Voice DISC) evaluated adolescents' mental health states. The Voice DISC consists of a computer program that allows the adolescent to speak into a microphone and analyzes their voice for potential mental health disorders. In addition, a number of scales were also administered. The 49-item Revised Children's Manifest Anxiety Scale, 2nd (RCMAS-2) was used to assess participants' self-perceived anxiety; the Inconsistent Responding Scale was used to determine the reliability of adolescents' responses in order to rule out potential biases; the Defensive scale had subjects rate their degree of

defensiveness for their stuttering; the Children's Depression Inventory (CDI); and the Youth Self-Report (YSR) to evaluate life satisfaction. Parents/guardians of the participants completed the Child Behavior Checklist (CBCL) to evaluate their perceptions of their adolescents' satisfaction with life with stuttering (Gunn et al., 2013)

The Voice (DISC) was completed at one of the University of Sydney's speech clinics. Adolescent participants completed the additional five questionnaires from home and provided their responses to experimenters when they came to the clinic for the Voice (DISC) component. Parents/guardians completed the CBCL questionnaire from their homes as well. Additionally, one week prior to the Voice (DISC) evaluation, adolescent participants received two random 10-minute phone calls from a clinic researcher, who did not identify themselves as a researcher. However, participants were aware and gave consent for their phone conversations to be recorded by the "stranger" to determine fluency levels.

Results indicated that the majority of participants in both age groups were classified as exhibiting "moderate" stuttering severity. While the majority of adolescents did not show signs of a mental health disorder, 38% were determined to have at least one mental health issue (e.g., Tourette's Syndrome). Of those 38%, the majority (71%) displayed symptoms of anxiety disorders. They also reported that a majority of adolescents were not considered "defensive" but among the 38% that were considered defensive, the majority were from the younger adolescent group. There were minimal or no inconsistencies or biases associated with participant responses. Total anxiety, physiological anxiety, worry, competence, and social anxiety were considered to be in the normal range in both the young and older adolescent groups. The majority of adolescents

were considered within normative limits for depression levels. It was shown that a significant difference existed between the older and younger groups on depression and anxiety with the older group displaying greater depression and anxiety scores than the younger group. Finally, the questionnaire pertaining to participants' overall life satisfaction indicated that the older adolescents reported higher reaction scores to their stuttering experiences than their younger group counterparts.

Although the older group experienced more mental health issues than the younger group, they were still within normal limits of their peers. Therefore, the authors concluded that stuttering severity does not play a factor in adolescents who stutter developing anxiety or any other mental health issues.

Category 2. Self-concept, Self-esteem, Stress in Adolescents who Stutter

Study 5

Wallen (1973) reviewed previous studies suggesting that personality played a significant role in influencing stuttering behaviors. He summarized studies including: extent of mother-child relationships, developmental milestone achievements (motor, visual, cognitive, etc.), impact of non-verbal functions and acquisition of verbal skills, anxiety, self-acceptance, and coping processes. He suggested that these studies found that anxiety and poor self-esteem were common traits among people who stutter and that effective treatments could decrease clients' anxiety and promoted positive self-esteem (Wallen, 1973).

To examine these concepts, he designed a study measuring self-concepts (i.e., personal conjectures about oneself) or personalities of adolescents who stutter and adolescents who do not stutter between the ages of 13.5 and 17.5 years from the Boston

area. All participants were enrolled in either public or private schools and were matched by sex, age, IQ score, and economic background. Students were provided with the Q-Technique test to gauge personality and self-concept personal observations. The test was designed specifically for the study and was created with Rogers' (1951) established personality categories in mind. A team of two speech-language pathologists (SLPs) and three psychologists determined the reliability and validity of 225 statements and personality trait categories from the participants. The final Q-Test that was administered to participants included the six personality trait categories: self-acceptance, autonomy, self-loathing, dependence, lack of emotional regulation, and withdrawal.

Results indicated that adolescents who stuttered had lower self-evaluations regarding themselves and how others' view them than adolescents who did not stutter. Additionally, those who stuttered also reported lower self-esteem and autonomy than the non-stuttering peer group. Adolescents who stuttered also reported significantly increased scores on the self-loathing and lack of emotional regulation measures when compared with adolescents who did not stutter. There were no significant differences reported between "dependence" and "withdrawal" for the two groups.

The authors concluded that adolescents who stutter have a lower and negative self-concept compared to their peers who do not stutter. Additionally, adolescents who stutter exhibit a different self-concept, especially associated with personality, than their peers who do not stutter. In particular, adolescents who stutter had lower personal ratings of "self-acceptance" and "independence" and higher ratings of "self-rejection" and "lack of emotional control" than their peers who did not stutter. These findings serve a purpose

to help SLPs understand their clients' personality traits to aid them in making an effective intervention program.

Study 6

In 2001, Blood, Blood, Tellis et al., examined 39 adolescents who stuttered and 39 adolescents who did not stutter to determine a possible relationship between stuttering, communication apprehension, and personal communication competence status, using the Personal Report of Communication Competence (PRCA-24) and the Self-Perceived Communication Competence (SPCC) scales. "Communication apprehension is defined as an individual's fear or anxiety (real or anticipated) about speaking to one or more individuals," (Blood, Blood, Tellis, et al., 2001, p. 162). The results of the study are based on the results of the PRCA-24 and the SPCC. Adolescents who stuttered reported experiencing more feelings of communication apprehension than their non-stuttering peers. Results also showed that adolescents who stuttered did not consider themselves to be communicatively competent or have the necessary communication skills to communicate successfully with others. The authors suggest adolescents who stuttered reported higher levels of communication apprehension due to perceived lack of speech skills from perceived personal failures of fluent speech and listeners' negative responses to their stuttering.

The study found consistent results with (Kelso, 1998; Neiman & Rubin, 1991) that adolescents who stutter consider themselves to have poor communication skills and a fear of speaking to others. Specifically, communication apprehension was manifested more in two situations: "Group Discussions" and "Interpersonal Conversations." The consistency of these findings suggests that adolescents who stutter may exhibit low

communication competence and communication apprehension as a concurrent problem with their stuttering (Blood et al., 2001).

Study 7

Blood, Blood, Tellis et al., (2003) examined the self-esteem, perceived stigma and disclosure techniques of 48 adolescents who stuttered. Participants were divided into two subgroups according to age because of previous studies which have suggested that age plays a significant role in self-esteem development. The younger group was comprised of participants ages 13 to 15 while the older group consisted of adolescents between 16-18 years of age.

Participant selection was completed by examining current client records in the Speech and Hearing Clinic at the Pennsylvania State University, and by speech-language pathologists in urban and rural school districts who reported having adolescents who stuttered in their current caseloads. The participants were characterized as having an average stuttering onset of 2.6 months up to 5 years. Additionally, the majority had a stuttering severity on a "moderate" level. Participants were provided with the Rosenberg Self-Esteem Scale (RSES) which measured perceived self-esteem. Stigma and disclosure views were adapted and measured from the Westbrook et al. (1992) study that measured participants' stigma and disclosure responses to epilepsy. The authors modified the questions used in the Westbrook study by replacing the words "epilepsy" with "stuttering" to apply appropriate responses to this study. Before the aforementioned questionnaires were administered, speech and reading samples were given to participants to gauge fluency issues.

Results from the RSES indicated that the majority (85%) of adolescents who stuttered had typical self-esteem as compared to their peers. The results of the stigma and disclosure questionnaires showed that 63% of participants reported that stuttering did not influence their likability. However, approximately 25% of participants reported that their stuttering did in fact affect their likability among peers on occasion. Additionally, the study found a significant difference between the older and younger groups regarding stuttering disclosure. The older group significantly indicated (95%) that they told others about their stuttering. The younger group however, was more reluctant to disclose their stuttering issues.

Since adolescents who stuttered scored within the normative range for self-esteem, it can be concluded that these individuals had positive self-esteem. This was also supported by a previous study by Yovetich et al., (2000). Additionally, the majority of adolescents who stuttered reported that they did not perceive any negative stigmatizations associated with their stuttering, which luckily provided them with minimal or no difficulty in forming relationships with their peers. The lack of stigmatization towards adolescents who stuttered was reinforced from data collected in 2003 from Westbrook et al., who found no significant data associated with individuals with epilepsy and stigmatization. Finally, the Blood et al., (2003) study also indicated that younger adolescents were more reluctant to tell others about their stuttering issues, which reinforced De Nil and Brutten's (1991) finding that adolescents display "avoidant behaviors." Therefore, stuttering is not associated with developing poor self-esteem, and does not lead to negative stigmatization. Also, it should be noted that younger

adolescents are not as likely to disclose to others about their stuttering, as compared to older adolescents who stutter.

Category 3: Bullying in Adolescents who Stutter

Study 8

Blood and Blood (2004) conducted a study using school-aged adolescents between the ages of 13 and 18. Two groups were compared in this study: 53 adolescents who stuttered, and 53 adolescents who did not stutter. The goal of the study was to determine the "perceived communicative competence, self-esteem, and vulnerability to bullying," (p. 69). Data were obtained through participant responses of the following scales: the Life in Schools (LIS) checklist, the Rosenbaum Self-Esteem Scale (RSES), and the Self-Perceived Communication Competence (SPCC) scale. Results indicated that 43% of adolescents who stuttered had an increased likelihood of being bullied. Adolescents who did not stutter only had an 11% risk of victimization. Other findings indicate that 57% of the adolescents who stuttered reported citing a lack of communication pragmatic skills as a reason for their victimization, while only 13% of their fluent peers reported this as an issue. The lack of communication pragmatic skills attributes to low self-esteem in adolescents who stutter, and thus makes them more susceptible to bullying The authors concluded that adults, especially family members, school staff, and paraprofessionals, working with adolescents who stutter should be aware of the risk of bullying associated with stuttering and be prepared to implement intervention strategies if necessary.

Study 9

Previous studies have reported that children who stutter are more likely to be victimized by their peers. Blood and Blood (2007) examined 18 children who stuttered and 18 children who did not stutter to determine a possible relationship between stuttering, bullying, and increased anxiety. Participants were selected through two mediums: speech-language pathologists who identified as having a child or children who stuttered in their caseload, and through advertisement at the Speech and Hearing Clinic at the Pennsylvania State University. Non-stuttering participants were selected from different local schools based on their similarity in age, gender, and ethnicity to the stuttering participants. All participants were between 11 and 12 years of age and male. Speech samples were used to determine participants' stuttering severity and typology. The majority of participants (45%) were classified as having a "moderate" stutter. Additional assessments were administered to determine participants' stuttering histories, such as age of onset and developmental progression. Following initial diagnostic assessments, participants were assessed using the Life in School and Revised Children's Manifest Anxiety Scales. The Life in School Scales measures types and frequency of victimization. The Revised Children's Manifest Scale assesses self-perceived frequency and type of anxiety.

Results indicated that 61% of participants who stuttered were victimized more frequently than their non-stuttering counterparts. Additionally, 28% of participants who stuttered were classified as experiencing high levels of anxiety, compared to 6% of individuals who did not stutter. A significant positive correlation was found between students who reported frequent bullying and high anxiety.

The authors found similar results to their previous study in 2004 which indicated that individuals who stutter are at higher risk of being bullied than their non-stuttering peers. In this new study, the authors found that individuals who are bullied because of their stuttering also tend to experience higher levels of anxiety than individuals who do not stutter. However, Blood and Blood indicated that the etiology of this increased anxiety is unknown. It could be a result of individuals being victimized or it could be a result of negative social interactions stemming from communication apprehension (Blood & Blood, 2007).

Study 10

In 2011, Blood, Blood, Tramotana et al., (2011) studied 54 adolescents who stuttered and 54 adolescents who did not stutter to compare aspects of life approval, life orientation, perceived self-esteem, and victimization rates. Participants were adolescents between 13 and 18 years of age. Selection was based on local speech-language pathologist references to stuttering clients with parental consent. Before stuttering participants took the four prescribed questionnaires, they were screened via a speech sample to evaluate and assure stuttering existed. The speech samples were then evaluated to determine participants' stuttering severity and typology. In addition to the screening, participants were also asked to disclose information regarding the onset and duration of their stuttering condition and developmental milestones that they achieved. The primary screening indicated that 57% of participants exhibited "moderate" stuttering. After the initial screening evaluation, participants were randomly provided with the following rating scales: The Bully Victimization, Rosenberg Self-Esteem, Life-Orientation Revised, and Satisfaction with Life Scales. The Bullying Victimization scale was used to examine

physical and relational violence in relation to bullying perpetration and victimization. Rosenberg's Self-Esteem scale evaluated participants' reactions to positive and negatively worded self-evaluations. The Life-Orientation Scale was used to determine whether participants had positive or negative outlooks on life and the Satisfaction with Life Scale evaluated participants' perceived fulfillment with life.

Results showed that the majority of the participants in the study classified themselves as being victimized for their stuttering. Additionally, the adolescents who were victimized as a result of their stuttering condition reported poorer self-esteem and lower optimistic views and life satisfaction than their non-stuttering/ victimization-free counterparts.

Many negative psychosocial aspects are associated with being victimized, including low self-esteem and a negative overall outlook on life. Other literature has indicated that adolescence is a crucial period in a young person's life; a time where adolescents develop self-concepts and autonomy. Therefore, if adolescents are bullied during this critical time and develop low self-esteem and negative life perspectives, they are at risk of sustaining these psychosocial issues for years to come.

Category 4. Social Impact, Relationships in Adolescents who Stutter

Study 11

Evans, Healey, Kawai and Rowland (2008) examined middle school children's views of peers who stutter. The study was comprised of 64 students in grades six through eight, between 10 and 14 years of age. Participants represented students from two public middle schools in Lincoln, Nebraska. Additionally, all participants were educated in general education class settings, had no history of receiving speech therapy, and had no

history of cognitive or language disorders. Prior to the experiment, participants were evaluated to confirm minimal or no prior exposure to students with stuttering. Participants were shown videos of an unfamiliar student ("the speaker") classified as having a mild stutter. During the video, the speaker told an age-appropriate joke, while looking directly into the camera, to preserve real-life authenticity. The speaker was not permitted to use "minimal secondary coping behaviors," such as wincing, and minimal eye gaze, which could potentially negatively influence peers' perceptions. The speaker read the joke from a predetermined prompt consisting of purposeful stutters. Different types of dysfluencies were employed including: "part-word repetitions," for example (t-t-train), "whole word repetitions," for example (him-him), "audible sound prolongations" such as (ffffew), and "inaudible sound prolongations," such as (father) (p. 207). Four videos were utilized in the study, containing <1%, 5%, 10%, and 14% of stuttering syllables.

Eleven testimonies were created by the authors of the study, with one of the authors as the speech-language pathologist at one of the schools used in the study. These statements were formed with similarity to the Peer Attitudes Toward Children Who Stutter scale. Statements covered a variety of categories, including emotional, behavioral, and cognitive. One example of an affective question from the study is: "I would feel comfortable talking with this boy at school" (p. 208). After viewing the video, participants were asked to use a Likert scale to rate from 1 (strongly disagree) to 5 (strongly agree) the degree to which they agreed with one of the prescribed statements.

Results indicated that as the rate of stuttering increased, students generally had more negative views of stuttering peers. However, statements that were classified as

"affective" were not affected by disfluencies. In other words, students would accept peers who stuttered into their social group, despite having a high frequency of stuttering disfluencies.

As stuttering severity increased, students who did not stutter indicated that students who stutter frequently would have a more difficult time being accepted into peer groups, although the reasoning for this is still unknown. Interestingly, students who did not stutter also indicated that they would feel comfortable talking to and associating with peers who stutter, being indifferent to their frequency of stuttering.

Study 12

In a more recent study, Erickson and Block (2013) examined the effects stuttering has on adolescents and their families in social and communication situations. The study consisted of 36 adolescents ranging from 11 to 18 years of age and one corresponding parent to each adolescent. Participants were all new patients at the Smooth Speech Treatment program at La Trobe University's speech clinic in Australia (Erikson & Block, 2013). Participants were evaluated using several different scales. The Self-Perceived Communication Competence Scale (SPCC) was used to measure participants' own views regarding their communication competence skills. The Personal Report of Communication Apprehension Scale (PRCA) was used to measure participants' perceived fears in social settings, such as in the classroom, and perceived anxiety when speaking with other communication partners, such as peers. A teasing and bullying questionnaire was also administered. The "Stuttering-School" subtest from the Teasing/Bullying Questionnaire for Children who Stutter measured respondents' frequency of being bullied and their subsequent reactions to victimization. The

Stigmatization and Disclosure in Adolescents who Stutter scale probed the views of participants regarding whether they thought there was any type of stigma associated with stuttering. The disclosure aspect of this scale asked participants to report to whom, if any, they confided about their stuttering. In addition to the questionnaires, speech samples were obtained from each participant who stuttered to measure stuttering frequency. A parent questionnaire was administered to the parents of adolescents who stuttered. Parents were asked to consider any possible effect of their child's stuttering. Additionally, parents were asked if their child experienced any effects if they were bullied (Erikson & Block, 2013).

Results indicated that participants developed their stuttering problem between 2 and 14 years of age. Eighty-four percent of participants reported that they received speech therapy prior to the study. On average, participants were evaluated as having a stuttering frequency of 6.9%. Responses from the SPCC and PRCA scales indicated that the majority of the adolescents who stuttered had poor self-esteem in regards to communication competence, and had increased communication apprehension in social settings, especially in a public speaking situation (80%). Stuttering severity did not play a significant role in communication competence and communication apprehension reports. Approximately 53% of participants reported that they were victims of bullying because of their stuttering. Of those that reported they were bullied, 63% stated that they were bullied fewer than once a week, and 37% reported weekly victimization. The type of bullying reported was primarily verbal, particularly having their stutter imitated (90%). Victims of bullying typically reported feelings such as depression, anxiety, and an unwillingness to attend school. Overwhelmingly, 70% reported that the bullying

negatively affected their self-esteem, and 47% stated their schoolwork also suffered. Participants disclosed their victimization to their parents nearly 90% of the time, but at a minimum of one time. Over 50% of participants indicated that their stuttering "never" had any negative implications on their social relationships and likability. However, 56% of participants indicated they "rarely" disclosed or talked about their stuttering. Sixty-nine percent of parent respondents reported their child's stuttering condition to have a "moderate" effect on their family, and 70% reported that stuttering had a "moderate" effect on their stuttering child.

The authors concluded that adolescents who stutter typically view themselves as having low communication competence, have increased communication apprehension, and experience more victimization than their non-stuttering peers. Additionally, those who stutter tend not to disclose that they stutter to others.

Chapter 4

Critical Analyses, Comparisons and Implications for SLPs

Research on adolescents who stutter and its implications has come a long way in forty years. In the 1973 study, Wallen employed only male participants and only one method of measurement to obtain information about personality characteristics of adolescents who stutter. In contrast, Gunn et al., (2013) incorporated males and a female, categorized participants into older and younger cohorts, and used eight measures to determine anxiety and psychological factors in adolescents who stutter who were pursuing therapy.

Some interesting positive results can be extracted from the data for adolescents who stutter. First, Blood et al., (2003) found that stuttering was not associated with developing poor self-esteem or being negatively stigmatized by peers. Evans et al., (2008) reported that children who did not stutter would feel comfortable associating with children who stutter regardless of their stuttering frequency and Gunn et al., (2013) indicated that stuttering severity did not play a significant role in adolescents who stutter developing anxiety or any other mental health issues. Similarly, Blood et al., (2007) asserted that SLPs and other professionals might not assume that adolescents who stutter suffer from the stigma of high anxiety and low self-esteem reported in earlier research like Wallen (1973). The data also suggested that adolescents who stutter, similar to adults, are a very heterogeneous group and that subgroups or clusters of adolescents might exist with these problems.

Unfortunately, other studies reviewed reported less positive findings about the psychosocial skills of adolescents who stutter. Beginning with Blood et al., (2001), they found that many adolescents who stutter consider themselves to have poor communication competence and communication apprehension when speaking with other communication partners. In particular, communication apprehension was manifested the most in peer group discussions and interpersonal conversations. Mulcahy et al., (2008) also reported perceived poorer communication skills in adolescents who stutter.

Davis et al., (2007) found that adolescents who stutter experienced anxiety in certain individualized situations (state anxiety), for example, asking for something in a store, talking to a friend on the phone, or speaking in front of a roomful of peers. This reported anxiety was not rated as a natural state or present all the time (trait anxiety) but rather was elicited by certain situations which triggered this anxiety response. This finding was in agreement with an earlier study by Blood et al., (2003) which asserted that stuttering does not cause high anxiety. As Davis et al., (2007) suggested, although no direct relationship between trait anxiety and stuttering could be posited, the context of the situation appeared to present a differential anxiety response for each individual.

Poorer communication skills also appear to cause problems for adolescents who stutter. Blood and Blood (2004) found that lack of appropriate communication and pragmatic skills in adolescents who stutter was related to lower self-esteem. Interestingly, lower self-esteem is also a characteristic of targets for victimization and bullying during adolescence. In a follow-up study, Blood and Blood (2007) showed that children who stutter are at a higher risk for being bullied and experience higher levels of anxiety compared to their peers who do not stutter. They suggested that these poorer

communication and pragmatic skills, accompanied with lower self-esteem, and likelihood to avoid communication interactions due to negative responses could actually place adolescents who stutter at greater risk of being targets for bullies. Similarly, Evans et al., (2008) found that children who do not stutter perceived children who do stutter to have a difficult time developing peer relationships. These peer relationships are critical in reducing bullying and victimization in all children, especially those with communication and social disabilities. In a replication and extension of the Blood et al, (2003) study, Erickson and Block (2013) reported similar findings in a group of Australian children nearly a decade later. Erickson and Block (2013) showed that adolescents who stutter view themselves as having low communication competence, increased communication apprehension, and a high risk of being victimized compared to their peers who do not stutter. Importantly, adolescents who stutter did not disclose that they stuttered to others. For SLPs working with adolescents who stutter this finding is particularly meaningful. It appears that not disclosing stuttering could have two opposite interpretations: a) stuttering has little stigma and does not bother adolescents who stutter and therefore does not need to be discussed, or b) the negative stigma of stuttering becomes so evident during adolescence that "hiding" stuttering becomes an effective strategy to dealing with negative stereotypes, teasing, bullying and associated pubic stigma. This is even more important for SLPs as many therapies use "anti-avoidance" treatment which requires adolescents who stutter to confront and acknowledge his or her stuttering (Guitar, 2013). This type of intervention could be very counterproductive or even threatening to adolescents who stutter while they are trying to escape and hide their stuttering from peers.

Blood et al., (2011) reiterated that adolescence is a crucial period in an individual's life. It is a time where the individuals develop their own self-concepts and autonomy. However, for adolescents who stutter who may be bullied, harassed and ridiculed due to their stuttering, this time can be an especially difficult time. The authors found that adolescents who stuttered and were bullied were more likely to report lower self-esteem and an overall negative outlook on life satisfaction.

Summary

Although stuttering is not found to be associated with increased anxiety or poor self-esteem, these negative psychosocial factors reported might be caused by the repeated negative social and communication interactions adolescents who stutter are experiencing daily and sometimes hourly. A situation that causes apprehension for the adolescent who stutters (e.g., talking to someone over the phone) may result in perceived poorer communication skills by both the adolescent who stutters and the communication partner. Additionally, if an adolescent who stutters appears anxious or displays poor self-esteem they are more likely to be perceived as weaker and more vulnerable thereby making him or her a target of bullies. This type of victimization during the adolescent period is detrimental for developing adaptive long-term adjustment and general well-being. Working with adolescents who stutter is challenging and rewarding for a number of reasons as this may be the first time the individual becomes aware that they are living with a life-long chronic disorder. For the first time in their lives, adolescents who stutter come to realize that the stuttering is not going away and that seeking assistance and strategies for reducing the severity and dealing with the disorder become important. At a

time when adolescents are embracing “sameness”, trying to find effective ways to “fit-in” and connect with peers, stuttering presents a monumental challenge.

From peer relationship building, the need to develop and express their own self-identity, the possibility of victimization and bullying, and the need to approach (not avoid the stuttering disorder), the adolescent who stutters requires the guidance and assistance of highly trained SLPs. The data reviewed and critiqued for this paper suggests that evidence-based practices using the most current research can guide SLPs in making informed assessments about not only communication factors but also psychosocial factors for adolescents who stutter. Stuttering is a complex and multifaceted problem and SLPs providing evidence-based treatment services must address the behavioral, affective and cognitive factors associated with stuttering especially during adolescence. During this critical period of development, SLPs can assist adolescent who stutter develop not only adaptive communication strategies but also life-long psychological coping mechanisms.

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Appendix

#	Author Group	Participants	Age	Gender	Stuttering Severity	Sample Criteria	Instruments	Purpose	Results	Outcomes
1	Blood et al., 2007	36 adolescents who stuttered (AWS) 36 adolescents who did not stutter (AWNS)	12.8-18.7 years	30 males 6 females	27% of participants had a "moderate" degree of stuttering	AWS had to have received therapy. AWNS matched participants who stuttered in grade, age, gender, and ethnicity	Stuttering Severity Instrument 3 (SSI-3), Revised Children's Manifest Anxiety Scale (RCMAS), Rosenberg Self-Esteem Scale, Assessment for Fluency Disorders, Speech Sample, Interview	Compare anxiety levels in AWS and AWNS	83% of AWS and 97% of AWNS were within normal limits on the anxiety scale (RMAS). Both AWS and AWNS had typical self-esteem levels. AWS did have higher anxiety than AWNS, but both groups were within normal limits. There was no difference between self-esteem between AWS and AWNS.	Professionals should avoid high anxiety and low self-esteem stigmas previously associated with AWS.

2	Davis et al., 2007	57 participants recruited 3 were excluded due to incomplete assessments 19 participants did not have a stutter 35 participants had a stutter, 18 of which exhibited persistent stuttering and 17 had recovered from stuttering	10-16.7 years	43 males 11 females	Majority were classified as having a "mild" stutter	All participants had to be native English speakers. Those that did not have a stutter, had to have no prior history of having a language disorder.	Interview, Stuttering Severity Instrument 3 (SSI-3), therapy session, questionnaire pertaining to speech performance, State-Trait Anxiety Inventory Scale (STAI-C)	Determine differences between adolescents who have persistent stuttering, adolescents who have recovered from stuttering, and adolescents who did not stutter in relation to personality or anxiety manifestations	No difference between the 3 groups with trait anxiety. Higher state anxiety was exhibited more by participants that had a persistent stutter, compared to participants who had recovered from stuttering and the non-stuttering groups.	Anxiety in AWS is a result of state, or situational situations rather than innate trait anxiety. Situations that elicit the most anxiety for AWS are: asking for something in a store, talking to a friend on the phone, or speaking in front of a room full of classmates. Identification of the source of anxiety can help SLPs when planning intervention strategies.

3	Mulcahy et al., 2008	19 AWS 18 AWNS	11-18 years	18 males 1 female	47% exhibited moderate stuttering 41% exhibited severe stuttering	Participants were matched according to age	State and Trait Anxiety Inventory Scale, Fear of Negative Evaluation Scale, Overall Assessment of the Speaker's Experience of Stuttering Teen Version Scale, Speech sample	Examined possible relationship regarding social anxiety, severity, and typography of stuttering	47% exhibited moderate stuttering. 41% exhibited severe stuttering. Majority of AWS exhibited prolongation stuttering. AWS had an increased fear of being negatively perceived by peers, higher anxiety, and poor self-confidence in communication skills than AWNS	AWS have an increased fear of being negatively viewed by their peers, higher anxiety, and lack of confidence in communication skills, than AWNS.
4	Gunn et al., 2013	37 AWS	2 age groups: Older: 12-14 years Younger: 15-17 years	36 males 1 female	Both age groups exhibited moderate stuttering severity	Stuttering onset prior to age 12, actively pursuing therapy, previous diagnosis of stuttering	Speech sample, Voice DISC, Revised Children's Manifest Anxiety Scale: 2nd Edition (RCMAS-2), Inconsistent	Determine anxiety and psychological operations in AWS who are pursuing therapy	Majority of AWS did not show signs of a mental health disorder. 38% did have at least one mental health issue. Of those	Stuttering severity did not play a significant role in AWS developing anxiety or any other mental

						by SLP, English proficiency, diagnosis of stuttering confirmed by clinic personnel	Responding Scale, Defensive Scale, Children's Depression Inventory (CDI), Youth Self-Report (YSR), Child Behavior Checklist (CBCL)		38%, 71% displayed symptoms of anxiety disorders. Majority of AWS were not classified as "defensive," but of the 38% that were, were mainly from the younger AWS group. Total anxiety, physiological anxiety, worry, competence, and social anxiety were all within normal range with both groups of AWS. Majority of AWS did not show signs of depression. The older AWS group showed higher rates of	health issues.

									anxiety and depression than then younger AWS group. Older AWS group had higher life satisfaction than younger AWS group.	
5	Wallen , 1973	Adolescents who stutter and Adolescents who do not stutter	13.5-17.5	Males	Not evaluated	Participants were matched by: age, sex, IQ score, and SES status	Q-Test	To study the self-concepts and personalities of adolescents who stutter and adolescents who do not stutter.	Adolescents who stuttered had lower self-evaluations regarding themselves, lower self - esteem and lower autonomy than adolescents who did not stutter. Increased self-loathing and lack of emotional regulation was also reported in adolescents who stuttered	Adolescents who stutter have lower and more negative self-concepts than their peers who do not stutter. Self-concept associated with personality is also different between adolescents who stutter and adolescents who do not

									by not by adolescents who didn't stutter. There was no difference in "dependence" or "withdrawal" for the two groups.	stutter.
6	Blood et al., 2001	39 AWS 39 AWNS	13-18 years	33 males 6 females	56% were classified as having a moderate stutter	No grade repetition, not placed in a special education setting, no history of chronic physical or psychological disabilities, and no history of chronic truancy	Stuttering Severity Scale 3 (SSI-3), Personal Report of Communication Competence (PRCA-24), and Self-Perceived Communication Competence Scales (SPCC)	Determine a possible relationship between stuttering, communication apprehension, and personal communication competence	AWS experienced more feelings of communication apprehensions than AWNS. AWS did not perceive themselves as being communicatively competent compared to AWNS.	Results were consistent with previous studies which indicated that AWS consider themselves to have poor communication competence and communication apprehension when speaking

										with other communication partners. Communication apprehension was manifest most in group discussions and interpersonal conversations. Low communication competence and communication apprehension may be concurrent problems for AWS.
7	Blood et al., 2003	48 AWS	Divided into 2 age groups	38 males 10 females	39.6% were classified as having a	No grade repetition, not placed in a special education	Speech and reading samples, Rosenberg Self-Esteem	Examined self-esteem, perceived stigma, and disclosure	85% of AWS had typical self-esteem compared to their peers.	Stuttering is not associated with developing

			Younger: 13-15 years Older: 16-18 years		moderate stutter	setting, no history of chronic physical or psychological disabilities, no history of chronic truancy, and currently enrolled in therapy	Scale (RSES), and adapted scale from Westbrook et al., 1992 study.	techniques in AWS.	63% of AWS reported that their stuttering did not influence their likability. 25% of AWS did report that their stuttering impacted their likability on occasion. 95% of the older AWS group told others about their stuttering. The younger group was more reluctant to disclose to others about their stuttering.	poor self-esteem, and does not lead to negative stigmatization. Younger adolescents are not as likely to disclose their issue with stuttering to others than their older AWS peers.
8	Blood & Blood, 2004	53 AWS 53 AWNS	13-18 years	94 males 12 females	40% were classified as having a moderate stutter	No grade repetition, not placed in a special education setting, no history of chronic physical or	Stuttering Severity Instruments for Children and Adults, the Life in Schools Checklist (LIS),	Determine self-perceived communication competence, self-esteem, and vulnerability	43% of AWS had an increased likelihood of being bullied, compared to an 11% chance for AWNS. 57% of AWS	Lack of communication pragmatic skills leads to low self-esteem in AWS, which makes them a target for

						psychological disabilities, and no history of chronic truancy. Participants were matched by age, grade, gender, and ethnicity	Rosenberg Self-Esteem Scale (RSES), and Self-Perceived Communication Competence Scale (SPCC).	to victimization between AWS and AWNS.	reported a lack of communication pragmatic skills as the reason for their victimization, and only 13% of AWNS reported this as a reason for victimization.	bullies. Parents and professionals should be aware of this risk of bullying associated with AWS and be prepared to implement intervention if necessary.
9	Blood & Blood, 2007	18 Children Who Stutter (CWS) and 18 Children Who Did Not Stutter (CWNS)	11-12years	36 males	45% were classified as having a moderate stutter	Male, no grade repetition, not placed in a special education setting, no history of chronic physical or psychological disabilities, and no history of chronic truancy.	Speech sample, assessments gathering information regarding participants' stuttering onset, and developmental progression, the Life in School Scale, and Revised Children's Manifest	Determine a possible relationship between stuttering, bullying, and increased anxiety	61% of CWS were victimized more frequently than CWNS. 28% of CWS experienced high levels of anxiety compared to 6% of CWNS. A positive correlation between frequent bullying and anxiety was	CWS are at a higher risk of being bullied than CWNS. CWS who are bullied also tend to experience higher levels of anxiety compared to CWNS. The cause of anxiety is unknown and may or may not be

						Children were matched by age, grade, gender, and ethnicity	Anxiety Scale.		found.	linked with the child's victimization.
10	Blood et al., 2011	54 AWS 54 AWNS	13-18 years	AWS: 47males 7 females AWNS: 47 males 7 females	57% were classified as having a moderate stutter	No grade repetition, not placed in a special education setting, no history of chronic physical or psychological disabilities, and no history of chronic truancy.	Speech sample, the Bully Victimization Scale, Rosenberg Self-Esteem Scale, Life Orientation Revised Scale, and Satisfaction with Life Scale	Compared aspects of life approval, life orientation, perceived self-esteem, and victimization rates between AWS and AWNS.	Majority of AWS indicated that they were bullied as a result of their stuttering. The AWS that reported victimization also reported having lower self-esteem, optimistic views, and life satisfaction than AWNS.	AWS who stutter are likely to experience negative psychosocial aspects such as low self-esteem and an negative overall quality of life. Since adolescence is a crucial time for young individuals to develop self-concepts and autonomy, it can be tough for AWS who are bullied to

										overcome the negative psychosocial issues that can result from victimization.
11	Evans et al., 2008	64 CWNS	10-14 years	30 males 34 females	CWNS were shown a video of individuals who were classified as having a mild stutter	Educated in a general education setting, no history of receiving speech therapy, no history of cognitive or language disorders, and minimal to no prior exposure to students with stuttering.	Shown videos of individuals who exhibited a mild stuttering severity, and 11 post-video questions that resembled the Peer Attitudes Toward Children Who Stutter Scale.	Examined middle school students' views on CWS.	As rate of stuttering increased, participants had more negative views of CWS. Stuttering frequency did not have an impact on views of CWS.	CWNS indicated that increased stuttering severity would negatively impact CWS from making friends. However, CWNS indicated that they would feel comfortable associating with a CWS, regardless of the peer's frequency of stuttering.
1	Erikson	36 AWS and	11-18	28	Average	Enrolled in	For AWS:	Examined	Onset of	AWS view

2	& Block, 2013	one corresponding parent to each AWS	years	males 8 females	stuttering frequency was 6.9%	a therapy treatment program. Participants enrolled in the program had to have the following requirements: English proficiency to sustain a conversation, no significant cognitive or learning disability, no severe expressive language disorder, and 2% syllables stuttered as diagnosed by an SLP	Speech sample, Self-Perceived Communication Competence Scale (SPCC), Personal Report of Communication Apprehension Scale (PRCA), "Stuttering School" subtest from the Teasing/Bullying Questionnaire for Children who Stutter, Stigmatization and Disclosure in Adolescents in Adolescents who Stutter Scale. For Parents: a	the effects stuttering has adolescents and their families in social and communication situations.	stuttering occurred between 3-14 years. 84% of participants received speech therapy prior to study. Participants had average stuttering frequency of 6.9%. Majority of AWS have poor self-esteem in regards to their communication competence, have increased communication apprehension in social settings (particularly in a public speaking scenario- 80%), Stuttering severity had no significance in	themselves as having low communication competence, increased communication apprehension , and an increased risk of victimization compared to AWNS. AWS typically do not disclose that they stutter to others.

							questionnaire regarding possible effects of their child's stuttering problem and possible knowledge of their child being victimized was administered.		regards to communication competence and apprehension.53% of AWS reported being victimized because of their stuttering. Of those 53%, 63% were bullied fewer than once a week, and 37% were bullied weekly. 90% reported they were verbally bullied by having their stutter imitated. Victims reported feelings such as: depression, anxiety, and unwillingness to attend school. 70%	

									reported bullying had a negative impact on their self-esteem, and 47% reported it negatively affected their school work. 90% of victims confided to their parents, but only a minimum of one time. Over 50% of AWS indicated that stuttering "never" impacted their likability. However, 56% indicated that they "rarely" disclosed about their stuttering. 69% of parents reported their AWS to have a "moderate"	

									effect on their family, and 70% reported that stuttering had a “moderate” impact on their AWS.	

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