

VALIDITY OF A PARENT REPORT MEASURE
IN SCHOOL-AGE CHILDREN

By

STEPHANIE FRY

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IN SCHOOL-AGE CHILDREN

Thesis Approved:

Dr. Cheryl L. Giddens

Thesis Adviser

Dr. Kaye Strom-Aulgur

Dr. Larry Mullins

Dr. Andrea Ash

Dr. Sheryl A. Tucker

Dean of the Graduate College

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CHAPTER I

INTRODUCTION

Diagnostic assessment is one of the first steps a speech-language pathologist (SLP) takes in meeting with a new client and it can also be one of the most time consuming. One type of assessment that has been adopted to solve this problem is the use of parent questionnaires. Parent questionnaires are a form of assessment in which the parents inform the speech-language pathologist as to the communication skills they observe in their child. The structure of parent questionnaires varies from vocabulary lists that are completed by the parents to rating scales of children's skills when compared to other children the same age (Fenson, et al., 1993; Hadley & Rice, 1993).

The utilization of parent questionnaires as a diagnostic tool by speech-language pathologists has many benefits. The potential benefits include cost and time effectiveness and the opportunity to obtain information about the child's language use in more naturalistic settings (Ring & Fenson, 2000). Another reason to employ parental report is due to the changes in legislation including IDEA and No Child Left Behind (NCLB; Office of the Special Education Programs' National Assessment Program, 2001). Under these guidelines, speech-language pathologists must work to include the family in the evaluation and treatment process of children receiving speech and language services in the schools.

In 2007-2008, of the 6.6 million school-age children receiving IDEA services, 22% had speech or language impairments (National Center for Education Statistics, 2010), yet a school-age parent report measure has not been created to use with this population. Currently, parent questionnaires only target early language learners from birth to three years of age. Hauerwas and Stone (2000) stated, “There is little research on the accuracy of parents’ estimation of language skills in school-age children, in general, and in the language-disabled population in particular (p. 79).”

Speech and language skills are still developing in the school-age population. Therefore it is equally important to involve the parents in the assessment of school-age children as in younger children. An example of speech sounds that are still developing during school-age years is the phoneme /r/, which may not be mastered in children with typically developing speech until age eight (Pena-Brooks & Hegde, 2000). An example of language skills that are still developing during the school-age years include finiteness marking. The types of difficulties young children with language impairment have with finiteness marking extend past the preschool years and into adolescence (Rice, Hoffman, & Wexler, 2009). Parents may be able to recognize children’s problems and may be sensitive to the difficulties their child has in their speech and language. As a result of the parent’s possible awareness of their child’s difficulties, it is appropriate to investigate parental report for children in school-age years as a means of assessment.

CHAPTER II

LITERATURE REVIEW

Reliability and Validity

Despite the usefulness and practicality of parental report in younger children, there is concern about the reliability and validity of using parent report in older children as a screener for speech and language disorders. The question becomes whether parents can effectively rate their child's speech and language skills in a way that accurately represents their child's speech and language ability. Older children's language is more complex and abundant than younger children's, and the task of parent reporting changes from word lists and reporting on simple sentences to that of complex grammaticality judgments of language use. Parents may be helpful in providing insight into their child's communication abilities; however, if the parental report is inaccurate it could misrepresent the child's communication abilities. School-age children who do not have speech and language disorders may be identified as needing unnecessary diagnostic testing, while children with speech and language difficulties may go untreated by the speech-language pathologist. Therefore, it is necessary that parental questionnaires used as screeners for children with speech and language difficulties are reliable and valid.

Glascoc and Dworkin (1995) reported that “A parental report can never be more reliable than the quality of the measure itself (p. 833).” Therefore, it is imperative that the parental questionnaires used by speech-language pathologists are able to produce reliable and valid measures of children’s speech and language abilities.

The quality and usefulness of an assessment measure is determined by the measure’s reliability and validity as concluded from research completed on the measure itself. Reliability is defined as, “the consistency or precision or accuracy of measurement” (Schiavetti, Metz, & Orlikoff, 2011). It is necessary for a measure to have reliability in order to depend on the results that a measure yields. A reliable measure accurately yields the same results time and time again. In comparison, validity is considered to be the truthfulness of a measurement (Schiavetti, Metz, & Orlikoff, 2011). In other words, validity ensures that the measure is measuring exactly what it is intending to measure. High reliability and validity of a measure are important to establish in the construction and development of a measure. Because of this, examining the reliability and validity is also important in selecting a measure to ensure that it is an appropriate choice.

Parental Report

Research has demonstrated that parents can be reliable and valid reporters of young children’s speech and language abilities. Parental questionnaires such as the *MacArthur-Bates Communicative Development Inventories (CDI; Fenson, et al., 1993)* and the *Language Development Survey (LDS; Rescorla, 1989)* have high reliability and validity and are effective at assessing young children’s speech and language skills. As a

result, the *CDI* and the *LDS* are frequently used by speech-language pathologists during screening and diagnostic assessments in young children.

While parent report proves to be an effective means of assessing young children, there is limited research investigating parental report measures of school-age children's speech and language skills. Hauerwas and Stone (2000) investigated parent's ability to estimate the language skills of their school-age child with specific language impairment (SLI) by comparing parental rating with standardized language measures and teacher ratings of children's speech and language ability. The parents and teachers of school-age children with SLI and who were typically developing were given an eight item questionnaire to assess the child's language ability across eight areas. The authors found that the ratings of parents of typically developing children were significantly moderately correlated to the standardized language measures. The ratings by parents of children with SLI were not significantly correlated with the standardized language test results. However, parental ratings by the parents of typically developing children tended to be higher than the teacher's ratings, whereas the ratings of parents of children with SLI did not outrank the teacher ratings. In this aspect, parents of children with SLI were more accurate in their ratings than the parents of typically developing children (Hauerwas & Stone, 2000).

The Hauerwas and Stone (2000) study had several notable limitations. One such limitation is that the parental questionnaire contained only one question per speech and language area that was assessed. This limited reporting may not yield results as valid when compared to questionnaires that contain multiple questions per area. A more stable measure could be created by having multiple questions addressing each subscale. An

additional limitation is that this study only included children with a diagnosis of specific language impairment and did not include children who have other speech and language difficulties. As a result, the findings of this study are limited to children with SLI and cannot be generalized to children with other types of speech and language disorders. The limitations presented in the Hauerwas and Stone (2000) study demonstrate the need for a valid parental questionnaire that can be used across children, both disordered and typically developing, for screening those who may need additional speech and language testing.

The Speech Language Assessment Scale

The Speech Language Assessment Scale (SLAS; Hadley & Rice, 1993) is a parent questionnaire that was created to assess the speech and language skills of children between the ages three to five years. This measure is different than other parent report measures because it targets an older age range and was developed to provide a collaborative report on the child's language abilities from parents (Hadley & Rice, 1993). An additional difference is the SLAS asks for parent's general impression of their child's speech and language skills rather than providing checklists of the child's language knowledge. The SLAS consists of 19 questions which parents rate according to their child's current speech and language abilities on a seven-point Likert scale. The SLAS focuses the parents on their child's current communication abilities which provide more reliable information than questions that focus on recalling past abilities (Dale, Bates, Reznick, & Morisset, 1989).

The validity and reliability of the SLAS were examined to determine the usefulness in identifying preschool-age children with speech and language impairment (Hadley & Rice, 1993). The subscales that were the most important in discriminating normal language abilities and delayed language abilities were articulation, assertiveness, and semantics. These three subscales were able to correctly discriminate the speech and language abilities of 86% of children in the sample (Hadley & Rice, 1993). The SLAS was also compared to other speech and language assessment measures to determine validity. The scores of the SLAS were compared with the *Reynell Developmental Language Scales-Revised* (Reynell, 1985), *Peabody Picture Vocabulary Test-Revised* (Dunn & Dunn, 1981), *Goldman-Fristoe Test of Articulation* (Goldman & Fristoe, 1986), mean length of utterance, and the *Social Interactive Coding System* (Rice, Sell, & Hadley, 1990). Moderate to moderately high correlations were found between the SLAS and the corresponding measures (Hadley & Rice, 1993).

Hadley and Rice (1993) found the interrater reliability between parents and speech-language pathologists to be moderately high to highly correlated. Parent and speech-language pathologist reports had the highest correlations on articulation ability and general intelligibility. Areas that showed some disagreement between raters of both groups included the language categories of Assertiveness, Responsiveness, Semantics, and Syntax (Hadley & Rice, 1993). Hadley and Rice (1993) suggest the difference in report of language skills is due to the technical aspects of language with which speech-language pathologists are more familiar. Another explanation is that parents may rate their child's language skills higher because children may feel more comfortable and communicate differently at home as opposed to in the therapy room (Glascoe & Dworkin,

1995). Despite the differences in parent ratings versus speech-language pathologist ratings, there was a moderate to high correlation for each composite scale which ranges from .80-.88 (Hadley & Rice, 1993).

Research investigating the SLAS has shown it to be a reliable measure that could help speech-language pathologists screen preschool children for speech and language difficulties while including parents in the assessment process. Because of the usefulness of the SLAS as a screener in preschool populations the SLAS may be an appropriate measure to modify for use in screening school-age children for speech and language difficulties. An advantage of the SLAS over other parental measures is the way parents are asked to rate children's speech and language abilities. Measures such as the *CDI* and *LDS* require parents to use checklists to report on children's speech and language production. An exhaustive list of children's speech and language abilities is not practical for screeners addressing school-age children due to the level of sophistication of the children's language abilities. Because the SLAS has parents rate their children's general speech and language functioning in comparison to other children their child's age across language domains, it is more practical to convert this measure into a school-age screener rather than other types of parental questionnaires. Since this type of speech and language screener may be an effective assessment method, this study will investigate the use of the SLAS with a school-age population.

Purpose and Research Questions

This specific aim of this study is to validate a parental questionnaire for use with school-age children between the ages of four and eight. As previous research has

demonstrated, such a measure would greatly benefit speech-language pathologists as an effective way to screen children for speech and language difficulties and to include parents in the assessment process. Additionally, such a questionnaire may give the speech-language pathologist a greater knowledge of the child's skills in more naturalistic settings before conducting the first diagnostic protocol.

Because the SLAS examines children's speech and language abilities across multiple domains, this study will investigate the validity of the SLAS as a potential measure of speech and language abilities in school-age children. It is hypothesized that parent's ratings of their school-age children's speech and language skills will significantly positively correlate with children's standardized speech and language test scores. This investigation will address the following questions: Are parents' ratings of the speech and language skills of their child with speech-language impairments correlated with standardized speech and language test scores? Specifically, do parents' ratings of the child's assertiveness, responsiveness, lexical abilities, syntax, and articulation abilities significantly correlate with children's performance on standardized measures of assertiveness, responsiveness, lexical knowledge, syntax, and articulation?

CHAPTER III

METHODOLOGY

The purpose of the study was to determine if the Speech Language Assessment Scale (SLAS) is a valid parental questionnaire when used with school-age populations of children with speech and language disorders. A non-experimental, correlational, group research design was developed for this study.

Participants

Eight school-age children, three males and five females, were recruited from the Oklahoma State University Speech-Language-Hearing Clinic to participate in this study. The age of the participants ranged from four years to eight years of age with a mean of six years, eight months (SD = one year, four months). This age range was recruited in particular because little is known about parent report in school-age children. In order to participate, children needed to be between the age of four and eight years; be diagnosed with a speech and/or language impairment; be receiving speech-language therapy services at the Oklahoma State University Speech-Language-Hearing Clinic the time of participation; and have one parent who had previously participated in a parent-centered study conducted at the Oklahoma State University Speech-Language-Hearing Clinic. Children with diagnosed developmental delays were not recruited for participation. This

population was excluded because the parent raters may have a very different perspective of their child's speech and language skills due to services their child has received in the past. Families were approached at the Oklahoma State University Speech-Language-Hearing Clinic before their regularly scheduled therapy appointment time and were read the IRB approved script for recruitment. Upon volunteering their contact information, a separate appointment was arranged for the parent report interview and child evaluation. One parent of each child participated in this study in order to provide parent report of their child's speech and language skills.

Measures

Speech Language Assessment Scale

The Speech Language Assessment Scale (SLAS; Hadley & Rice, 1993) is a parental questionnaire of children's speech and language skills which was modified for use with an older, school-age population. The SLAS is a non-standardized measure that has been used to assess speech and language skills in children three to five years of age (Hadley & Rice, 1993). The SLAS was modified to a 13 item questionnaire composed of five subscales: Assertiveness, Responsiveness, Semantics, Syntax, and Articulation. The full copy of the SLAS is found in Appendix A. Table 1 lists the subscales and individual items contained within each subscale (Hadley & Rice, 1993). Originally created for parents to rate their child on a seven-point Likert scale, the SLAS was modified to use a 10cm Visual Analog Scale (VAS) for the purposes of this study. A VAS was used because it has been shown to provide greater sensitivity for the scores on a questionnaire

(Davey, Barratt, Butow, & Deeks, 2007). For the purpose of this study, the VAS was used because it was felt that it would permit parents to more accurately represent the ratings of their child’s speech and language skills.

Table 1

Speech Language Assessment Scale (SLAS) Subscale Items

Subscale	Items
Assertiveness	Asks questions properly Gets what he/she wants by talking Starts conversation with peers
Responsiveness	Answers questions properly Keeps conversations going with peers
Semantics	Number of words known Uses words correctly Uses proper words when talking
Syntax	Length of sentences Makes “grown-up” sentences
Articulation	Says sentences clearly Gets message across when talking Says sound in individual words correctly

Note. Modified from (Hadley & Rice, 1993)

Behavioral Assessment System for Children- Second Edition

The *Behavioral Assessment System for Children- Second Edition (BASC-2;* Reynolds & Kamphaus, 2004) is a standardized, parent reporting measure and was developed as a clinical diagnostic tool to understand behaviors and diagnose disorders in childhood or adolescents (Reynolds & Kamphaus, 2004). The *BASC-2* was given to parents to determine a level of functional communication of the child. The *BASC-2* forms used for this study were for ages 2-5 and 6-11. Internal consistency was between .75 and .94 for the selected composites and subscales for the different age ranges as

stated in the *BASC-2* manual. Test-retest reliability was between .70 and .92 for the selected composites and subscales for the different age ranges (Reynolds & Kamphaus, 2004). The following subtests were chosen specifically for this study. Those subtests were: Hyperactivity, Aggression, Anxiety, Atypicality, Withdrawal, Attention Problems, Adaptability, Social Skills, Functional Communication. All of the composites were selected, which include: Externalizing Problems Composite, Internalizing Problems Composite, Behavior Symptoms Index, Adaptive Skills Composite.

The individual subtests were selected based on the possibility of their affect on judgment of speech and language skills. The Hyperactivity subscale examines overactive behaviors, such as acting without thinking. The Aggression subscale investigates the child's "tendency to act in a hostile manner (either verbal or physical) that is threatening to others" (Reynolds & Kamphaus, 2004, p. 60). The Anxiety subscale evaluates the child's nervous or worried tendencies. The Atypicality subscale looks at behaviors others consider to be "odd". The Withdrawal subscale is, "the tendency to evade others to avoid social contact" (Reynolds & Kamphaus, 2004, p. 60). The Attention Problems subscale investigates behaviors such as distractibility and poor concentration. The Adaptability subscale is a determinate of the child's ability to adapt to changes in the environment. The Social Skills subscale examines interaction skills. Finally, the Functional Communication subscale evaluates, "the ability to express ideas and communicate in a way others can easily understand" (Reynolds & Kamphaus, 2004, p. 60).

The composites are made up of the various subscales mentioned above. The Externalizing Problems composite consists of the subscales investigating disruptive behaviors. The opposite behaviors are included in the Internalizing Problems composite.

These behaviors do not disrupt others, but rather are internalized. The Behavior Symptoms Index “reflects the overall level of problem behavior” (Reynolds & Kamphaus, 2004, p. 67). The final composite is the Adaptive Skills composite which is made up of daily functioning skills, such as the Functional Communication subscale. Because of the high reliability of the *BASC-2*, this test was chosen to identify if there is a relationship between it and the assertiveness and responsiveness subscales of the SLAS.

Social Responsiveness Scale

The *Social Responsiveness Scale (SRS)*; Constantino & Gruber, 2005) is a standardized, parent reporting measure and was developed to assess autistic behaviors and determine social behavior impairments (Constantino & Gruber, 2005). The *SRS* is given to parents to determine a level of social communication of the child. The *SRS* is created for use for ages 4-18. Internal consistency ranged from .77 to .92 for the various subscales as stated in the *SRS* manual. The validity of the test items for placement into the subscale categories as determined by chi-square was significant at 94.24 (Constantino & Gruber, 2005).

The *SRS* subscales include: Social Awareness, Social Cognition, Social Communication, Social Motivation, Autistic Mannerisms. The Awareness subscale investigates “the ability to pick up on social cues” (Constantino & Gruber, 2005, p. 17). The Cognition subscale determines the child’s ability to cognitively interpret social cues and behavior. The Communication subscale demonstrates how the child expresses him/herself in social communication with others. The Motivation subscale evaluates how motivated the child is in engaging in social situations. Finally, the Autistic Mannerisms

subscale looks at “stereotypical behaviors or highly restricted interests characteristic of autism” (Constantino & Gruber, 2005, p. 17). The *SRS* was chosen due to its high reliability and the possibility it will relate to the responsiveness subscale of the *SLAS*.

Test of Language Development: Primary- Fourth Edition

The *Test of Language Development: Primary- Fourth Edition (TOLD-P:4;* Newcomer & Hill, 2008) is a standardized measure given to children to determine language ability. The *TOLD-P:4* was standardized on children between the ages of 4;0 and 8;11 and is composed of six core subtests which measure language skills (Newcomer & Hammill, 2008). Fisher’s average of alpha coefficients across all ages for the individual subtests was between .84 and .93 and between .90 and .97 for the individual composites. Test-retest reliability was .78 and .87 for the individual subtests and between .84 and .92 for the individual composites as described by the *TOLD-P:4* manual (Newcomer & Hammill, 2008). The *TOLD-P:4* also demonstrates good content, criterion, and construct validity.

The composite indices of the *TOLD-P:4* include: Listening Index, Organizing Index, Speaking Index, Grammar Index, Semantics Index, and Spoken Language Index. The Listening Index represents the child’s receptive language skills. The Organizing Index evaluates the child’s ability to, “relate incoming speech with various kinds of cognitive memory and associative operations that are necessary for making oral responses” (Newcomer & Hammill, 2008, p. 23). The Speaking Index examines the child’s expressive language skills. The Grammar Index investigates the child’s ability to construct words to produce sentences. Morphological abilities are examined within the

Grammar Index. The Semantics Index gives information as to the child's knowledge of word meaning by administering various vocabulary measures. Finally, the Spoken Language Index is an overall representation of the child's scores on all of the subtests. The Spoken Language Index is considered to be "the best, most comprehensive estimate of a child's overall oral language ability" (Newcomer & Hammill, 2008, p. 23). Because the *TOLD-P:4* has good reliability and has been used to identify children with language impairment (Newcomer & Hammill, 2008) it was chosen as the primary measure of language impairment in this study.

Goldman-Fristoe Test of Articulation- Second Edition

The *Goldman-Fristoe Test of Articulation- Second Edition (GFTA-2; Goldman & Fristoe, 2000)* is a standardized measure standardized on children between the ages of 2 and 21 years (Goldman & Fristoe, 2000). The *GFTA-2* is a test that determines articulation ability. The internal consistency as determined by alpha reliabilities of the *GFTA-2* ranged from .85-.98 for both males and females from age 2-21. Test-retest reliability as measured by percent of agreement for presence of error presented the median percentages of agreement at 98% for initial, medial, and final sounds (Goldman & Fristoe, 2000). The *GFTA-2* also demonstrated good content and construct validity. The score from the *GFTA-2* Sounds in Words section will be compared to the Articulation subscale on the SLAS. The *GFTA-2* Sounds in Words was selected as an articulation measure because it is widely used by speech-language pathologists in schools (Ertmer, 2010).

Procedures

Parent participants were read the IRB approved consent form and written consent was obtained prior to participation. Parental interviews were conducted at the Oklahoma State University Speech-Language-Hearing Clinic while the child was being evaluated. The SLAS questions were read aloud to the parent, as the parent marked a single line on the VAS. *BASC-2* and *SRS* administration were completed by the research assistant reading the statements and the parent answering one of the following: “the behavior ‘never occurs’, ‘sometimes occurs’, ‘often occurs’, or ‘almost always occurs’.” The answer was then recorded by the research assistant. The tests were given in alternating order for each participant to reduce order/carryover effect.

Child evaluations took place as the parents were being interviewed in an adjacent therapy room at the Oklahoma State University Speech-Language-Hearing Clinic. Child assent was obtained prior to evaluation. The *GFTA-2* and the *TOLD-P:4* were administered according to administration guidelines explained in the respective manuals. The tests were given in alternating order for each participant to reduce order/carryover effect.

The *BASC-2*, *SRS*, *TOLD-P:4*, and *GFTA-2* were scored according to the guidelines in the respective manuals. The SLAS was scored by measuring, in centimeters, where the parents placed their mark on the 10cm VAS line. All measures were double scored by different research assistants to ensure reliability.

Data Analysis

Nonparametric statistics were used to determine correlations between the SLAS and standardized speech and language measures. Due to the small sample size, normal distribution could not be assumed. Therefore, parametric statistics were deemed inappropriate for this study. Instead, Spearman rank-order (ρ) correlation was used to determine correlations.

CHAPTER IV

FINDINGS

The results are presented by first giving the descriptive results of the measures by presenting means, standard deviations, and ranges. Then the correlations between the parent report measure of the SLAS and the various speech and language measures are presented.

Descriptive Results

Analyses on the descriptive results of the various measures yield information on average participant scores. SLAS results indicate that parents rated their children's speech and language skills as lower than same age peers. Mean parent ratings on the SLAS for each subscale ranged from 3.66 to 4.28 on the 10cm VAS as demonstrated in Table 2. Parents rated articulation skills the lowest ($M= 3.66, SD= 1.43$) and rated semantics skills the highest ($M= 4.28, SD= 1.73$) among the five SLAS subscales.

Table 2

Speech Language Assessment Scale (SLAS) Subscale Scores

Subscale	<i>M</i>	<i>SD</i>	Range
Assertiveness	3.70	1.13	2.3-5.5
Responsiveness	3.75	1.36	1.9-5.8
Semantics	4.28	1.73	1.7-6.0
Syntax	3.82	1.21	2.2-5.3
Articulation	3.66	1.43	2.7-7.0

Note. Entries based on VAS scale 0-10.

The results from the *BASC-2* indicate that the mean scores of children in this sample were within normal limits for all of the subscales and composites except for two. Parent report on the Functional Communication subscale ($M= 33.63$, $SD= 7.13$) was rated one and a half standard deviations below the mean. The Adaptive Skills Composite ($M= 39.50$, $SD= 8.21$) was rated one standard deviation below the mean. The selected subscales are further detailed in Table 3.

Table 3

Behavioral Measure Scores- Behavior Assessment System for Children- Second Edition

Subscales	<i>M</i>	<i>SD</i>	Range
Hyperactivity	53.38	11.61	41-78
Aggression	47.63	6.76	38-55
Anxiety	47.88	8.95	34-64
Atypicality	57.50	12.78	44-81
Withdrawal	58.25	10.15	46-78
Attention Problems	55.13	11.57	42-72
Adaptability	45.75	14.16	21-64
Social Skills	45.25	7.03	29-50
Functional Communication	33.63	7.13	24-47
Composites	<i>M</i>	<i>SD</i>	Range
Externalizing Problems Composite	48.88	7.64	39-60
Internalizing Problems Composite	46.87	10.27	35-62
Behavior Symptoms Index	53.88	10.83	43-75
Adaptive Skills Composite	39.50	8.21	27-50

Note. Entries based on t-scores ($M = 50$, $SD = 10$).

SRS results indicate that parents rated on average Social Communication ($M= 58.63$, $SD= 14.49$) and Social Motivation ($M= 57.88$, $SD= 13.28$) within normal limits. However, the other subscales and the total of the *SRS* were rated one standard deviation above that of their peers. The highest rating occurred on the Mannerisms subscale ($M= 62.75$, $SD= 20.70$), which also demonstrated the highest standard deviation and greatest variation in range.

Table 4

Behavioral Measure Scores- Social Responsiveness Scale

Measure	<i>M</i>	<i>SD</i>	Range
Awareness	60.38	10.31	49-80
Cognition	60.75	14.94	43-89
Communication	58.63	14.49	46-83
Motivation	57.88	13.28	42-84
Mannerisms	62.75	20.70	42-105
Total	61.50	16.08	45-94

Note. Entries based on t-scores ($M = 50$, $SD = 10$).

The results from the *GFTA-2* indicate that the mean score of children in this sample were within normal limits, although there was high variation between participants ($M= 92.38$, $SD= 21.73$). Mean composite performance on the *TOLD-P:4* ranged from 77.00 to 92.62. The participants scored lowest on the Organizing Composite ($M= 77.00$, $SD= 17.65$) and scored highest on the Listening Composite ($M= 92.62$, $SD= 18.51$). Participant's mean score for the remaining four composites was one standard deviation below the mean. Table 5 presents the composite performance in more detail. The mean subscale scores on the *TOLD-P:4* ranged from 5.63 to 9.13 (Table 6). Three subscales on the *TOLD-P:4* yielded mean scores one standard deviation below the mean: Relational Vocabulary, Oral Vocabulary, and Sentence Imitation.

Table 5

Child Speech and Language Standard Scores

Measure	<i>M</i>	<i>SD</i>	Range
GFTA-2	92.38	21.73	40-106
TOLD-P:4 Listening Composite	92.62	18.51	66-114
TOLD-P:4 Organizing Composite	77.00	17.65	51-106
TOLD-P:4 Speaking Composite	82.75	20.27	55-109
TOLD-P:4 Grammar Composite	85.13	21.29	53-113
TOLD-P:4 Semantics Composite	82.00	16.82	65-108
TOLD-P:4 Spoken Language Composite	81.25	20.06	54-107

Note. Entries based on standard scores ($M = 100$, $SD = 15$).

Table 6

TOLD-P:4 Subscale Scores

Subscale	<i>M</i>	<i>SD</i>	Range
Picture Vocabulary	9.13	2.59	5-13
Relational Vocabulary	6.25	3.66	1-13
Oral Vocabulary	5.88	3.36	1-11
Syntactic Understanding	8.38	4.81	1-14
Sentence Imitation	5.63	3.16	1-10
Morphological Completion	8.38	3.78	3-13

Note. Entries based on scaled scores ($M = 10$, $SD = 3$).

Correlation Results

Nonparametric correlations Spearman's rho were run on the SLAS subscales to determine levels of correlations between the subscales themselves. Analyses identified

several significant positive correlations ranging from .77 to .91 as demonstrated in Table 7. The highest correlations were seen between the Assertiveness, Responsiveness, and Semantics subscales. There were no significant correlations associated with the Articulation subscale.

Table 7

Speech Language Assessment Scale (SLAS) Subscale Correlations

Subscale	1	2	3	4	5
1. Assertiveness	—	.91**	.88**	.77*	.25
2. Responsiveness	.91**	—	.87**	.65	.28
3. Semantics	.88**	.87**	—	.83*	.58
4. Syntax	.77*	.65	.83*	—	.46
5. Articulation	.25	.28	.58	.46	—

Note. Entries based on nonparametric correlations Spearman's rho.

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

* . Correlation is significant at the 0.05 level (2-tailed)

Significant positive and negative correlations were seen between the SLAS and *BASC-2* subscales (Table 8). Significant positive correlations occurred between the Functional Communication subscale and Adaptive Skills Composite with the Assertiveness, Responsiveness, and Semantics subscales of the SLAS ranging from .81 to .96. Significant negative correlations were seen between the Atypicality and Attention Problems subscales as well as the Behavior Symptoms Index. These significantly negatively correlated with the Assertiveness, Responsiveness, and Semantics subscales of the SLAS ranging from -.72 to -.91.

Table 8

Nonparametric Correlations between the SLAS and BASC-2

Subscale	<u>SLAS</u>				
	Assertiveness	Responsiveness	Semantics	Syntax	Articulation
<u>BASC-2</u>					
Hyperactivity	-.17	-.33	-.20	.35	-.10
Aggression	-.24	-.35	-.52	-.02	-.51
Anxiety	.02	-.23	-.04	.34	.30
Atypicality	-.69	-.83*	-.65	-.34	-.33
Withdrawal	-.15	-.29	.10	.36	.48
Attention Problems	-.72*	-.91**	-.77*	-.40	-.28
Adaptability	.39	.61	.38	.04	-.02
Social Skills	.32	.57	.34	.04	.27
Functional Communication	.96**	.85**	.72*	.62	.02
<u>BASC-2 Composite</u>					
Externalizing Problems Composite	-.41	-.56	-.51	-.02	-.21
Internalizing Problems Composite	-.12	-.41	-.11	.30	.25
Behavior Symptoms Index	-.53	-.76*	-.56	-.11	-.14
Adaptive Skills Composite	.67	.81*	.55	.32	-.07

Note. Entries based on nonparametric correlations Spearman's rho.

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

* . Correlation is significant at the 0.05 level (2-tailed)

Table 9 presents the correlations between the SLAS and SRS. There were numerous significant negative correlations between the Assertiveness, Responsiveness, and Semantics subscales of the SLAS with the subscales of the SRS ranging from -.74 to -.90. The one SRS subscale did not have any negative correlations with the SLAS was the Motivation subscale.

Table 9

Nonparametric Correlations between the SLAS and SRS

Subscale	<u>SLAS</u>				
	Assertiveness	Responsiveness	Semantics	Syntax	Articulation
<u>SRS</u>					
Awareness	-.78*	-.67	-.61	-.33	.09
Cognition	-.78*	-.83*	-.85**	-.46	-.41
Communication	-.80*	-.83*	-.76*	-.37	-.12
Motivation	-.30	-.37	-.11	.22	.19
Mannerisms	-.74*	-.90**	-.80*	-.38	-.30
Total	-.78*	-.89**	-.80*	-.40	-.25

Note. Entries based on nonparametric correlations Spearman's rho.

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

* . Correlation is significant at the 0.05 level (2-tailed)

Table 10 provides information on the correlations between the SLAS and child speech and language measures. The *GFTA-2* had no significant correlations with any of the SLAS subscales including the Articulation subscale. Because the Articulation subscale of the SLAS did not correlate with any measure including the *GFTA-2*, further data analyses were completed. One-sample *t*-tests were conducted to examine the

Articulation subscale scores from the SLAS and the *GFTA-2* in order to investigate possible differences in a hypothesized population mean. The one-sample *t*-test conducted on the Articulation subscale of the SLAS compared to a hypothesized mean of 5 found a significant difference between the hypothesized population and the parental ratings on the Articulation subscale of the SLAS, $t(-2.66, df = 7, p = .032, 2\text{-tailed test})$. A one-sample *t*-test was conducted on the standard scores of the *GFTA-2* compared to a hypothesized mean of 100 according to the test standardization. Results indicated there was not a significant difference between the *GFTA-2* and the hypothesized mean of 100, $t(-.99, df = 7, p = .354, 2\text{-tailed test})$. The parents rated their children significantly lower than the mean whereas on the *GFTA-2* the children's scores were within the mean.

Correlations between the *TOLD-P:4* and the SLAS subscales are also provided in Table 10. Significant positive correlations were observed between the Syntax subscale of the SLAS and each of the *TOLD-P:4* Index scores, with the exception of the Grammar Index score. These correlations ranged from .73 to .92. The Semantics Index score of the *TOLD-P:4* had significant positive correlations with each of the SLAS subscales excluding the Articulation subscale. The correlations between the Semantics Index and the SLAS subscales ranged from .73 to .92. The Listening Index score of the *TOLD-P:4* had a significant positive correlation with the Assertiveness subscale of the SLAS at .74.

Table 10

Nonparametric Correlations between the SLAS and Child Measures

Subscale	Assertiveness	Responsiveness	Semantics	Syntax	Articulation
<i>GFTA-2</i>					
Standard Score	-.31	-.46	-.25	.01	.35
<i>TOLD-P:4</i>					
Listening Index Score	.74*	.58	.52	.78*	.11
<i>TOLD-P:4</i>					
Organizing Index Score	.71	.55	.71	.84**	.25
<i>TOLD-P:4</i>					
Speaking Index Score	.61	.55	.56	.73*	.22
<i>TOLD-P:4</i>					
Grammar Index Score	.60	.48	.43	.68	-.02
<i>TOLD-P:4</i>					
Semantics Index Score	.78*	.73*	.86**	.92**	.43
<i>TOLD-P:4</i>					
Spoken Language Index Score	.64	.48	.54	.74*	.16

Note. Entries based on nonparametric correlations Spearman's rho.

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

* . Correlation is significant at the 0.05 level (2-tailed)

CHAPTER V

CONCLUSION

This study investigated the validity of the Speech Language Assessment Scale (SLAS) as a potential measure of speech and language abilities in school-age children. The questions addressed in this study were: Are parents' ratings of the speech and language skills of their child with speech-language impairments correlated with standardized speech and language test scores? Specifically, do parents' ratings of the child's assertiveness, responsiveness, lexical abilities, syntax, and articulation abilities significantly correlate with children's performance on standardized measures of assertiveness, responsiveness, lexical knowledge, syntax, and articulation? Various standardized speech and language assessment measures were given to eight children with speech-language disorders while the parents completed the SLAS and other behavioral questionnaires. The nonparametric correlations were run to determine significant relationships between the subscales of the SLAS and the various measures. The goal of this study was to determine if the SLAS could be expanded for use as a potential screener with the school-age population.

Interpretation of Findings

The subscales of the SLAS demonstrated several significant positive correlations with each other, with the exception of the Articulation subscale. The Articulation subscale did not reveal any positive correlations with any of the other SLAS subscales. The Assertiveness subscale of the SLAS exhibited significant positive correlations with the SLAS subscales of Responsiveness, Semantics, and Syntax. This demonstrates that children who have higher levels of assertiveness demonstrate better overall language skills and may in turn feel more confident in their communication abilities. This indicates an inverse relationship between use and ability. The more children practice and use language in communication the better their overall language skills become.

The Responsiveness subscale of the SLAS demonstrated significant positive correlations with the other SLAS subscales of Assertiveness and Semantics. The correlation between the Responsiveness subscale and the Assertiveness subscale was so high at .91 that the two subscales may be measuring part of the same trait. The relationship between the Responsiveness subscale and the Semantics subscale indicates a relationship between word knowledge and use. If a child has greater word knowledge, perhaps they feel more comfortable in answering questions and keeping a conversation going.

The Semantics subscale of the SLAS demonstrated significant positive correlations with the SLAS subscales of Assertiveness, Responsiveness, and Syntax. Word knowledge and vocabulary are essential in building sentences. Having higher

abilities in these areas enable a child to develop longer sentences. These abilities relate to the child's ability to begin conversations and keep them going with others.

The Syntax subscale of the SLAS displayed significant positive correlations with the subscales of Assertiveness and Semantics on the SLAS. The length of sentences that a child can put together will also depend on the child's vocabulary knowledge. This is demonstrated in the relationship between the Syntax and Semantics subscales.

Correlations between these subscales and the Assertiveness subscale suggest a relationship between word knowledge, sentence length, and the tendency to begin conversations or ask questions.

When examining the correlations between the individual SLAS subscales and the individual subscales of the various speech and language measures, several positive and negative correlations exist between the measures. There was one significant positive correlation and one significant negative correlation between the Assertiveness subscale of the SLAS and the *BASC-2*. The significant positive correlation occurred between the Assertiveness subscale and the Functional Communication subscale and the significant negative correlation occurred between the Assertiveness subscale and the Attention Problems subscale. This indicates that children who have high levels of functional communication (i.e., the child's ability to express ideas in an understandable way to others) are rated higher by the parent on the Assertiveness subscale. The negative correlation between the Assertiveness subscale and the Attention Problems subscale suggests that children who have higher levels of attention problems are not rated high by their parents on the SLAS subscale of Assertiveness.

There were also several significant negative correlations noted between the Assertiveness subscale of the SLAS and the subscales of the *SRS*. Significant negative correlations were demonstrated between the Assertiveness subscale and the Awareness, Cognition, Communication, and Mannerisms subscales, and the Total score of the *SRS*. These correlations imply that children who are rated by their parents as high in Assertiveness do not show problems in picking up and interpreting social cues, communicating with others, and do not demonstrate autistic mannerisms. If the child were rated as having lower assertiveness, these issues may need to be investigated as possible social problems.

The Assertiveness subscale also demonstrated significant positive correlations between the Listening Index and Semantics Index of the *TOLD-P:4*. Receptive language skills and the ability to understand word meanings is a correlate to how parents rate their child's assertive communication behavior. No correlations were observed between the Assertiveness subscale and the *GFTA-2* standard score.

The Responsiveness subscale of the SLAS also had many significant positive and negative correlations with the standardized language measures. There was one significant positive correlation and two significant negative correlations between the Responsiveness subscale and the subscales of the *BASC-2*. The significant positive correlation occurred between the Responsiveness subscale and the Functional Communication subscale indicating that children may be more responsive if they have higher abilities in expressing their ideas. The significant negative correlation occurred between the Responsiveness subscale and the Atypicality and Attention Problems subscales. Parents who rated their child low in Responsiveness also reported higher

levels of atypicality and attention problems on the *BASC-2*. There was also a significant negative correlation between the Responsiveness subscale and the Behavior Symptoms Index of the *BASC-2*, indicating that more behavior problems may lead to lower Responsiveness ratings by parents. A significant positive correlation existed between the Responsiveness subscale and the Adaptive Skills Composite of the *BASC-2*. This composite, which relates directly to the child's daily abilities, indicates children are rated as more responsive if they have higher levels of adaptability.

As with the Assertiveness subscale, there were several significant negative correlations noted between the Responsiveness subscale and the subscales of the *SRS*. Significant negative correlations were demonstrated between the Responsiveness subscale of the *SLAS* and the Cognition, Communication, and Mannerisms subscales of the *SRS*. The greater the issues a child has in understanding social cues, communicating socially, and demonstrating autistic mannerisms, the more likely a parent will rate the child as having lower responsiveness on the Responsiveness subscale. Significant positive correlations occurred between the Responsiveness subscale and the Semantics Index of the *TOLD-P:4*. Word knowledge is an important attribute in communication and relates to the parents ratings of a child's responsiveness. No correlations were reported between the Responsiveness subscale and the *GFTA-2* standard score.

The Semantics subscale of the *SLAS* demonstrated one significant positive correlation and one significant negative correlation with the subscales of the *BASC-2*. Just as with the Assertiveness and Responsiveness subscales, the significant positive correlation occurred between the Semantics subscale and the Functional Communication subscale. These three categories all relate to the ability of a child to express their ideas in

communication. The relationship between the Assertiveness, Responsiveness, and Semantics subscales of the SLAS with the Functional Communication subscale of the *BASC-2* indicates that the clear expression of the child's ideas is being measured within all the mentioned subscales. Along with the Assertiveness and Responsiveness subscales, the Semantics subscale of the SLAS also demonstrated significant negative correlations with the Attention Problems subscale of the SLAS. The inverse relationship between parent report of attention problems and the child's assertiveness, responsiveness, and semantic abilities suggests that attention problems may be a good indicator of various language problems.

There were also several significant negative correlations noted between the Semantics subscale and the subscales of the *SRS*. Significant negative correlations were found between the Semantics subscale of the SLAS and the Cognition, Communication, and Mannerisms subscales of the *SRS*. High semantic ability as rated by parents on the SLAS indicate that the child does not have difficulty in understanding social cues, communicating with others, and demonstrating autistic mannerisms. Significant positive correlations occurred between the Semantics subscale and the Semantics Index of the *TOLD-P:4*. The relationship between the two was expected to be significant as it was expected that the two subscales were measuring the same construct. No correlations were observed between the Semantics subscale and the *GFTA-2* standard score.

The Syntax subscale of the SLAS had fewer correlations with the standard language measures than the Assertiveness, Responsiveness, and Semantics subscales. There were no significant correlations observed between the Syntax subscale and any subscale on the *BASC-2* and *SRS*. A child's grammatical abilities may not be a

significant factor in the child's assertiveness and responsiveness when communicating with others. However, many significant positive correlations occurred between the Syntax subscale and indices of the *TOLD-P:4*, including the Listening Index, Organizing Index, Speaking Index, and Semantics Index, as well as with the Spoken Language Index score. The only index score of the *TOLD-P:4* with which the Syntax subscale of the SLAS did not correlate significantly was the Grammar Index. The lack of correlation between the Syntax subscale and the Grammar Index was highly unexpected and may have been correlated with a larger sample size. Children who performed better on the *TOLD-P:4* indices, with the exception of the Grammar Index, were rated higher by their parents in syntax abilities. Along with the other aforementioned SLAS subscales, no correlations were observed between the Syntax subscale and the *GFTA-2* standard score.

The Articulation subscale of the SLAS demonstrated no significant positive or negative correlations with any of the subscales of the various measures including the *GFTA-2* which is a measure designed to test articulation. After conducting a one-sample *t*-test, it was concluded that parents in this study rated their child's skills significantly different than the mean, whereas the mean scores for the children in this study were not significantly different than the mean. The parents rated their child's skills as below that of their peers although the children performed within normal limits. It was expected that parents would be able to accurately rate their child's articulation abilities as evidenced by their ability to do so in previous studies (Hadley & Rice, 1993). In the study conducted by Hadley and Rice (1993) parents were most accurate in their ability to rate articulation as opposed to the other language skills. One possible explanation for the statistically significant difference observed in the scores of the Articulation subscale of the SLAS and

the *GFTA-2* could be due to the inclusion of only the *GFTA-2* Sounds-in-Words portion which only provides information on children's articulation abilities at the word level. The parents may have been rating their child's articulation skills on a more advanced level of difficulty, such as at the sentence or conversational level. Since a sentence or conversational level speech sample was not administered it is not possible to tell with the data if that was the case or if the parents just underrated their child's articulation abilities.

The results from this investigation suggest that parents' ratings of the speech and language skills of their child with speech-language impairments demonstrate significant positive correlations with standardized speech and language test scores as well as demonstrate significant negative correlations with behavior measures associated with specific behavior problems. The parents' ratings of the children's assertiveness, responsiveness, lexical abilities, and syntax significantly correlated with the children's performance on standardized language measures. However, the parents' ratings of the children's articulation abilities did not significantly correlate with the children's performance on the standardized articulation measure. This finding is opposite that of other studies investigating parent report accuracy.

Limitations

This study investigated the validity of a parent report measure adapted for use with a school-age population. Limitations within this study include the small sample size used to represent the current findings. More participants would provide a wider range of speech and language abilities along with parent ratings of those abilities. Given that the participants in the sample were all recruited from the Oklahoma State University Speech-

Language-Hearing Clinic who were all between the ages of four and eight, the population available for recruitment was limited.

Another limitation is that the study targeted only children with diagnosed speech and/or language impairments. The validity of the parent ratings was tested within the disordered population only. A control group of typically developing peers and their parents would be important to include in the future. The parents of children with speech-language impairments may be more sensitive to the nature of their child's speech-language abilities. Parents of typically developing school-age children also need to be included in future studies in order to determine the validity of this test on children who do and do not have speech-language impairments.

One other limitation of the study is the number of questions within each subscale of the SLAS. More questions within each subscale would provide a more stable measure. While this study does include more than one question per subscale whereas previous studies of parent report in school-age children include only one question per area, a more stable measure could be created by including even more questions.

Future Directions

When comparing the validity of the SLAS with school-age children as investigated in the current study to the use of SLAS with preschool children, the SLAS shows promise that it can be adapted for this target population change. The results on the moderately-high validity of the SLAS in school-age children are comparable to the original study by Hadley and Rice (1993) reporting high validity of the SLAS with use in preschool children. While this is a different study that used different measures to validate

the SLAS, it is promising that the SLAS can be adapted for use with the school-age population.

A larger scale study is warranted in the development of the SLAS for use with school-age children. This study should include populations of children with and without speech-language impairments and their parents. It may also be suggested to include teacher report along with parent report for purposes of integration into schools. Further investigation of the SLAS as a parent report measure for school-age children is necessary in order to develop the SLAS as a diagnostic screener in schools.

It is important to note that although parent questionnaires show strong reliability and validity they should be used with other tests in a diagnostic in order to get a complete speech and language profile before making a diagnosis. The questionnaires, however, can certainly direct the additional measures the speech-language pathologist chooses to administer for the remaining diagnostic tests. As speech-language pathologists continue to benefit from using parent questionnaires, research will continue to look at the reliability and validity of the measures utilized.

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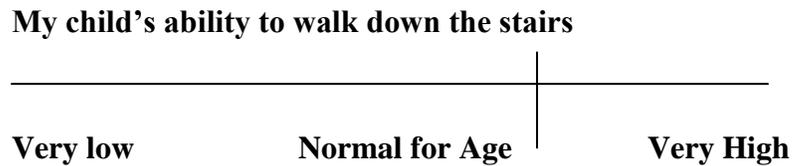
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APPENDIX A

Parent Speech Language Assessment Scale

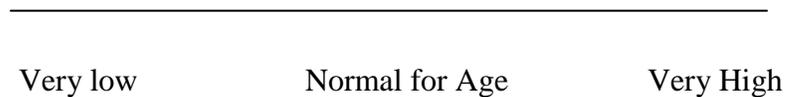
For this survey, you will be provided a statement. There is a line below each statement that represents how you believe your child performs in comparison to other children your child's age. Place a slash mark on the line at the point that you feel best represents where your child is performing.

For example:

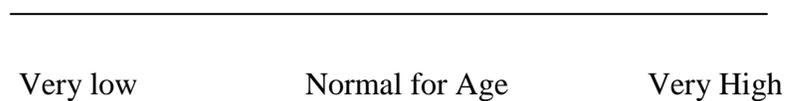


Directions: Please rate you child's language and social skills compared to other children her or his own age.

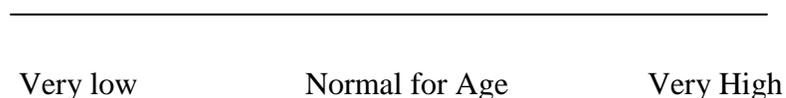
1a. My child's ability to ask questions properly is:



1b. I believe my child's ability to ask questions properly in the future will be:



2a. My child's ability to answer questions properly is:



2b. I believe my child's ability to answer questions properly in the future will be:

Very low Normal for Age Very High

3a. My child's ability to say sentences clearly enough to be understood by strangers is:

Very low Normal for Age Very High

3b. I believe my child's ability to say sentences clearly enough to be understood by strangers in the future will be:

Very low Normal for Age Very High

4a. The number of words my child knows is:

Very low Normal for Age Very High

4b. I believe the number of words my child knows in the future will be:

Very low Normal for Age Very High

5a. My child's ability to use her/his words correctly is:

Very low Normal for Age Very High

5b. I believe my child's ability to use her/his words correctly in the future will be:

Very low Normal for Age Very High

6a. My child's ability to get her/his message across to others when talking is:

Very low Normal for Age Very High

6b. I believe my child's ability to get her/his message across to others when talking in the future will be:

Very low Normal for Age Very High

7a. My child's ability to get what she/he wants by talking is:

Very low Normal for Age Very High

7b. I believe my child's ability to get what she/he wants by talking in the future will be:

Very low Normal for Age Very High

8a. My child's ability to start a conversation, or start talking with other children is:

Very low Normal for Age Very High

8b. I believe my child's ability to start a conversation, or start talking with other children in the future will be:

Very low Normal for Age Very High

9a. My child's ability to keep a conversation going with other children is:

Very low Normal for Age Very High

9b. I believe my child's ability to keep a conversation going with other children in the future will be:

Very low Normal for Age Very High

10a. The length of my child's sentences is:

Very low Normal for Age Very High

10b. I believe the length of my child's sentences in the future will be:

Very low Normal for Age Very High

11a. My child's ability to correctly say the sounds in individual words is:

Very low Normal for Age Very High

11b. I believe my child's ability to correctly say the sounds in individual words in the future will be:

Very low Normal for Age Very High

12a. My child's ability to make "grown-up" sentences is:

Very low Normal for Age Very High

12b. I believe my child's ability to make "grown-up" sentences in the future will be:

Very low Normal for Age Very High

13a. My child's ability to use the proper words when talking to others is:

Very low Normal for Age Very High

13b. I believe my child's ability in the future to use the proper word when talking to others is:

Very low Normal for Age Very High

Oklahoma State University Institutional Review Board

Protocol Expires: 4/5/2011

Date Tuesday, October 12, 2010

IRB Application No: AS1028

Proposal Title: Parental Participation in Children's Speech-Language Treatment

Reviewed and Processed as: Expedited
Modification

Status Recommended by Reviewer(s) **Approved**

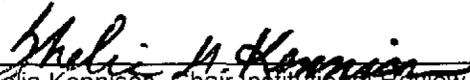
Principal Investigator(s) :

Andrea Ash
042 Murray
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office **MUST** be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

Signature :



Shelia Kennison, Chair Institutional Review Board

Tuesday, October 12, 2010

Date

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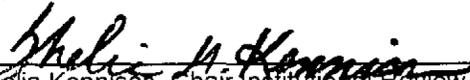
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Signature :



Shelia Kennison, Chair Institutional Review Board

Tuesday, October 12, 2010

Date

VITA

Stephanie Michelle Fry

Candidate for the Degree of

Master of Science

Thesis: VALIDITY OF A PARENT REPORT MEASURE IN SCHOOL-AGE CHILDREN

Major Field: Communication Sciences and Disorders

Biographical:

Education:

Completed the requirements for the Master of Science in Communication Sciences and Disorders at Oklahoma State University, Stillwater, Oklahoma in May, 2012.

Completed the requirements for the Bachelor of Science in Communication Sciences and Disorders at Oklahoma State University, Stillwater, Oklahoma in 2010.

Experience:

Administered speech, language, and cognitive evaluations to children and adults ranging in disorder and severity and provided subsequent treatment in clinic setting.

Presented at the Oklahoma State University Research Symposium in 2011.

Professional Memberships:

Member of the National Student Speech-Language Hearing Association since 2011.

Name: Stephanie Michelle Fry

Date of Degree: May, 2012

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: VALIDITY OF A PARENT REPORT MEASURE IN SCHOOL-AGE CHILDREN

Pages in Study: 49

Candidate for the Degree of Master of Science

Major Field: Communication Sciences and Disorders

Scope and Method of Study:

This study investigated the validity of a parent report measure in school-age children. Parent report is used as a screening and assessment tool for speech-language pathologists, however there has been limited research on parent report in school-age children. The purpose of this study was to determine the validity of the Speech Language Assessment Scale (SLAS) for use with school-age children.

Eight school-age children and a parent of each child participated in this study. Parents were administered the SLAS along with the *Behavior Assessment System for Children- Second Edition* and the *Social Responsiveness Scale*. Children were administered the *Test of Language Development-Primary: Fourth Edition* and the *Goldman Fristoe Test of Articulation-Second Edition*.

Findings and Conclusions:

Results indicate that there are numerous statistically significant correlations between parent ratings of school-age children's speech and language skills on the SLAS and the children's speech and language skills as determined by standardized measures. Statistically significant correlations were evident in the SLAS subscales of Assertiveness, Responsiveness, Semantics, and Syntax. There were no statistically significant correlations between parent ratings and child scores in the area of articulation.

ADVISER'S APPROVAL: Dr. Cheryl L. Giddens
