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A Change in Pass/Fail Criterion on the *Mini-Screening Language Test for Adolescents*

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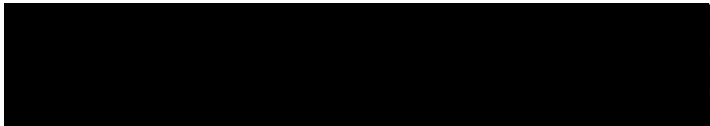AN ABSTRACT OF THE THESIS OF Denice Lynn Palmer Milholland for the

Master of Science in Speech Communication, with an emphasis in Speech

Pathology/Audiology, presented May 19, 1982.

Title: A Change in Pass/Fail Criterion on the <u>Mini-Screening</u>

<u>Language Test for Adolescents</u>.

APPROVED BY MEMBERS OF THE THESIS COMMITTEE:

Robert H. English, Chairman

Mary E. Gordon

This study was designed to determine whether varying criterion

for pass/fail on the <u>Mini-Screening Language Test for Adolescents</u>

(Mini-STAL) would increase accuracy of predicting outcome of the

<u>Screening Test of Adolescent Language</u> (STAL). The Mini-STAL was

developed by Prather et al. (1981) to identify rapidly those students

between grades six through twelve who are in need of language inter-

vention. Using Prather's established criterion (one or more errors

equal failure), the Phoenix school district (Prather, 1981) found too

many of their school population (20 percent) were failing the Mini-

STAL. Thus, they established an experimental criterion (two or more

errors equal failure) to identify those students with language prob-

lems. The present study sought to determine what proportion of students with language disorders was not detected by the Mini-STAL and what proportion of students without language disorders failed the Mini-STAL using the two criteria.

Subjects for this investigation were 287 students attending the seventh, eighth, and ninth grades at Raymond Brown Junior High School, Hillsboro School District, Hillsboro, Oregon, in the fall of 1981. Nineteen of these students were eliminated from the study due to the ambiguous nature of the manual in determining their pass/fail scores for Subtest IV (Proverb Explanation) on both tests, leaving a total of 268 subjects in the study.

The standardized instrument used to assess whether a student was in need of further diagnosis and/or intervention was the Screening Test of Adolescent Language (STAL) by Prather et al. (1980). Results of the STAL were compared with results of the Mini-STAL using the sets of criteria discussed above. Analysis of Prather's established criterion showed the Mini-STAL produced sixty-six false positives or 24.6 percent of those tested passed the Mini-STAL but failed the STAL. Four false negatives or 1.4 percent of the students failed the STAL and passed the Mini-STAL.

Analysis of the Phoenix experimental criterion revealed the Mini-STAL produced six false positives or 2.3 percent of those tested passed the Mini-STAL but failed the STAL. Eleven false negatives or 4.1 percent of those tested failed the STAL but passed the Mini-STAL.

Prather's established criterion produced too large a proportion of false positives to be considered a valid screening test of language

abilities, and the experimental Phoenix value produced too large a
proportion of false negatives to meet the standards for an ideal
screening instrument. Thus, varying the criterion on the Mini-STAL
does not increase the accuracy of predicting outcome of the STAL.
Hence, this investigator would recommend utilizing the Prather crite-
rion initially; then further screening of the false positives may be
completed utilizing the STAL to reduce excessive false positives.
This procedure would need to be tested empirically.

A CHANGE IN PASS/FAIL CRITERION ON THE

MINI-SCREENING LANGUAGE TEST

FOR ADOLESCENTS

by

DENICE LYNN PALMER MILHOLLAND

A thesis submitted in partial fulfillment of the
requirements for the degree of

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TO THE OFFICE OF GRADUATE STUDIES AND RESEARCH:

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It is humbling to sit down and inventory my debts after writing a thesis. I suddenly realize how much I owe to others and how much more difficult the task would have been had I been forced to go it alone.

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INTRODUCTION AND STATEMENT OF THE PROBLEM

INTRODUCTION

The identification of language disorders in the adolescent population has long been neglected (Byers Brown, 1976; Brenner, 1979; Prather, Breecher, Stafford, and Wallace, 1980; and Wiig and Semel, 1980). Until recently, there has been no standardized screening device to identify adolescents who require language intervention. Thus, many Speech-Language Pathologists have been forced to assess language skills of adolescents using informal measures. The student has been asked to describe an event, make up a story, or explain a concept, and then language ability is subjectively judged from the responses (Prather, Brenner, and Hughes, 1981).

A standardized language screening test designed to assess the expressive-receptive language abilities of adolescents is necessary to identify objectively those students with language problems. In addition to the obvious reason that it should be done, it would help meet requirements established by U.S. Congressional Public Law 94-142, The Education for All Handicapped Children Act of 1976. This law mandates that handicapped students be identified, assessed, and subsequently provided services; hence, the Speech-Language Pathologist is required to identify specifically those students with speech/language disorders.

The importance of identifying adolescents with speech and language disorders generally has been overlooked by professionals. Notable exceptions are professionals such as Thorum (1979), Prather et al. (1980, 1981), and Wiig and Semel (1976, 1980), all of whom have developed language tests specifically available for the adolescent population. Other tests (Dunn, 1965; Baker and Leland, 1967; and Mecham, Jex, and Jones, 1967) have been commonly used to assess language disordered adolescents; however, they were not designed for this population. Prather et al. (1981) note that one or more shortcomings associated with these latter tests are the following: 1) limited number of test items and/or normative subjects; 2) unrealistic length of administration; and 3) restriction to receptive language performance or limited verbal response from students.

In 1980, Prather, Breecher, Stafford, and Wallace devised and standardized a Screening Test of Adolescent Language (STAL). The major disadvantage of the twenty-three item test is that it requires approximately seven minutes for administration, thus making it inappropriate for large scale screening. This time span allows the screening of only about forty-five students per day.

More recently, Prather, Brenner, and Hughes (1981) derived a mini-screening test from the STAL, the Mini-Screening Language Test for Adolescents (Mini-STAL). This test requires approximately one minute for administration, allowing identification of adolescents in need of language intervention through large scale screening. Using this screening test, it is estimated that three hundred students per day can be screened.

In utilizing the Mini-STAL, a Phoenix, Arizona, school district found that too many students (approximately 20 percent of the junior high school population) failed the test (Prather, 1981). Typically, these students would then be referred for further diagnostic testing for possible language intervention. An examination of criteria for failure on the Mini-STAL reveals that missing one of the five items of the test results in failure. Since too many students failed the Mini-STAL for efficient use of clinical time, the Phoenix school district retested only those students who failed at least two of the five items. If criterion was set at missing two of the five items, instead of one (as established by the Phoenix, Arizona, school district), then perhaps the Mini-STAL might be a more accurate predictor of STAL performance.

STATEMENT OF THE PROBLEM

The purpose of this investigation was to determine the accuracy of predicting outcome of the Screening Test of Adolescent Language when varying the criterion for passing the Mini-Screening Language Test for Adolescents in screening seventh, eighth, and ninth grade students.

The two questions this investigation sought to answer were:

1. What are the estimated false positives; i.e., what proportion of students without language problems according to the STAL, will fail the Mini-STAL when the criterion is one error versus two errors?

2. What are the estimated false negatives; i.e., what proportion of students with language problems according to the STAL will not be detected by the Mini-STAL when the criterion is one error versus two errors?

CHAPTER II

REVIEW OF THE LITERATURE

Conceptions of language and language disorders have changed tremendously over the last two decades. Thus, the need for new methods of language assessment is becoming crucial. Specifically, the study of language disorder has recently entered a population that has been very much neglected in this country, the adolescent population. There now exists the need for language screening instruments to serve this population. Language screening refers to a process of rapid assessment of a population in order to identify potential language disordered adolescent students. These students would then be referred for further diagnostic testing in order to identify those in need of language intervention.

The purpose of this review is threefold: 1) to discuss language and language disorders of the adolescent population; 2) to discuss the history of identifying language disorders; and 3) to discuss current language screening techniques.

LANGUAGE AND LANGUAGE DISORDERS

Research reveals a variety of ways to define language and language disorders, as well as the causes of these disorders (Carroll, 1953; Chomsky, 1965; Marge, 1972; Sitko and Gillespie, 1975; Baren, Liebl, and Smith, 1978; Kleffner, 1978; Wiig and Semel, 1980; and

Gerber and Bryen, 1981). This disparity of opinion is often a result of the various disciplines such as audiology, speech-language pathology, special education, medicine, and optometry, which have contributed their specific viewpoints, insights, and vocabulary (Sitko and Gillespie, 1975). With such a variety of backgrounds, communication among disciplines tends to be confusing and complicated. This can be seen in the numerous labels that are used regarding language deficiency, such as: aphasia, language disorder, language delay, learning disability, psychoneurological learning disorder, autism, psychosis, and mental retardation. These words have lacked consistent and firm usage, thus becoming redundant, ambiguous, and contradictory. Within these same boundaries, Kleffner (1978) reports the existence of further dichotomies between diagnosis and treatment. These contradictions restrict the development of a consolidated approach to assessment.

Knowledge about current conceptions of language and language disorders provides a basic foundation necessary to identify adolescents with language disorders. Language has been defined in numerous ways by numerous examiners, depending on their particular discipline. For example, Gerber and Bryen (1981) view language as a social code possessing a finite set of linguistic rules, having the potential for generating an infinite number of sentences. They write: ". . . language is a rule-governed symbol system that is capable of representing or coding one's understanding of the world." This emphasis on coding is operative in other linguistic definitions of language, e.g., Carroll (1953), who defines language as:

> A structured system of arbitrary vocal sounds which is
> used, or can be used, in interpersonal communication

by an aggregation of human beings, and which rather exhaustively catalogs the things, events, and processes in the human environment.

Chomsky (1965), on the other hand, defines language from a psycholinguistic, transformational-generative point of view. Language, according to Chomsky, is an abstract system of knowledge in which a grammatical association exists between sound and meaning in a specific and complex manner. He divides this elaborate language system into syntactic, semantic, and phonological rules.

Similar to Chomsky (1965), several researchers divide language into components. Commonly, they are referred to as phonological, morphological, syntactical, and semantic components. These components must be acquired in order to understand and speak a language, and are observed indirectly through their effects on listening, speaking, reading, and writing. Various approaches reflecting each of these components of language and language behaviors are found in studies assessing language difficulties of adolescents (Gerber and Bryen, 1981).

Just as language has been defined in many ways, so it is with language disorder. Baren, Liebl, and Smith (1978) view students with language disorders as having ". . . some type of dysfunction in the various mechanisms necessary for the understanding, processing or expression of language." Heward and Orlansky (1980) divide language disorders into three categories: 1) receptive; 2) expressive; and 3) delay. The 1977 Federal Register specifies that language problems include deficient skills in oral expression, listening comprehension, and written expression. Neidecker (1980) defines language disorder as

abnormal acquisition, comprehension, or use (including all receptive and expressive language skills) of spoken or written language.

According to Myklebust (1964) and Wood (1969), approximately 5 percent of school-age children have language problems severe enough to interfere with education. This estimate involves approximately ten million students in the United States (Perkins, 1977). The National Advisory Neurological Diseases and Stroke Council (1969), however, estimated prevalence of language disorders to be only two million children or approximately 1 percent of school-age children in the United States. These varying results may be related to the numerous definitions of language disorder in the literature. No published prevalence estimates of language disorder, specifically in the adolescent population, are available.

Baren et al. (1978) list the following causes which have been attributed to language disorders: genetic; hereditary; infectious; traumatic; nutritional; and emotional. Researchers have become more concerned, however, with the processes that may be disturbed in language disordered adolescents (Wiig and Semel, 1976, 1980) rather than with describing each group.

Language disorders are characterized by many different signs and symptoms. It is extremely important to consider the category of language disorder when evaluating a student who shows such behaviors as: inattention; excessive activity; poor reading; general learning difficulty; problems following directions; noise making; shyness; disruptiveness; and other behavioral problems. According to Baren et al. (1978), language disability can be a "great masquerader" and is often

categorized in the learning disability realm.

Historically, researchers in the field of learning disabilities have concentrated their interest on visuo-perceptual problems; however, a concern for language problems also is evident. Language disorders associated with learning disabilities have been reported in the literature by Orton (1937); Myklebust (1954); Strauss and Kephart (1955); Cruickshank, Bentzen, Ratzeburg, and Tannhauser (1962); Bannatyne (1971); Wiig and Harris (1974); and Wiig and Semel (1974, 1976). According to Sitko and Gillespie (1975), language disorders have been considered as symptoms of a learning disability, as well as the cause. Not only do authors feel language problems are disproportionately present in the learning disabled population (Gerber and Bryen, 1981), but also the definition of learning disabilities presented in U.S. Congressional Public Law 91-230, The Children with Specific Learning Disabilities Act of 1969, implies that language is paramount to the problems of this population:

> . . . disorder in one or more of the basic psychological processes involved in understanding and/or in using spoken or written language.

McGrady (1968) and Marge (1972) estimate 50 percent of such learning disabled individuals have language deficits.

Language problems become most evident during the preschool and elementary years; thus, the study of language disorders tends to center around this population of students. What happens to these students as they approach junior and senior high schools? A review of the literature reveals a paucity of published data on the later fate of these students. Jones and Healey (1974) report meager information

exists on actual prevalence or incidence of adolescents with depressed or disordered language skills. The growing awareness of language disorders in the adolescent population has resulted in: 1) a realization that most Speech-Language Pathologists have no frame of reference with which to carry out assessment; 2) there are few, if any, adequate instruments for carrying out diagnosis; and 3) there is no logical basis for translating assessment results into effective teaching programs.

BACKGROUND TO IDENTIFYING LANGUAGE PROBLEMS

Neidecker (1980) discusses two processes utilized for identification of language problems: these are referral and screening. These processes may be implemented either singly or in combination. Referrals consist of alerting the school clinician that a particular student might have a language problem. On the junior and senior high school levels, self-referrals are more evident (Gordon, 1981). Public Law 94-142 requires that all students needing diagnostic assessment be identified. Screening is the most widely used method in this identification process (Mercer, 1979). Packouz (1975) defines screening as a procedure used to evaluate a large population of students to identify those who potentially have language problems. The purpose of screening, according to Neidecker (1980), is threefold: 1) to determine whether a problem exists; 2) to determine whether further evaluation is required; and 3) to determine if referral to other professions is required.

Neal (1976) conducted a study of speech pathology services in

the secondary schools. His results indicate that screening was the most prevalent case-finding procedure in elementary schools, whereas, referrals by teachers were most frequently used in the secondary grades. Difficulties in implementing a screening program, resulting from inflexible junior and senior high school schedules, were thought to contribute to these results (Neidecker, 1980).

According to Gerber and Bryen (1981), assessment for screening purposes should provide information demonstrating how a student's performance in a given area of language conforms to normative data for that given age group. Typically, this information is presented in forms such as percentiles and/or language ages.

Important considerations necessary for screening emphasized by Task Force Report (1973) include: quickness; pass/fail accuracy; and an accurate statement of the goal accomplished by the screening. Rosenburg (1970) emphasizes the need for language assessment devices based on recent, valid, theoretical, methodological, and research developments in the language sciences. Hamilton (1974) comments that both reliability and validity of rapid screening procedures should be tested frequently, illustrating false positive and false negative rates of less than 1 percent.

The best methodology to use for screening is still under scrutiny. Should one use spontaneous language samples or elicit repetitions of language forms for analysis? While no one has provided conclusive answers, Gerber and Bryen (1981) report the test format ideally should be as closely related as possible to the natural use of language, yet still provide valuable information. Thus, a distinction

must be made between screening techniques that are structured and those based on the analysis of the spontaneous use of language. Gerber and Bryen (1981) believe a structural technique may sacrifice information concerning how a child uses language naturally, and a spontaneous language sample may not be valid because the linguistic structure in question may not occur.

While the search continues for determining language comprehension and expression in the clinic, school, hospital, etc., Speech-Language Pathologists must utilize what is currently available.

LANGUAGE SCREENING TESTS

With the increasing interest in the area of language assessment during the past two decades, many language assessment instruments have been developed. Most of these instruments were designed to serve the age range between four and twelve (Thorum, 1981); however, recently several tests have appeared which may be considered as possible screening tests for adolescent language. To gain further insight into the current state of the art of adolescent language screening, an overview of these tests will be presented below.

Three tests currently available specifically to screen the adolescent population for language disorders are: Clinical Evaluation of Language Functions (CELF); Screening Test of Adolescent Language (STAL); and Mini-Screening Language Test for Adolescents (Mini-STAL).

The CELF has been adapted by its authors, Wiig and Semel (1980), for use as a screening device, as well as a diagnostic instrument. The advanced level screening test is used to assess fifth through

twelfth grade students. It looks at both receptive and expressive
skills for language processing and language production. Normative
data were collected on one hundred students per grade level for a
total of 1,405 students representative of the 1970 United States Cen-
sus data. Reliability and validity studies were conducted. The dis-
advantage of this screening instrument is the administration time of
twenty minutes. This time span would allow only two students per
class period or approximately fifteen students per day to be screened,
thus failing to meet the consideration of time efficiency necessary in
selecting a screening instrument, as recommended in the Task Force
Report (1973).

The STAL, developed by Prather, Breecher, Stafford, and Wallace
(1980) to identify students needing further diagnostic evaluation,
taps several language skills determined by Wiig and Semel (1976) to be
associated with learning/language disabilities. These skills are:
word finding and retrieval abilities; memory span (associated with
related semantic and syntactic stimuli); decoding messages; language
reasoning; problem solving; paraphrasing ability; and cognitive skills
needed for verbal clarity. The STAL is designed for use with sixth
through twelfth grade students. It was standardized on 206 sixth
grade students and 219 ninth grade students from the Phoenix, Arizona,
area. Prather et al. (1980) also utilized a learning disability popu-
lation for standardization. Reliability and validity studies were
conducted. The validity of the STAL was established utilizing thirty-
eight ninth grade students who scored across the range from low to
high on the STAL. Four subtests of the Detroit Tests of Learning

Aptitude (DTLA) by Baker and Leland (1967) were administered as the instrument for validity correlation. These subtests include: Verbal Opposites; Auditory Attention Span for Related Syllables; Verbal Absurdities; and Likenesses and Differences. The Pearson product-moment correlation between the total STAL score and the total raw score across the four DTLA subtests was +.86.

To determine reliability of the STAL, the authors (Prather et al., 1980) readministered the test to thirty students one month later. The Pearson product-moment correlation coefficient between the two sets of scores was determined to be +.98.

Disadvantages to this screening instrument include: a limited age range utilized in the standardization and validation studies, and conduction of the standardization and validation studies within a limited geographical area (Phoenix, Arizona). Another disadvantage to this screening instrument is the administration time. The STAL requires seven minutes to administer. This time span allows the screening of only about forty-five students per day, thus making it inappropriate for large scale screening.

More recently, Prather, Brenner, and Hughes (1981) derived a mini-screening test from the STAL, the Mini-Screening Language Test for Adolescents (Mini-STAL). It is composed of five items extracted from the STAL via an item analysis. To determine whether the selected five items accurately predicted pass/fail of the total STAL, Prather et al. (1981) rescored previously administered STAL tests. They looked only at the five items selected for the Mini-STAL. The test score results of the selected five items from the STAL for normal

achieving sixth and ninth grade students can be seen in Table I.

The disadvantage to this mini-screening test is the exceedingly large number of false positives (13 percent) or those students who failed the mini-screening test but passed the STAL. According to Hamilton (1974), the ideal screening test should not exceed 1 percent false positive and false negative rates. The advantage of the Mini-STAL is that it requires approximately one minute for administration. This time span would allow a Speech-Language Pathologist to screen approximately three hundred students per day.

TABLE I

TEST SCORE RESULTS OF THE SELECTED FIVE ITEMS
FROM THE STAL FOR NORMAL ACHIEVING
SIXTH AND NINTH GRADE STUDENTS
(PRATHER ET AL., 1981)

| | | STAL | | |
		Fail	Pass	Subtotal
M I N I	Fail	Agreed 9-10%	False + 13%	22-23%
S T A L	Pass	False - 2-3%	Agreed 74-75%	76-78%
Subtotal		11-13%	87-88%	Total 100%

Additional tests often are utilized in screening adolescent language, but they were not designed specifically for this population. These tests consist of the Peabody Picture Vocabulary Test (PPVT),

<u>Detroit Tests of Learning Aptitude</u> (DTLA), <u>Illinois Test of Psycho-</u>
<u>linguistic Ability</u> (ITPA), and the <u>Utah Test of Language Development</u>
(UTLD). Many criticisms have been leveled at these tests. Sitko and
Gillespie (1975) question the ITPA's (Kirk, McCarthy, and Kirk, 1969)
rationale, validity, and reliability. Irwin, Moore, and Ramps (1972)
criticize the PPVT (Dunn, 1965) for its assessment of students' recep-
tive language skills only. The UTLD (Mecham, Jex, and Jones, 1967)
directs most of its items to the preschool level, thus inadequately
representing the adolescent population. Finally, the DTLA (Baker and
Leland, 1967) requires lengthy administration time.

It has been noted in the foregoing review of the literature that
there now exists the need for additional screening instruments to
serve the adolescent population. More specifically, screening tests
are needed that are not only fast but also reliable, valid, and
standardized with efficient cut-off scores. The Mini-STAL is able to
be utilized in large scale screening; however, it does not provide
accurate pass/fail information. The present study was designed, in
effect, to help determine the efficiency of the cut-off scores on the
Mini-STAL. Specifically, what is the comparative, overall accuracy of
prediction when varying the criterion for pass/fail?

CHAPTER III

METHODS AND PROCEDURES

The following is a discussion of the methods and procedures that were utilized in the present study. More specifically, the ensuing discussion is organized under the following subtopical headings: Subjects; Examiners; Testing Environment; Procedures; Instruments; and Data Analysis.

SUBJECTS

The subjects of this study were selected from students who were currently attending seventh, eighth, and ninth grades at Raymond Brown Junior High School, Hillsboro School District, Hillsboro, Oregon, in the Fall of 1981. Permission was obtained from the parent or guardian of each subject prior to participation in the study (see Appendix A for Permission Request Letter). All students were tested upon return of their parent permission slips. The students were selected by the random order in which the permission slips were returned.

For the purpose of the present investigation, an adolescent population was defined as those students enrolled in seventh, eighth, and ninth grades. No attempts were made to control for intelligence, socioeconomic level, or sex.

EXAMINERS

In addition to the writer, three individuals served as examiners. These examiners were graduate students currently completing requirements within the Speech and Hearing Sciences Program, Department of Speech Communication, Portland State University.

In order to calibrate administration techniques, the investigator trained the additional examiners in standard administration procedures. The examiners recorded student responses verbatim. Test administration was under the supervision of a Speech-Language Pathologist with the Certificate of Clinical Competence (CCC) in Speech-Language Pathology.

TESTING ENVIRONMENT

Screening took place within three consecutive school days during September 1981. Each student was seen individually for approximately eight minutes. Testing took place from two chairs set-up in the hall outside the classrooms. Each student, in turn, was seated directly across from the examiner.

PROCEDURES

Parental permission slips were collected and subjects selected. Two tests were administered to each student, the Screening Test of Adolescent Language (STAL) and the Mini-Screening Language Test for Adolescents (Mini-STAL) by Prather et al. (1980, 1981). Scoring was done by the investigator at the conclusion of all testing. The order of presentation for the two tests was assigned on a random basis by

systematically alternating the presentation so that half of the sub-
jects received the Mini-STAL first. Prior to testing, each student
was assured by the examiner that: 1) the screening tests were not
graded school tests and the examiner was not a school employee; and
2) that some questions might be repeated, and this would not imply
failure.

At the time of testing each student was asked to give his/her
name, birthdate, and race. Sex was recorded by the examiner. The
examiners were not acquainted with any of the subjects, and had no
information about their previous language or academic performance.

Instructions from the test manual were given verbally to each
student at the beginning of each subtest. One variation was made in
giving verbal instructions from the manual on Subtest III (Language
Processing). The manual instructs the examiner to say: "I will read
a sentence and I want you to tell me two things: What does not make
sense and why it does not make sense. Listen carefully; I can only
read this once." According to the manual, if a partial response is
given, the examiner may prompt with "Why doesn't that make sense?" To
reduce inconsistent administration this examiner elected to routinely
include the prompt after the stimulus sentence was read, for example:

    . . . THE SUN WAS SHINING SO BRIGHTLY LAST WEEK ON
    TUESDAY THAT I HAD TO WEAR MY SUNGLASSES IN THE MOVIE
    THEATER.

    EXAMINER WOULD THEN PROMPT: WHAT DOES NOT MAKE SENSE?
    /pause/ WHY DOESN'T THAT MAKE SENSE? /pause/

All examiners were instructed to include the prompt. Subject re-
sponses were recorded verbatim on the score sheets by the examiner.

INSTRUMENTS

The instruments utilized in the present investigation were the STAL and the Mini-STAL. Each test is described in detail below.

Screening Test of Adolescent Language

The STAL was designed for use with upper elementary through high school students. It includes twenty-three items which test both expressive and receptive language abilities (see Appendix B for a copy of the Score Sheet). Time required for administration is approximately seven minutes. No pictures or objects are required for administration. Scoring time requires approximately one minute.

The STAL is divided among four subtests as follows: Vocabulary; Auditory Memory Span; Language Processing; and Proverb Explanation. Prather et al. (1980) selected these particular subtests to assess several language skills that Wiig and Semel (1976) associate with learning/language disabilities. The Vocabulary Subtest assesses word finding and retrieval abilities of the student. Each word is read to the subject and then immediately followed by a three to eight word sentence containing the stimulus word. The subject is then asked to give another word for the stimulus word which means the same thing and fits appropriately in the sentence. A guide to correct responses is provided in the manual; however, regional colloquialisms and synonyms may be judged correctly as deemed by the examiner. The items are scored correct or incorrect.

Aspects of the student's memory span are assessed with the Auditory Memory Span Subtest. It is comprised of three sentences, each

containing fifteen to sixteen words. After a sentence is read to the subject, he is asked to repeat it verbatim to the examiner. A sentence containing three or more errors (substitutions, additions, or omissions) is scored incorrect.

The student's ability to decode a message and to use language for problem solving is examined in the Language Processing Subtest. This subtest consists of five sentences that consist of either an absurd or incorrect idea. The subject is required to respond to each orally read sentence by answering the following two part task: 1) What does not make sense? and 2) Why does it not make sense? Guidelines for correct responses are in the manual; however, subjective judgment on the part of the examiner is relied upon. Both concepts must be answered correctly to be scored correct.

The Proverb Explanation Subtest requires the student to paraphrase. This, in turn, examines the student's cognitive skills necessary for verbal clarity. Three proverbs are given, ranging in length from three to five words. The subject is asked to tell what each proverb means. An item is scored correct if the subject verbally demonstrates comprehension of the meaning of the proverb. Again, guidelines are provided in the manual, but subjective judgment by the examiner is relied upon heavily.

Failure of an individual on the STAL is determined by one or both of the following: 1) total test score; and 2) individual subtest scores. Thus, when computing pass/fail results, the examiner must compare two types of scores, the total test score and the individual subtest scores with the cut-off scores provided.

A score is computed for each subtest. These scores are then totaled to give the total test score. Both scores must be compared with the cut-off scores provided to determine whether the student has passed or failed each section or the total test (refer to Table II).

The STAL was standardized on 206 sixth grade students and 219 ninth grade students from the Phoenix, Arizona, area, as well as 32 junior high school students and 90 senior high school students in learning-disabled classrooms.

Mini-Screening Language Test for Adolescents

The Mini-STAL was derived from the larger STAL for use as a rapid screening device. It is composed of five items selected from the STAL: two vocabulary items; and one item from each of the remaining three subtests (see Appendix C for a copy of the Score Sheet). For a discussion of what each subtest measures, refer to the STAL section above. Failure of one of the five items results in failure of the screening test.

The Mini-STAL was derived totally from an item analysis of data obtained in the standardization of the complete STAL. The five items selected were passed by the majority of students at each grade level. Prather et al. (1981) reasoned that failure of one of these items resembles failure of the corresponding subtest.

<div align="center">DATA ANALYSIS</div>

In the present study, criteria for pass/fail on the Mini-STAL were compared using two cut-off scores: following the criterion established by Prather et al. (1981), failure on the Mini-STAL con-

TABLE II

CUT-OFF SCORES FOR THE STAL (PRATHER ET AL., 1980)

Total Test Score	Grades 6-8 11 Pass Responses	Grades 9-12 13 Pass Responses
Vocabulary	5 pass responses	6 pass responses
Auditory Memory Span	1 pass response	1 pass response
Language Processing	2 pass responses	2 pass responses
Proverb Explanation	1 pass response	1 pass response

sisted of failure on one or more items; and following criterion estab-

lished by the Phoenix, Arizona, school district (Prather, 1981), fail-

ure on the Mini-STAL consisted of failure on two or more items. Thus,

each student was judged according to two pass/fail criteria on the

Mini-STAL (see Table III).

TABLE III

MINI-STAL CRITERIA FOR PASS/FAIL

Prather's Criterion for Pass/Fail	Phoenix School District Criterion for Pass/Fail
Pass: 5 pass responses	Pass: 4 or more pass responses
Fail: 1 or more errors	Fail: 2 or more errors

These results were then compared with the pass/fail results

obtained from the STAL (total test score and subtest score) to deter-

mine: 1) the number of false positives, those students with no lan-

guage problems according to the STAL, but failed the Mini-STAL; and

2) the number of false negatives, those students with language prob-

lems according to the STAL, but were undetected by the Mini-STAL. The

results and conclusions from these tests are discussed in Chapter IV.

CHAPTER IV

RESULTS AND DISCUSSION OF RESULTS

RESULTS

Results from the Mini-Screening Language Test for Adolescents
(Mini-STAL) were compared using two sets of pass/fail criteria. Cri-
terion consisting of Prather's established pass/fail values (5=pass;
4 or less=fail) will be referred to as "Prather's criterion." The
comparison criterion consisted of the Phoenix public school district's
experimental values (4-5=pass; 0-3=fail) and will be referred to as
the "Phoenix criterion." Concurrently administered with the Mini-STAL
was the Screening Test of Adolescent Language (STAL) to serve as a
standardized control instrument. Tables were generated to describe
and compare the collective data from these instruments.

The results were compared according to: 1) the number of false
positives, those students who passed the STAL but failed the screening
test (Mini-STAL) using both Prather's criterion and the Phoenix crite-
rion; and 2) the number of false negatives, those students who failed
the STAL but passed the Mini-STAL using both the Prather and Phoenix
criteria.

The cut-off scores for pass/fail on the STAL (control instru-
ment) differed for two populations. Students in grades nine through
twelve required at least thirteen pass responses, whereas those stu-
dents in grades six through eight required only eleven pass responses

(see Table II, Chapter III). Students in both populations were asses-
sed in this study, i.e., 7th-8th grade students and 9th grade stu-
dents; thus, data from these two samples were analyzed separately.
The product of all subjects examined was then determined to provide
the overall results displayed in Tables IV and V.

Prather's Criterion

The overall results displayed in Table IV are the product of all
subjects examined using Prather's criterion.

TABLE IV

OVERALL TEST SCORE RESULTS OF THE STAL AND THE MINI-STAL
USING PRATHER'S CRITERION

		STAL		
		Fail	Pass	Subtotal
M I N I	Fail	Agreed 16 (6.0%)	False + 66 (24.6%)	82 (30.6%)
S T A L	Pass	False - 4 (1.4%)	Agreed 182 (68.0%)	186 (69.4%)
Subtotal		20 (7.5%)	248 (92.5%)	Total 268 (100%)

Results shown in Table IV assist in answering the specific questions posed in this study utilizing Prather's criterion:

1. What are the estimated false positives; i.e., what proportion of students without language problems according to the STAL, failed the Mini-STAL when the criterion consisted of one error?

    Results: Prather's criterion produced 66 false positives or 24.6 percent of those tested. Thus, 24.6 percent of the sample tested who passed the STAL failed the Mini-STAL. This means that 66 out of 268 students would have to be tested with a diagnostic test needlessly.

2. What are the estimated false negatives; i.e., what proportion of students with language problems according to the STAL, were not detected by the Mini-STAL when the criterion was one error?

    Results: Prather's criterion produced four false negatives or 1.4 percent of those tested. These results indicate that 1.4 percent of the sample tested who failed the STAL passed the Mini-STAL. Using the Mini-STAL alone 4 out of 268 students would pass unidentified through the screening.

Table IV also reveals the number and percentage of subjects who passed both tests or failed both tests, i.e., those tests which were in agreement. An ideal screening instrument would indicate 100 percent of the students in agreement with the control test. That is, either the students should fail both tests or pass both tests. The combined results, using Prather's criterion, show 198 or 74 percent of the subjects received similar scores on both tests.

Phoenix School District Criterion

Overall results displayed in Table V are the product of all subjects examined using the Phoenix criterion.

Utilizing the Phoenix criterion, results shown in Table V assist in answering the specific questions posed by the present study:

TABLE V

OVERALL TEST SCORE RESULTS OF THE STAL AND THE MINI-STAL
USING THE PHOENIX CRITERION

		STAL		
		Fail	Pass	Subtotal
M I N I S T A L	Fail	Agreed 9 (3.3%)	False + 6 (2.3%)	15 (5.6%)
	Pass	False − 11 (4.1%)	Agreed 242 (90.3%)	253 (94.4%)
Subtotal		20 (7.4%)	248 (92.6%)	Total 268 (100%)

1. What are the estimated false positives; i.e., what
    proportion of students without language problems
    according to the STAL, failed the Mini-STAL when
    the criterion was two errors?

    Results: The Phoenix criterion produced 6 false
    positives or 2.3 percent of those tested. Thus, 2.3
    percent of the sample tested who passed the STAL
    failed the Mini-STAL. This means that only 6 out of
    268 students would have to be reexamined using a
    diagnostic test.

2. What are the estimated false negatives; i.e., what
    proportion of students with language problems
    according to the STAL, were not detected by the
    Mini-STAL when the criterion was two errors?

    Results: The Phoenix criterion produced 11 false
    negatives or 4.1 percent of those tested. These
    results indicate that 4.1 percent of the sample
    tested who failed the STAL passed the Mini-STAL.
    This means that 11 out of every 268 students tested
    would go without needed services.

Table V also reveals the number and percentage of subjects who passed both tests or failed both tests, i.e., those tests which are in agreement. The combined results, using the Phoenix criterion, show 251 or 93 percent of the subjects received similar scores on both tests.

DISCUSSION OF RESULTS

This study sought to determine the accuracy of predicting the outcome of the Screening Test of Adolescent Language (STAL) when varying the criterion for passing the Mini-Screening Language Test for Adolescents (Mini-STAL) in screening seventh, eighth, and ninth grade students. Overall results cited in the foregoing section indicate that the Phoenix criterion significantly reduced the number of false positives (2.3 percent) as compared to Prather's criterion (24.6 percent). With the reduction of false positives using the Phoenix criterion, however, an increase in false negatives resulted; i.e., those who passed the screening test (Mini-STAL) but failed the control test (STAL). The Phoenix criterion showed 4.1 percent of the students tested as false negatives or about 11 out of every 268 students. Prather's criterion in comparison reduced the number of false negatives to 1.4 percent or about 4 out of every 268 students.

False Positives

An ideal screening test is one which will identify all students in need of a thorough diagnostic evaluation and/or inclusion in an intervention program (Packouz, 1975). Such a test, however, should not identify an excessive number of students who are not in need of

diagnosis and/or intervention. Sixty-six students needed further testing according to the Mini-STAL using Prather's criterion, yet were considered normal when the STAL was administered. These results exceed those reported by Prather et al. in 1981 (see Table I, Chapter II). They acknowledge that the Mini-STAL is ". . . more selective of failure than the total test . . ." and estimate 13 to 20 percent of the students who probably have normal language will need to be re-examined. This investigation produced 24.6 percent of the sample tested that would require needless reexamination by a diagnostic instrument. A simple numerical analysis was done for items missed on the Mini-STAL to determine possible contributing factors to the high level of false positives occurring when using Prather's criterion. Results of this analysis are presented in Table VI.

Looking at Table VI, the most errors (34) occurred on the second vocabulary item of Subtest I on the Mini-STAL. As mentioned earlier, this particular subtest taps word finding and retrieval competencies. The examiner read the stimulus word "plump" followed by a four word sentence containing the stimulus word, i.e., "The child is plump." The student was asked to give another word that means the same thing and fits into the sentence. Of the thirty-four students who missed this item, fifteen incorrectly replaced "plump" with the word "big." The next most common incorrect answer was "large" given by twelve students, followed by "round" given by four students. These errors do not constitute extremely serious deficiencies in word finding/retrieval competencies. The remaining three incorrect answers were "tender," "husky," and "hefty."

TABLE VI

ANALYSIS OF ITEMS MISSED ON THE MINI-STAL BY 66 SUBJECTS USING PRATHER'S CRITERION

Grade	Vocab.	Vocab.	Aud. Mem. Span	Lang. Proc.	Prov.
7	x				
7	x				
7	x				
7					x
7					x
7	x				
7				x	
7	x				
7	x				
7					
7				x	
7			x		
7				x	
7				x	
7	x				
8				x	
8	x				
8	x				

Grade	Vocab.	Vocab.	Aud. Mem. Span	Lang. Proc.	Prov.
8				x	
8		x			
8		x		x	
8					
8				x	
8		x			
8		x			
8		x			
8				x	
7					x
8		x		x	
8		x			
7		x			
8		x			
8		x			
8		x			
7				x	

TABLE VI (cont.)

Grade	Vocab.	Vocab.	Aud. Mem. Span	Lang. Proc.	Prov.
7				x	
7		x			
7		x			
7					x
8		x		x	
7				x	
8		x			
8		x			
8		x			
7		x		x	
7		x			
8				x	
8		x			
8		x		x	
8					
7		x			

Grade	Vocab.	Vocab.	Aud. Mem. Span	Lang. Proc.	Prov.
7			x	x	x
7			x	x	
8	x		x		x
7		x	x		
8	x	x			x
9					
9				x	x
9		x			
9				x	
9					x
9		x			x
9		x			x
9		x		x	
Total	2	34	5	23	11

A large number of errors (23) also resulted from the language processing (Subtest III) task on the Mini-STAL. This task examines the student's ability to decode a message and then to use reasoning and problem solving abilities. The examiner instructs the student to respond to the orally read sentence ("The sun was shining so brightly last week on Tuesday that I had to wear sunglasses in the movie theater.") by following a two-part task: 1) What does not make sense? and 2) Why does it not make sense? Most students (17/23) failed to provide a sufficient reason as to why the sentence did not make sense. An example of an incomplete response is as follows:

EXAMINER: WHAT DOES NOT MAKE SENSE?

STUDENT: THAT THE SUN WAS SHINING IN THE THEATER. /correct/

EXAMINER: WHY DOESN'T THAT MAKE SENSE?

STUDENT: BECAUSE YOU DON'T WEAR SUNGLASSES INTO A MOVIE THEATER. /incomplete/

Given this incomplete answer, the examiner would attempt to pursue further information; however, the student often replied with the same sentence, that he/she did not know, or with an equally incomplete, or irrelevant answer.

It is to be noted that errors were made on the remaining three items; however, they were relatively few in comparison with the previously discussed items.

The Phoenix criterion significantly reduced the number of false positives from 24.6 percent to 2.3 percent. Thus, reducing the difficulty for passing the Mini-STAL seems to result in a satisfactory reduction in number of false positives.

False Negatives

The number of false negatives (those students who passed the Mini-STAL but failed the STAL) represents a most significant aspect in analyzing a screening device. According to Prather et al. (1981), these are the "real errors" and represent those students who would benefit from intervention but are slipping through the screening device. Using Prather's criterion, four students needed further diagnostic evaluation according to the STAL but were undetected by the Mini-STAL. As mentioned earlier, Hamilton (1974) indicated the ideal test would be one which had rates less than 1 percent for false positives and false negatives. Prather's criterion produced 1.4 percent false negatives, thereby exceeding the ideal rate of false negatives by only .4 percent.

In comparison, the Phoenix criterion failed to detect eleven students which, according to the STAL, were in need of further diagnostic evaluation. The Phoenix criterion produced 4.1 percent false negatives. Projecting this figure to a population of one thousand reveals the Mini-STAL, utilizing the Phoenix criterion, could miss approximately forty-one students in need of further diagnostic and/or language intervention. Clearly, this percentage of false negatives (4.1 percent) exceeds Hamilton's (1974) ideal rate and indicates the experimental Phoenix criterion does not successfully identify those students with possible language problems.

In looking at the total number of students who failed both tests, as compared to the number of false negatives using the Phoenix criterion, it becomes apparent that more students passed the Mini-STAL

and failed the STAL than students who failed both tests. This means that more students with undetected language problems (eleven) slipped through the screening test than students who were identified as having possible language problems (nine). Thus, 55 percent of these students would not benefit from services they need, again indicating the Phoenix criterion does not successfully identify those students with language problems.

Conclusion

It appears that Prather's criterion exceeds the ideal amount of false positives and the Phoenix criterion exceeds the ideal amount of false negatives. Thus, a practicing Speech-Language Pathologist who intends to use this screening device alone must deal with "trade-offs." If the clinician were to use Prather's criterion, he/she would be forced to spend a considerable amount of clinical time diagnostically testing those students who failed the test, yet had no language problems (false positives). Assuming an average diagnostic session requires forty-five minutes, this would mean approximately fifty additional hours in needless diagnosis. On the other hand, if a clinician should decide to use the Phoenix criterion, he/she would risk missing 55 percent of those students in need of further language diagnosis and/or intervention.

Given this choice, this investigator feels it would be well worth the clinician's time to use Prather's established criterion when administering the Mini-STAL. This screening device would screen out approximately 75 percent of the students with normal language. The remaining 25 percent could then be screened utilizing the STAL to

determine those students who warrant further diagnostic testing.

CHAPTER V

SUMMARY AND IMPLICATIONS

SUMMARY

This study was designed to determine whether varying criterion
for pass/fail on the Mini-Screening Language Test for Adolescents
(Mini-STAL) would increase accuracy of predicting outcome of the
Screening Test of Adolescent Language (STAL). The Mini-STAL was
developed by Prather et al. (1981) to identify rapidly those students
between grades six through twelve who are in need of language inter-
vention. Using Prather's established criterion (one or more errors
equal failure), the Phoenix school district (Prather, 1981) found that
too many of their school population (20 percent) were failing the
Mini-STAL. Thus, they established an experimental criterion (two or
more errors equal failure) to identify those students with language
problems. The present study sought to determine what proportion of
students with language disorders was not detected by the Mini-STAL and
what proportion of students without language disorders failed the
Mini-STAL using the two criteria.

Subjects for this investigation were 287 students attending the
seventh, eighth, and ninth grades at Raymond Brown Junior High School,
Hillsboro School District, Hillsboro, Oregon, in the fall of 1981.
Nineteen of these students were eliminated from the study due to the
ambiguous nature of the manual in determining their pass/fail scores

for Subtest IV (Proverb Explanation) on both tests, leaving a total of 268 subjects in the study.

The standardized instrument used to assess whether a student was in need of further diagnosis and/or intervention was the Screening Test of Adolescent Language (STAL) by Prather et al. (1980). Results of the STAL were compared with results of the Mini-STAL using the sets of criteria discussed above. Analysis of Prather's established criterion showed the Mini-STAL produced sixty-six false positives or 24.6 percent of those tested passed the Mini-STAL but failed the STAL. Four false negatives or 1.4 percent of the students failed the STAL and passed the Mini-STAL.

Analysis of the Phoenix experimental criterion revealed the Mini-STAL produced six false positives or 2.3 percent of those tested passed the Mini-STAL but failed the STAL. Eleven false negatives or 4.1 percent of those tested failed the STAL but passed the Mini-STAL.

Prather's established criterion produced too large a proportion of false positives to be considered a valid screening test of language abilities, and the experimental Phoenix value produced too large a proportion of false negatives to meet the standards for an ideal screening instrument. Thus, varying the criterion on the Mini-STAL does not increase the accuracy of predicting outcome of the STAL. Hence, this investigator would recommend utilizing the Prather criterion initially; then further screening of the false positives may be completed utilizing the STAL to reduce excessive false positives. This procedure would need to be tested empirically.

IMPLICATIONS

A paucity of research, as noted in a review of the literature, exists in the area of adolescent language. Research is needed in designing both screening and diagnostic instruments specifically for this population.

The <u>Mini-Screening Language Test for Adolescents</u> (Prather et al., 1981) was derived totally from an item analysis of data obtained in the standardization of the complete <u>Screening Test of Adolescent Language</u> (Prather et al., 1980). The five items selected were passed by the majority of students at each grade level. The results of this investigation lend question to whether one may assume failure of one of these items resembles failure of the corresponding subtest on the STAL. Based on these results, this investigator believes broader standardization and validation studies need to be conducted on both the STAL and the Mini-STAL prior to clinical use. These studies should utilize students representing 1) all grades between the sixth and twelfth and 2) a population encompassing a wider geographical area.

Research in the area of scoring reliability of both tests (Mini-STAL and the STAL) may be useful in determining whether inter-examiner reliability is accurate. Additional research may focus on determining the effectiveness of the Mini-STAL when compared to differing control tests. Finally, a replication of the present study should be conducted to verify consistency of results.

If the mini-screening test were used clinically, it would be well worth the clinician's time to use Prather's established criterion.

It is recommended that the Mini-STAL be used initially to screen-out approximately 75 percent of the students with normal language. The remaining 25 percent should be screened again utilizing the complete STAL to determine those students who warrant further diagnostic evaluation. This method needs to be established empirically.

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A P P E N D I C E S

APPENDIX A

PERMISSION REQUEST LETTER

Dear Parents:

     I am a graduate student at Portland State University and I am conducting a study regarding identification of Junior High students with language disorders. I am attempting to find out how well a short-formed test will identify those students needing language intervention. The results of this study should help Teachers and Speech-Language Pathologists identify and subsequently provide services to Junior High students in need of language intervention.

     This study can be accomplished by administration of the following evaluation instruments: The <u>Screening Test of Adolescent Language</u> (7 minutes) and the <u>Mini-Screening Language Test for Adolescents</u> (1 minute).

     The evaluation will take approximately eight minutes of your son/daughter's time. The evaluation will be done by myself, Denice Milholland, as well as three trained graduate students from the Speech and Hearing Sciences area, Department of Speech Communication of Portland State University. Only the appropriate school personnel will have access to any results. In no way will your son/daughter's name be used in reporting the results of this study.

     Please sign below indicating your approval, and return with your child to school tomorrow.

     Thank you for your help.

                             Denice Milholland
                             Graduate Student
                             Speech and Hearing Sciences
                             Portland State University

CHILD'S NAME _____

PARENT'S SIGNATURE _____

STUDENT'S SIGNATURE _____

APPENDIX A (cont.)

DATE _____

PERIOD # _____

TEACHER'S NAME _____

APPENDIX B

SCREENING TEST OF ADOLESCENT LANGUAGE SCORE SHEET

I. VOCABULARY

_____	1.	Gigantic	The room is gigantic_____
_____	2.	Kettle	The kettle is copper._____
_____	3.	Unmarried	My teacher is unmarried._____
_____	4.	Penalty	What is the penalty for breaking the rule?_____
_____	5.	Duplicate	Can you duplicate this?_____
_____	6.	Bright	The diamond was bright._____
_____	7.	Plump	The child is plump._____
_____	8.	Address	He made a political address._____
_____	9.	Cluster	I saw a cluster of students._____
_____	10.	Govern	She will govern._____
_____	11.	Annoy	They annoy him._____
_____	12.	Peaceful	It was a peaceful evening._____

TOTAL I_____

II. AUDITORY MEMORY SPAN

_____ 1. The fire drill that we had last week/ turned out to be the real thing.

_____ 2. The school on the west side of town/ has more new students than our own school.

_____ 3. Last night I went to a movie with my friend/ at the theater that takes coupons.

TOTAL II_____

III. LANGUAGE PROCESSING

_____ WHAT WHY
                    1. The sun was shining so brightly last week on Tuesday that I had to wear my sunglasses in the movie theater.

_____
                    2. I went with my sister to the shoe store to buy a pair of combat boots to wear to the Junior Prom.

_____
                    3. After climbing up ten flights of stairs two steps at a time yesterday morning, the man finally reached the basement.

APPENDIX B (cont.)

```
_____        WHAT   WHY        4.  The most recent set of identical
                ___    ___            twins born at the hospital was a
               |   |  |   |           girl and a boy.
               |___|  |___|       5.  Last night after we adjusted the
_____                               antenna, unplugged the television
                ___    ___            set, and changed the channel, the
               |   |  |   |           picture became much clearer.
               |___|  |___|
TOTAL III_____
```

IV. PROVERB EXPLANATION

```
_____    1.  Practice makes perfect.
_____    2.  Actions speak louder than words.
_____    3.  Better late than never.
```

TOTAL IV_____

                                        TOTAL TEST SCORE

                                        _____

NAME_____BIRTHDATE_____GRADE_____

DATE_____   EXAMINER_____

TOTAL TEST SCORE   ·
    Vocabulary   _____
    Aud. Memory   _____
    Lang. Probe   _____
    Prov. Expl.   _____

RECOMMENDATIONS: _____ Pass-No further testing
                           _____ Fail-Further assessment

MINIMUM PASSING SCORES FOR THE SCREENING TEST OF ADOLESCENT LANGUAGE

	GRADES 6-8	GRADES 9-12
TOTAL TEST SCORE	11 pass responses	13 pass responses
Vocabulary	5 pass responses	6 pass responses
Auditory Memory Span	1 pass response	1 pass response
Language Processing	2 pass responses	2 pass responses
Proverb Explanation	1 pass response	1 pass response

APPENDIX C

MINI-SCREENING LANGUAGE TEST FOR ADOLESCENTS SCORE SHEET

NAME_____

I. VOCABULARY

_____   1. Gigantic   The room is gigantic._____
_____   2. Plump   The child is plump._____

TOTAL I_____

II. AUDITORY MEMORY SPAN

_____   The fire drill that we had last week/turned out to be
             real thing.

TOTAL II_____

III. LANGUAGE PROCESSING

             WHAT   WHY

_____   ☐   ☐   1. The sun was shining so brightly
                                     last week on Tuesday that I had to
                                     wear my sunglasses in the movie
                                     theater.

TOTAL III_____

IV. PROVERB EXPLANATION

_____   1. Practice makes perfect.

TOTAL IV_____

                                   TOTAL TEST SCORE_____