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Self-esteem and Social Anxiety in Children with Communication Impairments

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SELF-ESTEEM AND SOCIAL ANXIETY IN CHILDREN WITH COMMUNICATION IMPAIRMENTS

by

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Abstract

The proposed study will investigate how having a speech and/or language impairment, as well as age, affect children's self-esteem and levels of social anxiety compared to children who have typical language development (TLD). This cross-sectional correlational study will examine approximately 160 participants between the ages of 5 to 10 who fall into one of four communication type groups: speech impairments (speech sound disorders and/or stuttering), language impairments (specific language impairment), speech and language impairments, or TLD. The participants' self-esteem, levels of social anxiety, and attitudes about their communication ability will be measured via established scales. Participants will also be asked questions after viewing an animated video depicting dogs with communication impairments, in order to assess their awareness of their communication abilities. Participants with speech and language impairments are expected to have the lowest self-esteem and highest levels of social anxiety, while participants with TLD are expected to have the highest self-esteem and lowest levels of social anxiety. The older participants are expected to experience more problems than the younger participants. Lastly, it is expected that the relationship between the participants' age, self-esteem, and social anxiety will be mediated by their awareness of their communication impairments, and moderated by their attitudes about their communication impairments. These findings will hopefully increase the knowledge that children experiencing communication impairments may need assistance to aid their psychosocial well-being.

Keywords: children, speech impairment(s), stuttering, speech sound disorders, language impairment(s), SLI, communication impairment(s), self-esteem, social anxiety, awareness

"Everyone push me into the door and everything, get me, get me out of the way. [.
. .] They all push me into that, and Miss tell me off. Miss tell me off about pushing
people" (Owen, Hayett, & Roulstone, 2004, p.6). In a study that interviewed children
with communication difficulties about their experiences at school, this was one child's
explanation of a past experience. Peer conflicts can be quite common for children who
have communication problems. For instance, children with speech and/or language
impairments are more likely to be ignored by their peers when initiating conversations
(Hadley & Rice, 1991), are at a disadvantage when making friends (Durkin & Conti-
Ramsden, 2010), and in turn, have rated themselves as having significantly fewer peer
relationships and as feeling more lonely during school in comparison to their classmates
who have typical language development (TLD; Fujiki, Brinton, & Todd, 1996, as cited in
Marton, Abramoff, & Rosenzweig, 2005). Do these experiences result in children with
speech and/or language impairments developing self-esteem issues and psychiatric
problems? Accordingly, this study aims to examine the following questions: how does
having a speech and/or language impairment affect children's self-esteem and prevalence
of social anxiety compared to children who have TLD? Do the children's ages, as well as
their awareness and attitudes about their communication abilities, affect their self-esteem
and likelihood of a social anxiety diagnosis? Lastly, how do self-esteem and social
anxiety relate?

Speech and Language Impairments

There are various types of speech and language disorders, also referred to as
communication disorders, that a child may be diagnosed with. Therefore, instead of

grouping all of the communication disorders together, it is important to discuss the specific disorders that will be examined in this paper. The two speech disorders that will be investigated are speech sound disorders and stuttering. According to the American Speech-Language-Hearing Association, speech sound disorders are defined as having problems making sounds (articulation) and/or sound patterns (phonological processes) that persist past the specific age when corrections naturally occur. If a child has an articulation disorder, he or she may substitute ("sat" instead of "that"), add ("spagbetti" instead of "spaghetti"), delete ("nake" instead of "snake"), or change ("thun" instead of "sun") one sound for another. If a child has a phonological processes disorder, he or she may substitute certain sound patterns for others, for example, switching sound patterns that are usually made in the front of the mouth with those made in the back ("Child Speech and Language", n.d.). Prevalence estimates of speech sound disorders in children between 5 and 7-years-old range from 2-25% (Law, Boyle, Harris, Harkness, & Nye, 2002). In comparison to speech sound disorders, stuttering is less common. It is estimated to affect 11% of 4-year-olds (Reilly et al., 2013, as cited in "Child Speech and Language", n.d.). Children who stutter display a prolongation or repetition of parts of a word, or the entire word, disrupting the production of their speech ("Child Speech and Language", n.d.).

Language disorders can be classified as either specific or secondary. However, this current paper will focus on specific language impairment (SLI). SLI is diagnosed when language does not develop sufficiently and has no identifiable cause. In other words, SLI is not attributable to brain damage, a hearing impairment, autism, or a learning difficulty (Bishop, 2006). The prevalence of SLI has been reported at 7.4% for

kindergartners within the United States (Tomblin, Records, Buckwalter, Zhang, Smith, & O'brien, 1997). Children with language disorders have trouble with expressive (talking) and/or receptive (understanding) language. Problems with expressive language may result in difficulty remembering words, forming sentences, or understanding how to converse with others. Conversely, problems with receptive language may result in not being able to understand directions or questions aimed towards the child.

Experiencing these communication impairments can be frustrating for children. However, language disorders may result in more problems for children than speech disorders might. Speech disorders—producing incorrect speech sounds, sound patterns, or stuttering—disrupt the flow of speech. However, these impairments do not affect the child's ability to understand others' speech or language directed towards him or her, whereas language disorders may result in the child having difficulty expressing components of language, leading to others having a difficult time understanding what the child is expressing to them. Problems with these expressive skills affect children's ability to initiate conversations with others, as well as their production of efficient responses (Law et al., 2000). Furthermore, problems with receptive skills result in children having difficulty processing language.

Self-esteem

Self-esteem is a subjective construct of how one perceives oneself, which is conceived by their evaluations of their own personal abilities and the internationalization of others' evaluations of them (Jerome, Fujiki, Brinton, & James, 2002 p.700). Thus, the

way in which individuals perceive others' judgments may significantly influence the level of respect they have for themselves and their capabilities.

Changes in self-esteem are prone to arise because individuals may internalize others' reactions towards them. Social interactions, such as receiving negative comments or being subjected to rejection, increase the likelihood of lower self-esteem (Harter, 1999, as cited in Lindsay, Dockrell, Letchford, & Mackie, 2002). Leary et al. (1995) presented the Sociometer Hypothesis, which offers an explanation as to why rejection increases the chances of lower self-esteem, and, in turn, how one can attempt to combat such situations. The hypothesis states that individuals' self-esteem acts as a sociometer that monitors the extent to which they are being excluded or included by others, which drives their behavior in a way to lower their chances of being rejected by others. Leary et al. conducted five studies in order to examine this hypothesis and found that participants' views of whether or not they felt included in a group significantly correlated with their levels of self-esteem. Those who believed that they were intentionally excluded experienced lower self-esteem than those who thought they were excluded by chance. However, those who believed that they were intentionally included in the group experienced higher self-esteem than those who believed that they were included in the group by chance. Overall, Leary et al. determined that self-esteem could fluctuate depending on whether the individual was being included or excluded by others. However, this theory was applied to undergraduate students. Therefore, it is questionable whether it can be utilized with other age groups. In particular, it is unclear whether children would internalize social situations of inclusion and rejection similarly.

Without applying his theory to a particular age group, Charles Horton Cooley (1964/2003) coined the term "looking-glass self" to refer to the social dependence that individuals rely on to formulate beliefs about themselves. According to Cooley, individuals' self-feelings are heavily influenced by what they imagine others' attitudes towards them to be. This process makes the individual a social self who internalizes the attitudes reflected off others. Thus, children, whether they have a communication disorder or not, may misinterpret the way that their peers are treating them, which may lead to lower self-esteem.

Overall, self-esteem has been found to often decrease with age (Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002). In other words, children tend to have higher self-esteem than adults; younger children even have higher self-esteem than adolescents. Substantial evidence suggests that this phenomenon corresponds to the relationship between age and self-assessment. For example, Butler (1990) found that among 5, 7, and 10-year-olds, when assigned to a competitive condition where they had to create a picture in order to beat everyone else's, the 5-year-olds had the most positive self-assessments and usually overestimated their picture, while the older children had less positive and more realistic self-assessments. Similarly, it is quite common for children still within early to middle childhood to possess positive, unrealistic self-evaluations, perhaps due to their limited ability to compare themselves to others (Jerome et al., 2002).

The process of comparing oneself to others is explained by Festinger's (1954) Social Comparison Theory, which argues that people are motivated to evaluate their abilities and opinions, and when they do not have an objective standard to compare themselves to, they compare themselves to other people. This process typically consists

of individuals comparing themselves to those on a similar skill level. Although not consciously, or specifically in Butler's (1990) study, children may be comparing their abilities, whether it be their communication abilities or abilities in general, to their peers, which subsequently lowers their self-esteem if they believe they are inferior to others. However, comparing oneself to another does not always assess self-evaluations. For instance, 5 to 12-year-olds were asked to rate their oral narrative production, which was compared to their actual measured narrative production ability (Kaderavek et al., 2004). The results indicated that older children evaluated themselves more accurately than the younger children. Evidence for younger children's unrealistic self-attainment and self-evaluations can be linked to the cognitive development view point that they do not have the cognitive skills that are needed to accurately interpret their abilities (Nicholls, 1978; Parsons & Ruble, 1977, as cited in Butler, 1990).

Self-esteem of children with communication disorders is a well-studied field, but it is still restrained in certain aspects. There have been conflicting findings on how children's ratings of academic competence and social acceptance, which may predict self-esteem, differ between those with communication impairments and those with TLD. Marton et al. (2005) measured academic and social self-esteem of 7 to 10-year-olds, with and without SLI, and found that the children with SLI had significantly lower social self-esteem, but did not differ in their academic self-esteem. There is further evidence that in comparison to peers with TLD, children with specific speech and language difficulties, who were 11 and 12-years-old, had lower ratings of scholastic competence, as well as lower social acceptance (Lindsay et al., 2002).

Conversely, Jerome et al. (2002) conducted a study to examine self-esteem by distributing questionnaires measuring self-adequacy of five different domains ranging from social acceptance to academic competence, and reported no significant differences between children with and without SLI. However, they did find that older children with SLI had a more negative view of their overall competence than the children who had TLD, which displays the significant role age may play in how children view themselves (Jerome et al., 2002). Similarly, McAndrew (1999) found no differences in self-esteem when comparing children who were 8 to 14-years-old with a standardized sample of children with no language disorders.

To date, most research in this field has focused on children with SLI. The absence of research on the self-esteem of children with solely speech impairments or those with both speech and language impairments needs to be rectified so that measures can be taken to combat possible self-esteem issues. Moreover, previous research fails to examine general self-esteem as a dependent variable, which is an important distinction because studying only portions of self-esteem, like social self-esteem, or predictors of self-esteem, like self-competence, does not provide an overall understanding of how children feel about themselves as a whole.

On one hand, the finding that there is no difference in self-esteem between children with and without communication impairments may be explained by social cognition defects in younger children (Marton et al., 2005). On the other hand, the self-esteem of children with communication impairments may be lower than their peers' because of how they are treated at school. Hadley & Rice (1991) found that preschool children with a speech or language impairment were more likely to be ignored by their

TLD peers and that they responded less when a peer did initiate a conversation with them. Interestingly, there was no significant difference in the number of interactions the children initiated. Ultimately, children may negatively internalize these actions directed towards them, changing the level of respect they have for themselves and their abilities. Applying the Sociometer Hypothesis to this specific example would offer the interpretation that the children's perceived rejection by their peers results in their protective behavior of responding less, to decrease the chances of repeated rejection. Similarly, Cooley may have viewed these outcomes as the child imagining their peers' actions as ignoring him or her, and, as a result, the child reacted by not responding.

Social Anxiety

Social anxiety is estimated to affect 7% of children (Beesdo, Knappe, & Pine, 2009). Previously, this disorder was referred to as social phobia. However, recently the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) renamed it and made some noteworthy criteria changes. Social Anxiety Disorder (SAD) is the strong fear or anxiety of possibly being judged by others in social situations ("Social anxiety disorder (social phobia) DSM-V revisions", n.d.). Unlike past criteria where the individual had to recognize that his or her anxiety was disproportionate to the actual risk, the DSM-V simply states that the fear or anxiety is disproportionate, a judgment that can now be made by the individual or a clinician ("Social anxiety disorder fact sheet", 2013; "Social anxiety disorder (social phobia) DSM-V revisions", n.d.). An individual with social anxiety is worried that others will perceive that his or her self-characteristics differ from social norms, which may result in embarrassment or rejection (Moscovitch, 2009).

Although onset is typically during mid-adolescence, researchers have detected children

around 8-years-old with social anxiety (Beidel, 1998). Symptoms have even been

apparent in children as young as 2-and-a-half years old (Geangu & Reid, 2006). One

possible reason why this disorder has not been recognized as frequently in younger

children is because it is often inaccurately judged as shyness that the children are

assumed to overcome once they get older (Beidel, 1998).

Like other psychiatric disorders, the etiology of SAD is a combination of multiple

factors. These factors are likely to be both internal—genetics, biological, social skills,

cognitive factors, psychological—and external—environmental, such as family

influences, peer influences, poor social skills, or negative social events (Beidel, 1998;

Geangu & Reid, 2006). Accordingly, the anxiety experienced by those with SAD

involves cognitive, behavioral, and psychological elements (Rapee & Heimberg, 1997),

which result in various theories behind its manifestation. Rapee & Heimberg (1997)

presented a cognitive-behavioral model describing the anxiety individuals with social

anxiety experience in different situations. They proposed that individuals with social

anxiety mentally construct a portrayal of how they think others in that social situation are

viewing their behavior and appearance, while also focusing on any recognizable threat in

that social situation. The mental construct is not only comprised of external factors from

others' actions, and internal indications, like physical symptoms, but also encompasses

memories from past experiences (Rapee & Heimberg, 1997). Researchers have also

applied a purely cognitive view to the finding that compared to adults with social anxiety,

children do not typically perceive their fear as disproportionate to the reality (Geangu &

Reid, 2006) or report negative cognitions (Beidel, 1998). This could be related to limited

cognitive skills that do not allow children to recognize their own cognitive processes (Beidel, 1998) or a failure of accurate social cognition that involves the skill to understand and predict others' actions or attitudes (Geangu & Reid, 2006). Research has suggested that early childhood social anxiety is likely to result in nonrecovery in adulthood (Beidel, 1998), which is why it is necessary to identify whether children with communication impairments have a significant prevalence of SAD in order to aid against long-term effects by providing early treatment.

Examining psychiatric problems in adolescents who had childhood histories of communication impairments is a well-established area of study. For example, Beitchman et al. (1996) conducted a study and found that about 19% of children who were deemed to have a speech/language impairment at age 5 were more likely than children with TLD to be diagnosed with an emotional disorder, like anxiety, at age 12. Similarly, compared to nonimpaired children, children who had a language impairment were significantly more likely to experience anxiety as adolescents (Beitchman, Wilson, Johnson, Atkinson, Young, Adlaf, & Douglas, 2001; Conti-Ramsden & Botting, 2008). Beitchman et al. (2001) found that the majority of participants with communication impairments who were measured for rates of anxiety at age 19 had a diagnosis of SAD, but that those who had a speech impairment at age 5 did not have significantly different levels of anxiety at age 19 compared to their peers with TLD. Interestingly, it has been found that individuals with an early history of language impairments were 2.7 times more likely to be diagnosed with social phobia by the age of 19 (Voci, Beitchman, Brownlie, & Wilson, 2006). With the knowledge that communication impairments may result in subsequent

psychiatric problems, detecting these impairments early can help diminish future

problems.

Despite the fact that the above studies gained valuable information on the

outcomes of a childhood history of communication impairments, they failed to mention

whether or not those impairments were resolved or remained when the adolescents were

tested. Furthermore, these studies either only examined a childhood history of language

impairments or neglected to specify whether the results were specific for a childhood

history of just a speech impairment or just a language impairment. Instead, they

combined the children into one group of communication impairments. Therefore, further

research needs to be conducted on children who are currently experiencing

communication impairments, so that they can receive the help they deserve, as well as

identifying the differences in children with only speech impairments, only language

impairments, or a combination of the two. It appears that no studies have specifically

focused on social anxiety in children with speech and/or language impairments. By

measuring the prevalence of social anxiety in children with current communication

disorders, the current study may advance the understanding of their current situations.

Beidel (1998) has suggested that social anxiety may not be recognizable by teachers

because the children who are experiencing it are often quiet and do not cause any

conflict. However, these children may refrain from participating in class activities if their

social anxiety is severe. Therefore, due to the lack of detection and detrimental outcomes

that can arise, research requires a distinct focus on social anxiety.

To date, most research has reported on anxiety disorders in children with

communication impairments, but either failed to mention which type of anxiety disorder

or just focused on one that was not social anxiety. Cantwell & Baker (1987) found in a sample of children with either speech impairments or language impairments, between ages 6 and 15 (with the mean age of 5), that 20% had emotional disorders, and of those, 60% had an anxiety disorder. Likewise, children with SLI were more likely to experience anxiety than those without SLI (Conti-Ramsden & Botting, 2008); however, the type of anxiety was not identified. In addition to the finding that 53% of 19 children with language disorders (age 3-15) experienced anxiety, Baker & Cantwell (1982) also evaluated 108 children with speech disorders (age 2 –15) to find that 21% of them experienced anxiety, as well as 30% of the 164 children with both disorders (age 1-13). Although their study extensively examined the three different types of communication impairments, apparent limitations were present. They did not report what type of anxiety the children were experiencing, and there was no control group to provide an accurate depiction of how children with communication impairments differed from their peers with TLD. In addition, the age range was quite large, making it difficult to know how the results were affected by that confounding variable. The current study is interested in social anxiety during middle childhood because the social component of social anxiety is more likely to significantly relate to children's self-esteem.

Relationship between Self-esteem and Social Anxiety

In general, self-esteem and social anxiety are related (Rosenberg, 1962). However, determining the direction of this relationship is difficult. Rosenberg (1962) identified the trend that those with lower self-esteem are more likely to experience symptoms of anxiety. Correspondingly, research has shown that children with severe

social anxiety report lower global self-esteem and perceive their peer interactions and

social acceptance as more negative compared to children with lower levels of social

anxiety (Ginsberg et al., 1998). Similarly, it has been found that individuals who

experience social anxiety have more frequent negative self-statements and self-

evaluations compared to individuals who do not experience social anxiety (Jong, 2002).

The mental representations of these individuals are likely to be affected by how they view

others in a social situation (Rapee & Heimberg, 1997). Thus, the ways in which these

individuals view others' perceptions of them are likely to affect both their self-esteem

and social anxiety.

Interestingly, researchers tend to focus only on explicit self-esteem (ESE) and

often fail to measure implicit self-esteem (ISE). ESE encapsulates the feelings one holds

about oneself that the individual is consciously mindful of, while ISE refers to the self-

esteem that an individual is unaware of (Greenwald & Farnham, 2000). For instance,

research has shown that adolescents and young adults with SAD simultaneously exhibit

lower ESE compared to those without psychiatric disorders, but have a relatively high

ISE (Jong, 2002; Schreiber, Bohn, Aderka, Stangier, & Steil, 2012). In order to better

study the changing effects of self-esteem that can occur, Farmer & Kashdan (2013) had

participants diagnosed with SAD report their daily self-esteem for a span of two weeks

and found that they experienced a greater instability and generally lower self-esteem

compared to participants without any psychiatric illnesses.

However, it is unclear whether social anxiety results in lower self-esteem, or if

lower self-esteem increases the chances of experiencing social anxiety. On one hand,

there is evidence suggesting that social anxiety affects self-esteem. Anxiety has the

ability to generate feelings of self-contempt and self-hatred (Horney, 1950, as cited in

Rosenberg, 1962), both of which influence one's level of respect for oneself and one's

abilities, in other words, their self-esteem. Tanner et al. (2006) proposed that through the

cognitive model of SAD, these flawed self-views are present only when socially anxious

individuals are within social situations, where they might view others as possibly

judgmental, unfriendly, or belittling. On the other hand, the literature also suggests that

self-esteem influences the anxiety experienced by those with SAD. Greenberg et al.

(1992) stated that high self-esteem seems to control against feelings of anxiety.

Therefore, Greenberg and his colleagues proposed the Terror Management Theory of

Social Behavior, which states that individuals are motivated to maintain positive self-

views in order to protect themselves against anxiety. Similar to the tendency Rosenberg

(1962) proposed, Greenberg et al. (1992) reiterated that threats to self-esteem are likely to

result in anxiety, thus, the protection of self-esteem is likely to diminish anxiety.

Self-esteem and social anxiety may also be affected by outside elements. Social

factors like perception of exclusion and negative evaluations are possible components

connecting self-esteem and social anxiety. In reference to the Sociometer Hypothesis,

anxiety and low self-esteem are thought to be co-factors of perceived exclusion (Leary,

1990, as cited in Leary et al., 1995). This perceived exclusion could be linked to the

negative evaluations that socially anxious individuals believe others make when they are

in social environments. Although children's awareness and attitudes about their

communication abilities have not been studied in relation to self-esteem and social

anxiety, they may explain why children are experiencing these psychological problems.

The interaction between self-esteem and social anxiety in children with speech and/or

language impairments needs to be examined in order to identify their current situations so that help can be provided.

Children's Awareness and Attitudes about Communication Abilities

Younger children who have speech and/or language impairments may not be significantly concerned about or aware of their communication issues. For example, only one out of 21 primary school aged children wished that they did not stutter when they were asked what they would change about themselves (Culatta, Bader, McCaslin, & Thomason, 1985). Similarly, a recent study conducted by McCormack et al. (2010) showed that preschool aged children typically do not have negative feelings about their speech. In their study, children with and without speech impairments were asked how they felt about the way they talked and most indicated that they felt "happy", a couple stated that they were "in the middle", and one responded that he did not know. However, none of the children indicated that they felt "sad". Moreover, only one child was directly aware of her speech problem (McCormack, McLeod, McAllister, & Harrison, 2010).

Those children who did not perceive a problem with their communication abilities illustrate a lack of metalinguistic awareness and metacognition. If children are not aware of their speech and/or language impairments this may explain why they provided positive responses when they were asked about the way they talk. Younger children's underdeveloped metalinguistic skills affect their ability to adequately have metalinguistic awareness, which is the skill that allows one to think about the functionality of language (Ezrati-Vinacour, Platzky, & Yairi, 2001; Pratt & Grieve, 1984). For example, the ability to correct mild language mistakes typically surfaces during the preschool years, while

more complex abilities like correcting grammar do not appear until the early school years

(Ezrati-Vinacour et al., 2001). However, these skills may not emerge at the typical age

for children with language impairments, whose difficulty properly expressing and

understanding language persists past the age where it is typically resolved. Children's

awareness of their speech or language problems is mandatory in order to reflect on and

attempt to repair their mistakes (Clark & Anderson 1979, as cited in Tunmer & Herriman,

1984). The ability to remedy these mistakes requires metacognition, which is the ability

to speculate and analyze one's thought processes through one's recognition of the nature

of cognitive abilities (Pratt & Grieve, 1984). The younger children discussed in the

studies conducted by Culatta et al. (1985) and McCormack et al. (2010) may not have

reached the age where these metacognitive skills are fully developed, thus, resulting in

the lack of consciously being awareness of their stuttering.

Conversely, if children are consciously aware of their communication

impairments, they typically feel negatively about their speech and/or language (Nil &

Brutten, 1991; Vanryckeghem & Brutten, 1997). For instance, in a sample of Belgian

children, those who stuttered held significantly more negative attitudes about their speech

than the children who did not stutter, and these negative attitudes increased with age (Nil

& Brutten, 1991). To date, most research on children's awareness and feelings about their

communication impairments has focused on those who stuttered, failing to include

children with other speech disorders, or those with SLI. It is necessary that studies attend

to multiple types of communication disorders in order to gain information on whether

awareness and attitudes about their communication abilities differ between these groups.

The present study will fill this gap in the literature. Furthermore, attending to the age of

the children is required because it may determine when these metacognitive skills are present, and thus, how they may affect self-esteem and social anxiety. Despite the knowledge that age is an important factor, it remains unclear why some researchers have found no differences in younger children's self-esteem compared to their peers with TLD. Within the empirical research, the failure to identify children's perceptions of, and attitudes about, their communication impairments, may be the cause of the insufficient reasoning behind the conflicting self-esteem findings. Before research on children with communication disorders can be conducted, it is essential to measure the children's awareness of their impairments. However, a lot of research has failed to take this into account. It is necessary for research to attend to children's views of their speech and/or language problems because whether children are aware of these limitations, and how they feel about them, may affect what the researchers are studying.

The Current Study

In this present study, self-esteem and social anxiety in children with speech and/or language impairments are addressed. This research will evaluate children between the ages of 5 to 10 who have only speech impairments, only language impairments, both speech and language impairments, or TLD. A cross-sectional correlational design will be proposed to examine the dependent variables of the child's general self-esteem, social anxiety, awareness and attitudes about their communication abilities during middle childhood.

For self-esteem, it is hypothesized that children with any kind of communication impairment will have lower self-esteem than children with TLD. In addition, children

with both speech and language impairments will have lower self-esteem than children

with only one type of impairment; and children with language impairments will have

lower self-esteem than children with speech impairments. Furthermore, it is hypothesized

that younger children will have higher self-esteem than older children.

For social anxiety, it is hypothesized that children with communication

impairments will be more likely to experience social anxiety than children with TLD. In

addition, children with both speech and language impairments will be more likely to

experience social anxiety than those with only one type of impairment; and children with

language impairments will be more likely to experience social anxiety than those with

speech impairments. It also is expected that older children will be more likely to

experience social anxiety than the younger children.

It is also hypothesized that there will be a negative correlation between self-

esteem and social anxiety for all groups of children. Second, it is hypothesized that there

will be a significant correlation between the awareness and attitudes about

communication abilities. Third, it is hypothesized that there will be a significant

correlation between age and self-esteem, as well as between age and social anxiety.

Fourth, it is hypothesized that there will be a significant correlation between age and

awareness of communication impairments.

Lastly, it is hypothesized that for the participants with communication disorders,

the awareness of their communication impairments will mediate the relationship between

age and self-esteem, as well as the relationship between age and social anxiety.

Additionally, it is hypothesized that attitudes about their communication impairments

will moderate the relationship between age and self-esteem, as well as the relationship

between age and social anxiety. Specifically, it is hypothesized that the older children's attitudes about their communication impairments will have a bigger effect on their self-esteem and social anxiety than the attitudes of the younger children.

Proposed Method

Participants

The sample will consist of approximately 160 English-speaking children (80 girls and 80 boys) between the ages of 5 to 10 from the Los Angeles area. The effect sizes from similar past studies were averaged to result in a proposed effect size of $r^2 = 0.54$ for this study. Power analysis was then used to examine the proposed effect size with an α of .05, power of .80, and the most frequently used statistical tests of factorial ANOVA in similar past studies, to determine the estimated sample size for this study (Cohen, 1992). The children will need to be native English speakers, as the measures in this study will be administered in English. The Los Angeles area is of interest due to the large potential participant pool.

The age range of 5 to 10-year-olds is chosen for this cross-sectional study because past research has focused on early childhood, late childhood, adolescence, or participants ranging from early childhood to adolescence. Therefore, this study will recruit participants who are in middle childhood because this is the time of great developmental growth (McGonigle-Chalmers, 2015). It is anticipated that the majority of the participants will identify as Caucasian and range from being in low to high socioeconomic status (SES). Of these participants, there will be 40 children with speech impairments (speech sound disorder and/or stuttering), 40 children with SLI, 40 children with both speech and

language impairments, and 40 children with TLD; with 20 girls and 20 boys per group. The participants with TLD will act as the control group. The children will have to have not been diagnosed with other disorders, such as autism, attention deficit hyperactivity disorder (ADHD), a hearing impairment, or any major physical or mental impairment that affects their ability to talk.

Participants will be recruited by putting up flyers at and approaching families in pediatric clinics, speech and language therapy centers, and elementary schools. The compensation for the participants will be an entry into a raffle for a family day trip to Disneyland.

Materials

Language Assessment. Three established scales will be used to assess the participants' speech and language. Analysis of the participants' scores from these three measures will determine if they have a speech impairment, language impairment, or both. Participants will be classified as having a speech impairment by their scores on the Test of Language Development (TOLD), while they will be classified as having a language impairment by their scores on all three measures. To proctor these measures, the researcher will state, "Today we are going to talk to each other and look at some pictures".

The Test of Language Development (TOLD). Newcomer and Hammill (1977) created the TOLD to measure language development of 4 to 8-year-olds, but it can be generalized for older individuals. This scale is administered individually to participants and consists of seven subtests to measure various components of a child's spoken

language. These subtests consist of word articulation, word discrimination, picture vocabulary, oral vocabulary, grammatical understanding, grammatical completion, and sentence imitation. The TOLD typically takes 50-65 minutes to complete. However, because this study involves young participants, the items will be cut in half, while ensuring that the same aspects of language that are usually tested are being measured. Therefore, this scale should take approximately 30 minutes to complete. This modification may potentially alter the reliability of this measure. Therefore, ideally, the reliability of this measure would be tested before this proposed study would be conducted. Past evidence (Newcomer & Hammill, 1978) has determined that these original subtests are reliable, with an internal consistency of at least .80, and that the subtests have criterion validity. Therefore, this scale has the ability to discriminate between children with communication impairments and those with TLD. For this scale, participants will verbally respond to pictures, discriminate speech sounds, match one picture out of a set to what a researcher has said, define words, match pictures to stimuli sentences, and imitate sentences. Researchers will calculate raw scores, standard scores, percentiles of where the child falls in regards to the overall population, and language ages ("Test of language development", n.d.). Children in this study will be classified as having a speech impairment if they score 2 standard deviations (SDs) below the mean for the word articulation subset (Newcomer & Hammill, 1978) and will be classified as having a language impairment if they score 1 SD below the mean for the spoken language subtests (Voci et al., 2006). Accordingly, children in this study will be identified as having a speech and language impairment if they fall into both of the categories described above.

Clinical Evaluation of Language Fundamentals (CELF-4). The CELF-4

assesses whether or not individuals, 5 to 21-year-olds, have a language disorder (Semel et

al., 2003, 2006, as cited in Paslawski, 2005). The subtests in this measure have been

found to be adequately valid and reliable (*CELF-4 - Technical Report*, 2008). This scale

takes 30-60 minutes to complete and consists of 18 subtests that make up four levels of

testing, typically administered by having the child either create sentences or identify

certain objects from pictures that are provided (Paslawski, 2005). The first level is

classified as the Core Language Score (CLS) because it measures an individual's general

language ability by determining if a language disorder is present or not. Level 2 measures

the nature of a language disorder, in other words, expressive and receptive language

ability, memory, structure, and/or content. Expressive language is mainly assessed by

children formulating sentences, while receptive language is assessed by their

understanding of dialogue presented by the researcher (Semel et al., 2006, as cited in

Wadman et al., 2011). The third level assesses components such as phonological

awareness, naming skills, and working memory, while the last level describes how

language abilities affect classroom functioning. These assessments are given standard

scores that become index scores by combining them all, which are then norm referenced.

The children also receive criterion-reference scores. In other words, they either meet or

do not meet the standard and either perform at a normal or slower than normal speed.

Accordingly, children in this study will be classified as having language impairments if

they score 1 SD below the standard population on the expressive language index,

receptive language index, or the CLS (Semel et al., 2006, as cited in Wadman et al.,

2008).

The Peabody Picture Vocabulary Test-Revised (PPVT-R). The PPVT-R

measures one-word receptive vocabulary (Dunn & Dunn, 1981, as cited in Voci et al,

2006). It is conducted by having participants choose which picture, out of a set of four

black-and-white drawings depicting actions, emotions, and objects, matches the word that

the researcher presents (Campbell, 1998; Voci et al., 2006). This scale takes

approximately 11 to 12 minutes to complete, consists of 17 sets of pictures (Campbell,

1998), and is designed for participants 2 to 40-years-old (Jongsma, 1982). According to

Voci et al. (2006), when tested with 5 and 6-year-olds, this measure is internally reliable

because it has split-half reliability coefficients ranging from .73 to .84. Campbell (1998)

also determined that this scale is reliable, it has satisfactory test re-test reliability and is

internally consistent, and is valid, it is internally valid, criterion-related valid, content

valid, and construct valid. Ultimately, the children will be assigned raw scores depending

on whether or not they identify the correct picture, which will then be transformed into

standard scores, percentile ranks, age equivalents, and normal curve equivalents

(Campbell, 1998). Children in this study will be classified as having a language

impairment if they score 1 SD below the population, in addition to receiving this score on

the two other language assessment measures (Beitchman 1996, 2001; Dunn & Dunn,

1981, as cited in Voci et al., 2006).

Self-esteem. Two established scales and one established computer task will be

used to assess the participants' self-esteem in order to get a comprehensive measure. Two

of the self-esteem scales include subtests examining components such as social

acceptance and academic competence. However, one score for each measure will be

generated for general self-esteem as a whole. The participants' scores for each of these

three measures will be transformed into *z*-scores and then averaged for the purpose of creating one composite variable for general self-esteem. For each of these self-esteem measures, the research will say, "We are going to talk about things you like about yourself, and a little about your friends and family. You are also going to do a short activity on a computer".

The Coopersmith Self-esteem Inventory. This is a 58-item self-report measure that assesses the self-esteem of children ages 8 to 15 (Coopersmith, 1967, as cited in McAndrew, 1999). However, the language will be slightly modified to ensure that this scale is appropriate for the younger participants. Fifty of the items are sentences describing characteristics or attitudes that the child will state are either "like me" or "unlike me", while the other 8-items are a lie-scale used to assess whether the participants are trying to appear as if they have a higher self-esteem than they actually do (Kokenes, 1978). Some sample statements are as follows: "I'm pretty happy", "People pick on me very often", "I like everyone I know", and "I get upset easily at home" ("Wellness Worksheet", 2006). For the purpose of this study, the items in this measure will be cut in half (25 main items and 4 lie items) to shorten the completion time. It will be ensured that the proportion of negative to positive associated statements is comparable to the original amount to decrease the likelihood of altering the reliability of this measure. Completing the scale should take less than 10 minutes. This measure consists of four sub-scales: social self-peers, general self, school-academic, and home-parents in order to examine the multiple aspects that make up one's self-esteem (McAndrew, 1999). The sub-scales will be scored and then summed to generate a total score for the participant's overall self-esteem. Higher scores will indicate more positive self-ratings. Past research

has provided data displaying satisfactory reliability and validity of this scale (Kokenes, 1978; McAndrew, 1999).

The Self-Perception Profile for Children (SPPC). The SPPC measures the multidimensional perceptions children ages 8 and up have of themselves (Harter, 1985, as cited in Jerome et al., 2002). Therefore, the scale is split into six domains: social acceptance, athletic competence, scholastic competence, physical appearance, behavioral conduct, and global self-worth. The SPPC is a 36-item self-report questionnaire consisting of statements such as, "Some kids have trouble figuring out the answers in school, but other kids almost always can figure out the answer". Children will indicate which child they identify with and if each statement is "sort of true" or "really true" of them. These items are scored on a 4-point scale: a "1" indicates a low perceived self-competence and a "4" indicates a high-perceived self-competence. Therefore, higher scores will indicate greater self-competence and self-worth. The raw scores will be averaged for a single score. The SPPC has been shown to be valid and has an internal consistency ranging from .71 to .86 (Jerome et al., 2002). For the purpose of this study the measure will be cut in half, to consist of 18 items, and will use consistent language that is appropriate for all participants. An equal proportion of items will be cut from each of the six domains to ensure that it will be assessing what the original scale measures.

The Child Self-Esteem Implicit Association Test (IAT). Greenwald et al. (1998) created this computer task for the purpose of assessing automatic association strength between concepts. The faster a response is made, the stronger the association is between the attribute and the concept (Greenwald & Farnham, 2000). Greenwald & Farnham (2000) determined that self-esteem could be measured through the use of IAT by

comparing associations between "self-pleasant and other-unpleasant" to "self-unpleasant

and other-pleasant". Therefore, their target concepts were "self" and "other", while the

attribute concepts were "pleasant" and "unpleasant". Their study was found to have

satisfactory test-retest reliability of r= .52, as well as sufficient construct validity

(Greenwald et al., 1998). Jong (2002) utilized this test to measure implicit self-esteem,

slightly altering the attribute concept labels to measure "low esteem" words (e.g., stupid,

bad, worthless etc.) and "high esteem" words (e.g., smart, good, valuable etc.), rather

than "pleasant" or "unpleasant" words. This proposed study will borrow similar concept

labels, which are for the researcher's use when analyzing the results and will not be

presented directly to the participants as "high esteem" or "low esteem" words. The

participants will only be presented with the actual words. Therefore, the language of "low

esteem" and "high esteem" is not too complex for the younger participants because they

will only be hearing and seeing the target words (e.g., I) and the attribute concepts (e.g.,

stupid).

The current study will combine the procedure used by Greenwald & Farnham

(2000), with the category labels used by Jong (2002) (see Figure 1). Although this self-

esteem IAT has typically been utilized with undergraduate participants, components will

be altered to make it appropriate for younger participants. The words will appear in the

middle of a 15 inch Mac Book Pro computer screen and will be read out loud to the

participants because all of the participants may not be able to read yet or may have

difficulty reading. For the first step (a practice step), participants will press the left arrow

key to categorize "self" words (e.g., I, me, myself) and the right key for "other" words

(e.g., they, them, their)—each word will be presented four times in a random order. The

second step will be to categorize the "high esteem" words by pressing the left key and the "low esteem" words by pressing the right key—each word will be presented four times in a random order. Third, the children will categorize items as either "self or high-esteem" with the left key and "other or low-esteem" with the right key. The fourth step will switch the meaning of the keys for the first set ("self" and "other" words) and allow for practice time. Lastly, the fifth step is similar to the third. However, the keys are switched ("self or low-esteem" for left and "other or high-esteem" for right). For steps 3 to 5, each word will appear twice, six for each category (self/other, high/low-esteem). This task will take approximately 15 minutes to complete.

Implicit self-esteem is measured by the differences in reactions times (RTs) between participants' responses to when the positive stimulus (the attribute concept) is associated with the "self" items versus the "other" (the target concept; Greenwald & Farnham, 2000). This measure will be scored by subtracting the participants' mean RTs when the "self" words are associated with the "high esteem" words, from the mean RTs when the "self" words are associated with the "low esteem" words. A larger IAT score will indicate that the participant identifies more strongly with the "high esteem" words (Jong, 2002). The RTs will not be recorded until after the experimenter has read the words because otherwise the time that it takes to proctor the stimuli may influence the scores. Incorporating an implicit measure of self-esteem in this study will provide a way to measure self-esteem while lowering the effects of social desirability that may arise from the explicit self-esteem scales.

Step 1:

Category labels	Sample items	Category labels
not me		me
	self	x
x	other	

Step 2:

low esteem		high esteem
	smart	x
x	bad	

Step 3:

low esteem or not me		high esteem or me
	self	x
	smart	x
x	other	
x	bad	

Step 4:

high esteem		low esteem
x	smart	
	bad	x

Step 5:

low esteem or me		high esteem or not me
x	self	
	smart	x
	other	x
x	bad	

Figure 1: Example of expected answers for the Child Self-esteem IAT.

Social Anxiety. La Greca & Stone (1993) created the Social Anxiety Scale for

Children-Revised (SASC-R) in order to measure feelings of social anxiety in children.

This is a 22-item (four are filler items) self-report scale that consists of statements

regarding Fear of Negative Evaluation (FNE), Social Avoidance and Distress-New

Situations (SAD-N), and Social Avoidance and Distress-General (SAD-G). To introduce

this measure, the researcher will say, "Now we are going to talk about how you feel when

you are around other people". An example of a statement provided for FNE is "I feel that

kids are making fun of me"; for SAD-N, " I feel shy around kids I don't know"; and for

SAD-G, " I'm afraid to invite others to my house because they might say no" (La Greca

& Stone, 1993). The child will rate each statement using a 5-point Likert scale (Ginsberg

et al., 1998). A "1" indicates a response of "not at all" and a "5" indicates a response of

"all the time". These subscale scores will be summed, with possible scores ranging from

18 to 90 (Kristensen & Torgersen, 2006), and higher scores will reflect higher social

anxiety levels (Ginsberg et al., 1998). The research conducted by La Greca & Stone

(1993) provides data supporting the scale's validity and internal consistency, with

satisfactory *r*s greater than .65.

> **Awareness of Communication.** A watching task will be administered to each

child, followed by a set of questions measuring their awareness about their

communication abilities. This construct closely follows the task administered by Ezrati-

Vinacour et al. (2001). However, a couple changes will be made to assess a slightly

different participant sample. Videotapes will be made presenting two identical, animated

dogs talking to one another. One dog will have communication impairments and the other

will not. In each clip, both dogs will be facing each other, but only one dog will be

talking at a time. Dogs are chosen as the subject because they are gender neutral. It is

likely that both the girls and boys will be equally interested, as opposed to showing a

stereotypically gendered video with two Barbie dolls and two GI Joe dolls for example.

Similar to Ezrati-Vinacour et al. (2001), a young woman attempting to sound like a child

will be the voice of the two dogs in order for the participants to better relate. The

researcher will note, "You are going to watch a short video with dogs in it and then I am

going to ask you some questions about it". Thus, individually, a child will view a brief

clip of one of the dogs stuttering while saying a sentence to the other dog. Then the other

dog will say the exact same sentence, but without stuttering. There will be two other clips

set up in exactly the same way, but the dog who was once stuttering will then display

articulation problems (to symbolize a speech sound disorder), followed by displaying both grammatical and word retrieval problems (to symbolize SLI). Again, each time the other dog will repeat the same sentences, but without the communication problems. The sentences will consist of words 5 to 10-year-olds should be familiar with, and each clip will be less than a minute. After watching each short clip, the video will be paused and the researcher will ask the child if the dogs talk similarly (a discrimination subtask) and which dog talks like them (self-identification subtask; Ezrati-Vinacour et al., 2001). The participants will be categorized as "very unaware" of their communication abilities (which will be scored as "1") if they answer "yes" when asked if the dogs talk similarly and if they choose the dog that does not relate to their communication type. The participants will be categorized as "somewhat aware" of their communication abilities (which will be scored as "2") if their answer on whether the dogs talk similarly does not relate to which dog they say talks like them. In other words, if the participants say that the dogs do not talk similarly, but then choose the dog that does not talk the most like them, then they will be scored as "somewhat aware". Lastly, the participants will be categorized as "very aware" of their communication abilities (which will be scored as "3") if they answer "no" when asked if the dogs talk similarly and if they choose the dog that talks more like them.

Borrowing from Ezrati-Vinacour et al. (2001), the presentation of which dog speaks first, as well as the order in which the questions are asked, will be randomized. In other words, sometimes the dog with the communication problems will speak first, while other times the dog without communication problems will speak first. In addition,

sometimes questions for the discrimination subtask will be asked first, while other times the self-identification subtask questions will be asked first.

Attitudes about Communication Abilities. The Communication Attitude Test (C.A.T.) is a 35-item questionnaire used to examine grade school children's beliefs about their speech (Brutten, 1984, as cited in Brutten & Dunham, 1989; Vanryckeghem & Brutten, 1992). The researcher will tell each child, "Now we are going to discuss how you feel about talking to other people". The test consists of short statements such as " I don't talk right", "Words are hard for me to say", and " I like the way I talk", that the child must indicate to be "true" or "false" (Brutten & Dunham, 1989). About half of the statements are negative beliefs associated with speech, while the other half are positive. The C.A.T. scores range from 0 to 35 and are represented by the total number of statements that are marked in a way that suggests negative speech associated beliefs. Therefore, higher scores will indicate more negative beliefs. Research has indicated that this test is internally reliable, has test-retest reliability (Brutten & Dunham, 1989), and has item-to-total consistency (Vanryckeghem & Brutten, 1992).

Procedure

This study will be conducted within a lab over the span of two consecutive days. Attrition will hopefully not occur because it will be stated on the flyers, and discussed with the families, that the study will take place on two particular days in a row. Day 1 is when the language screening will take place. The children's parents will complete consent forms and a short questionnaire regarding the child's age and gender. The children will provide verbal assent before any tasks are completed.

Then, individually, each child will spend approximately 15 minutes in a room playing games with the researcher and his or her parent in order to become familiarized and feel comfortable with the researcher. Afterward, the parent will leave and the researcher will verbally administer the measures to assess whether the child has a speech impairment, a language impairment, both a speech and language impairment, or TLD. If there are too many children with TLD, in comparison to the other communication type groups, a computer program will randomly determine participants that will not be included in the study. Those participants will still be entered into the raffle.

 On the following day, half of the participants (Group 1) will be randomly assigned to first complete the measures of self-esteem. The other half of participants (Group 2) will first complete the social anxiety measure and the measures of attitudes and awareness of their communication abilities. The purpose of switching the order of the tests is to aid against order effects. Although all of these tasks are typically self-administered, the researcher will proctor the measures, verbally reading out the questions and responses because these participants may be more likely to have difficulty comprehending some of the questions, especially if they have a language impairment.

After a short break where the children will play with the researcher, Group 1 will complete the social anxiety measure, followed by the measures of attitudes and awareness of their communication abilities; whereas, Group 2 will complete the self-esteem measures. Finally, the participants and their parents will be debriefed and thanked. All children will then individually watch a short video of kittens to ensure that they do not leave the lab upset or sad because completing tasks related to their

communication problems, self-esteem, and social anxiety may make them feel

negatively.

Ethics

This study is minimal risk. It does not involve deception, nor does it put the

participants in any physical danger. Emotional discomfort is a potential risk because

some participants will be reflecting about their communication impairments, while all

participants will also be answering questions about their self-esteem and experiences of

social anxiety. However, the discomfort will not be more than what is encountered in

everyday life. This study may also benefit scientific knowledge about how having a

speech and/or language impairment affects children, specifically in terms of how they

differ from children with TLD, with respect to their experiences with social anxiety and

self-esteem. This study could also benefit society as a whole because teachers could be

more aware of the problems that their students with communication impairments might

be experiencing and try to aid possible conflicts that might surface with their peers.

In order to gain this knowledge, this study will involve the participation of a

protected population, children, who furthermore may have speech and/or language

impairments. In order to protect the children, parents will provide permission and

informed consent. In addition, children will verbally assent to ensure that they clearly

understand the general procedure. Also, if children agree to participate but at any point

during the study do not want to continue, they are free to stop without penalty.

Participation in this study is voluntary and lacks coercion. The compensation will not be

a deciding factor because it will clearly be stated that it is a raffle for a chance to win a

Disneyland day-trip. Thus, the lack of certainty of whether or not the participation will result in this trip should not be a deciding factor to participate. Furthermore, the recruitment is not affiliated with the locations of where the flyers will be posted and the researchers will be approaching the families. Therefore, the parents do not need to fear that they will no longer receive the services from the pediatric clinics or the speech and language therapy centers.

It is necessary for the children who agree to participate in this study to consider information about the sensitive issues of their communication difficulties and components related to self-esteem and social anxiety in order to obtain scientific knowledge from their responses. To protect the participants, they and their parents will be debriefed and then will watch a video of kittens to ensure that they do not leave the lab last having talked about a sensitive issue. It is predicted that watching this video last will lower their chances of leaving the lab upset or sad.

Lastly, the data will be collected anonymously and will be confidential. The data collected in the lab will be anonymous because it will not be linked back to identifying markers of the participants. No participants will be directly identified by their demographic information, but instead will be assigned numbers, and their information will be analyzed within the group of the other participants. The confidentiality of the data will be ensured because the researchers analyzing the data will be different from the researcher who will be present during the procedure. Furthermore, the data specifically linked to an individual will not be shared with anyone outside of the study. However, the general findings will be disseminated to increase the knowledge of the psychosocial problems children with speech and/or language impairments may be experiencing.

Predicted Results

This proposed cross-sectional study aims to examine differences between age and communication type groups (speech impairments, language impairments, speech and language impairments, or TLD) in children's general self-esteem, social anxiety, awareness, and attitudes about their communication abilities.

Self-esteem

An Analysis of Covariance (ANCOVA) will be used to test the effects of age and communication type on self-esteem.

The main effect of communication type on self-esteem is expected to be significant. Children with any sort of communication impairment are expected to have significantly lower self-esteem than children with TLD. These expected findings align with research that has indicated that children with communication impairments have lower social self-esteem than children with TLD (Lindsay et al., 2002; Marton et al., 2005). In addition, it is expected that children with both speech and language impairments will have signficiantly lower self-esteem than children with just one type of communication impairment. This is a predicted result because experiencing difficulty with both components of communication, speech and language, is likely to result in more personal and social problems than children who have difficulty with only either speech or language. Furthermore, it is anticipated that children with language impairments will have significantly lower self-esteem than children with speech impairments. It is possible that this will be found because children with SLI have problems expressing, as well as receiving language, while children with speech problems only have problems with

articulation or phonological processes of speaking. Therefore, the added problem of understanding language in children with SLI is more likely to result in lower self-esteem.

The main effect of age is also expected to be significant. It is predicted that younger children will have significantly higher self-esteem than the older children. This finding is consistent with the research by Robins et al. (2002) indicating that self-esteem generally decreases with age. Specifically, it is predicted that the 5 and 6-year-olds will have the highest self-esteem and that there will be a significant decrease of self-esteem around 7 years old because this is typically the time that children start to read and write. The possibility of children with communication impairments having to read out loud in class may make them more aware that their speech and language differs from their peers, which may lower their self-esteem. Lastly, Social Comparison Theory (Festinger, 1954) could explain why older children have lower self-esteem as they are engaging in comparing their communication abilities, or abilities in general, to their peers. Ultimately, they may feel inferior to their peers, resulting in lowered self-esteem; whereas, younger children may not engage as frequently in this sort of comparison. As previously mentioned, younger children may not be aware of their own abilities, making them less likely to feel the need to compare themselves to others.

Lastly, it is predicted that the ANCOVA will result in a significant interaction between the participants' communication type and age on their self-esteem. In other words, it is expected that self-esteem will decrease more for particular communication types, like the speech and language impairments group and the language impairments group, as children age. Also, for the older participants, it is expected that their self-esteem will vary based on their type of communication impairments, whereas, the type of

communication impairments for the younger participants is not expected to affect their self-esteem as much.

Social Anxiety

An ANCOVA will be used to test the effects of age and communication type on social anxiety.

The main effect of communication type on social anxiety is expected to be significant. It is expected that children with communication impairments will be significantly more likely to experience social anxiety than children with TLD. Although past research has not explicitly studied social anxiety in children with speech and/or language impairments, these anticipated results relate to Conti-Ramsden & Botting's (2008) findings that children with SLI were more likely to experience anxiety than those without SLI. This is a predicted result because in relation to self-esteem, the combination of feeling ignored by peers (Hadley & Rice, 1991) and having fewer peer relationships (Marton et al., 2005) is likely to result in feelings of social anxiety. In addition, it is expected that children with both speech and language impairments will be significantly more likely to experience social anxiety than those with just one type of impairment. This pattern is expected to be found because children with both speech and language impairments have problems with both expressive, as well as, receptive language, which is likely to affect their self-esteem and social anxiety more than if they only had a problem with one aspect of communication. Furthermore, it is expected that children with language impairments will be significantly more likely to experience social anxiety than

those with speech impairments, which is attributable to the same reasons why these participants may have lower self-esteem.

The main effect of age on social anxiety is also expected to be significant. In other words, the older children will be significantly more likely to experience social anxiety than the younger children. Similar to self-esteem, it is predicted that the 5-year-old age group will have the lowest likelihood of experiencing social anxiety, that social anxiety will start to become more present around 7-years old, and that levels of social anxiety will further increase with age. Major cognitive improvements take place around the ages of 6 and 7. In Piagetian terms, a shift is being made; children around the ages of 6 and 7 are leaving the preoperational stage and entering the concrete stage (McGonigle-Chalmers, 2015). Previous research indicates that younger children who are still in the preoperational stage do not usually report negative cognitions (Beidel, 1998) or perceive their fear to be disproportionate to the reality (Geangu & Reid, 2006). Therefore, it is more likely that the older participants will score higher on the SASC-R because they have more cognitive skills than the younger participants, which allows them to recognize their own cognitive processes of experiencing fear in social situations.

Lastly, it is expected that there will be a significant interaction between communication type and age on the children's social anxiety levels. In other words, it is expected that levels of social anxiety will increase more for particular communication types, like the speech and language impairments group and the language impairments group, as children age. Also, for the older participants, it is expected that their levels of social anxiety will vary based on their type of communication impairments, whereas, the

type of communication impairment for the younger participants is not expected to affect their levels of social anxiety as much.

Correlational Analyses

A simple correlation is expected to show that the higher the participant's self-esteem, the lower their level of experiencing social anxiety is. This predicted result is consistent with findings (Rosenberg, 1962) that individuals with lower self-esteem are more likely to experience symptoms of anxiety, as well as the finding (Ginsberg et al., 1998) that children with severe social anxiety reported having low self-esteem. Another simple correlation is expected to show a significant relationship between whether or not the participants' are aware of their communication abilities and their attitudes about their communication abilities. This fits with past research (Nil & Brutten, 1991;Vanryckeghem & Brutten, 1997) indicating that when children were consciously aware of their communication impairments they felt negatively about them. Also, a simple correlation is expected to show a significant relationship between age and self-esteem, as well as age and social anxiety. Lastly, it is expected that age and the participants' awareness of their communication abilities will be positively correlated. In other words, the older the participants are, the more likely they are expected to be aware of their communication abilities.

Impact of Awareness and Attitudes about Communication Impairments

Mediating Pathways. The method suggested by Baron and Kenny (1986) to test mediation will be used to test whether, among those with communication impairments,

the participants' awareness of their communication impairments mediates the relationship between their age and self-esteem (see Figure 2). Step 1, in accordance to Baron and Kenny (1986), requires that one establishes a relationship between the predictor and outcome variables. Step 2 requires there to be a relationship between the predictor and mediating variables, as well as a relationship between the mediating and outcome variables. These two steps will have been already established, as shown above. Lastly, in a multiple regression with age and awareness as predictors of self-esteem, the relationship between awareness and self-esteem will remain significant while the relationship between age and self-esteem will weaken or even becomes nonsignificant. In other words, the relationship between the predictor variable of the children's age and the outcome variable of their self-esteem will be at least partially explained by their relationship to the mediator variable (awareness of their communication issues).

Another mediation analysis will be used to test whether the participants' ages and social anxiety are related through the mediating variable of their awareness of their communication impairment(s) (See Figure 2). Similar to the above mediation analysis, the first two steps will have been already established. Thus, it is expected that a multiple regression with age and awareness as predictors of social anxiety, will result in the relationship between awareness and social anxiety remaining significant, while the relationship between age and social anxiety weakens or even becomes nonsignificant.
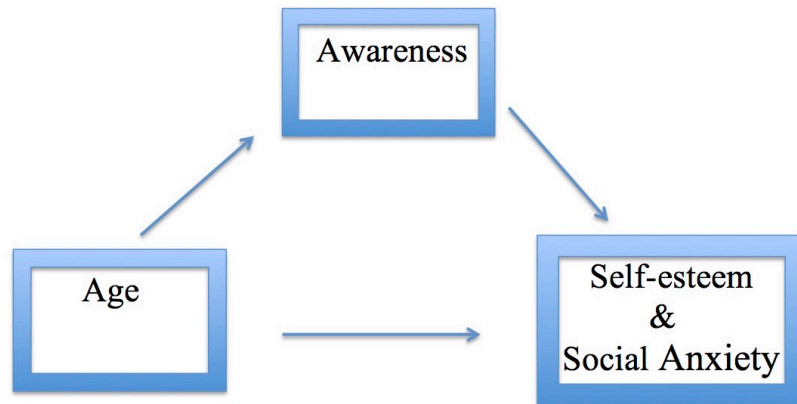
Figure 2: Predicted mediation relationship between variables.

To confirm the indirect effect of the children's awareness and its significance for both mediation analyses, a Sobel test will be used and is expected to show that the mediations are significant. The participants' awareness of their communication impairments is likely to explain the relationship between age, self-esteem and social anxiety by creating a new pathway because it may determine how they feel about their ability to understand and talk to others in social situations. These mediations do not neglect the factor of age because it is correlated with the children's awareness of their communication impairments. Younger children are more likely to lack metalinguistic awareness (Ezrati-Vinacour et al., 2001; Pratt et al., 1984) and the metacognition ability of older children, which is likely to not affect their self-esteem as negatively as older children who are more aware of their speech and/or language impairments. Furthermore, this increased awareness of older children allows them to better interpret possible fear, potentially resulting in higher levels of social anxiety than the younger children. The awareness and understanding that older participants' speech or language differs from

their peers may explain why they have lower self-esteem and experience more social anxiety than children with TLD.

   Moderation Analyses. A multiple regression will be used to evaluate whether the participants' attitudes about their communication impairments moderate the relationship between age and self-esteem (see Figure 3). Specifically, it is expected that the older participants' attitudes about their communication impairments will have a larger effect on self-esteem than the attitudes of the younger participants. Children with speech and/or language impairments are expected to have more negative attitudes about their communication than children with TLD. The increased prevalence of negative attitudes among those with speech and/or language impairments is likely to occur because their communication is an obvious marker of how they differ from the majority of their peers. They are likely to harbor these negative attitudes about their communication because it has been found that other children are likely to ignore them (Hadley & Rice, 1991).

   Another multiple regression will be used to test whether the participants' attitudes about their communication impairments will moderate the relationship between age and social anxiety (Figure 3). As predicted, this multiple regression is anticipated to be consistent with the hypothesis that the attitudes' of the older participants' will be more likely to affect their likelihood of experiencing social anxiety than the younger participants.
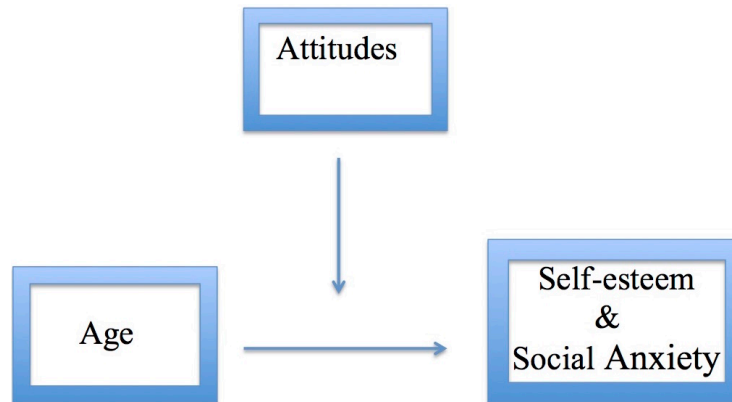
Figure 3: Predicted moderation relationships between variables.

The anticipated results for both of these moderation analyses reveal that the participants' attitudes about their communication impairments will strengthen the relationship between age and self-esteem, as well as the relationship between age and social anxiety. It can be inferred that younger children have more positive attitudes about their communication than older children because they are less likely to be aware of their communication impairments due to their age. These expected results align with previous research indicating that preschool-aged children, who either did or did not have speech impairments, usually did not have negative feelings about their speech (McCormack et al., 2010).

Conclusion

This study may add to the already substantial body of research demonstrating that children with communication impairments have lower self-esteem than children with TLD. It will provide evidence to fill in the gaps of past research. Instead of focusing on

only one type of communication impairment or grouping the participants into one general category of communication impairments, which has frequently been done, this study will analyze the differences in self-esteem and social anxiety for children with speech impairments, language impairments, or both, in comparison to the control group of children with TLD. Furthermore, this study may provide findings related to the levels of social anxiety that these children are currently experiencing, rather than studying anxiety more broadly. In addition, by conducting a cross-sectional study and analyzing the age range of middle childhood, it will be simple to determine year-by-year changes in self-esteem and social anxiety. Moreover, studying the mediating effect of awareness and the moderating effect of attitudes about participants' own communication problems in relation to their self-esteem and social anxiety has not been performed until now.

Not only will this proposed study potentially add to the current literature, it may also benefit society. Many studies of self-esteem and psychiatric outcomes have examined how having had a childhood communication impairment affects adolescents. Although those findings are important, this study will investigate problems that these children may be facing while they still have issues with their speech and/or language. It is crucial to study this proposed sample of participants, 5 to 10 years old, for the purpose of highlighting any problems they may be experiencing with low self-esteem and higher levels of social anxiety so that their psychosocial well-being can be attended to. Furthermore, middle childhood consists of a time of great cognitive development (McGonigle-Chalmers, 2015), which may have an effect on their self-esteem and social anxiety.

Although this study may provide multiple potential benefits, there are some

methodological limitations. First, even though this proposed study will use one implicit measure for self-esteem, the other two are explicit, which could lead to social desirability effects for the older participants. The procedure of verbally proctoring the measures was standardized across all age groups, which may further lead to participants changing their answers to appear as if they have fewer problems than they do. Participants may want to appear in a better light to the researchers because they may be embarrassed about their feelings and thoughts. Future studies could alter the procedure depending on the age groups. Second, the choice to use the IAT could be problematic because it is typically used with older participants than this current study will have. In addition, the researcher will need to read out loud the items because of this specific sample population, which may skew the RTs. Therefore, a future direction would be to conduct more studies using this measure to learn how reliable and valid it is for children. Third, the decision to get rid of some of the items on certain measures may affect their reliability. Therefore, it would be beneficial to investigate the reliability of such measures before conducting the proposed study. Lastly, it is difficult to know whether or not the children with language impairments will understand the measures, which may alter the validity of their responses.

Another step that could improve this study would be to examine race/ethnicity as a predictor variable to see how it affects participants' self-esteem and levels of social anxiety. Also, it could be beneficial to investigate sex differences in this proposed study to see if they relate to past findings that females tend to experience lower self-esteem than males (Kling et al., 1999 as cited in Wadman et al., 2008). Lastly, this study could benefit by incorporating whether, and to what extent, these participants are ostracized or

bullied and how that affects their self-esteem and social anxiety in relation to their age,

awareness and attitudes about their communication impairments. This could be achieved

by observing the children in their classrooms for a couple of weeks. Although there are

various future directions that can be studied, this study will highlight the psychosocial

well-being of children who are currently experiencing speech and/or language

impairments so that measures can be taken to combat these problems.

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