COMPARISON OF SCORES ON THE WECHSLER INTELLIGENCE SCALE FOR CHILDREN-REVISED AND THE PEABODY PICTURE VOCABULARY TEST

BY

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Comparison of Scores on the Wechsler Intelligence Scale for Children-Revised and the Peabody Picture Vocabulary Test

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by Joyce Stern Rozier June 1977 To the Graduate Council:

I am submitting herewith a Research Paper written by Joyce Stern Rozier entitled "Comparison of Scores on the Wechsler Intelligence Scale for Children-Revised and the Peabody Picture Vocabulary Test." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Psychology.

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Accepted for the Graduate Council:

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CHAPTER I

INTRODUCTION

Testing has changed considerably in the past few years and is constantly changing. The use of tests is becoming even more important because of the overall growth in special education.

In 1963, only nine percent of the nation's school districts offered instruction for handicapped children ("Special Education," 1977). Now, a new federal law, Public Law 94-142, mandates a full and appropriate education for all handicapped children. The state of Tennessee passed a mandatory education act for handicapped in 1972.

Where once special education services were limited to the mentally retarded and those with obvious defects such as blindness and deafness, now children with speech maladjustments, physical handicaps, severe multiple handicaps, intellectual giftedness and behavioral disorders are being served.

Tests for the measurement of intelligence are used as a part of the multifactored evaluation for identification of these children. Because of the variety and number of intelligence tests, it is essential to investigate the validity and reliability of the different instruments used in the assessment of children.

One of the two most widely used individual intelligence scales has been the Wechsler Intelligence Scale for Children (WISC) (Sattler, 1974). Since the introduction of the Wechsler Intelligence Scale for Children-Revised (WISC-R) in 1974, a number of research studies have been conducted comparing this instrument to the original WISC, as well as the Stanford-Binet, the other well known individual measure of intelligence.

A number of studies have been published comparing the WISC-R with other measures of intelligence. One important aspect of research with the WISC-R, which has been neglected, involves its comparison with the Peabody Picture Vocabulary Test (PPVT), Forms A and B. The author was unable to locate any published studies which have compared these two instruments.

Numerous studies have been conducted comparing the PPVT IQ scores correlated with the WISC-Full Scale over the range .30 to .84 with a median of .61; with the WISC-Verbal Scale over the range .41 to .74 with a median of .67; with the WISC-Performance Scale over the range of .19 to .82 with a median of .39 (Dunn, 1965).

Individual tests of intelligence such as the WISC-R and Stanford-Binet require extensive training of the examiner. The PPVT does not require any special preparation for administrators except complete familiarity

with the test materials and practice in administering the test before using it as a standardized measure (Dunn, 1965).

The purpose of the PPVT is to give an estimate of verbal intelligence through the measurement of the hearing vocabulary (Dunn, 1965). There are two forms of the instrument, designated as Form A and Form B, which differ only in that they use different words (Sattler, 1974). There are many occasions when the PPVT results are administered by a reading specialist, a speech therapist or a classroom teacher, to group students for instructional purposes or to get some idea as to a child's academic potential. It is also used as a screening instrument to secure a quick estimate of intelligence because of its ease of administration and scoring.

According to Dunn (1965), the PPVT has high interest value and helps in the establishment of rapport, can be administered in 10 to 15 minutes, can be scored in one to two minutes and is completely objective in scoring. It is a power test rather than a speed test and does not require verbalization by the subject. It offers two forms for repeated measures and can be used with subjects between 2 years 6 months of age and 18 years. He does limit the usefulness of the scale to those who are English speaking residents of the United States who are able to hear the words, see the drawings and give "yes" and "no" answers.

In spite of Dunn's (1965) description of the use of the test and his claims for its reliability and validity, Sattler (1974) stresses that it should be used cautiously in evaluating children's intelligence even though it has value.

Statement of the Problem

Since the PPVT is widely used, especially in the screening of mentally retarded (Sattler, 1974), it is important to know the correlation between the PPVT and the revised version of the WISC. It is also important to determine if the IQ scores from the PPVT are comparable with those from the WISC-R.

Gage and Naumann (1965) point out that although it has been generally agreed that word concepts may be understood though not verbalized, instruments incorporating measures of verbal intelligence in the determination of brightness have rather typically insisted on verbal ability as an indication of understanding word concepts. Although it is not claimed by the two authors that associating a picture of an object with its oral representation indicates thorough understanding of the concept associated with the word, it may very well be that the "verbal symbol-pictorial object" relationship of such a measure is an indication of verbal intelligence, and more valid in measuring certain handicapped children than the usual clinical device such as the vocabulary section of the Binet or WISC.

Review of the Literature

Since the publication of the WISC by Wechsler in 1949, it has been a favorite instrument for psychologists. The revised WISC has some changes made in the test items, but the Scale as a whole remains structurally and contexturally the same (Wechsler, 1974).

The PPVT appeared to yield slightly higher IQ scores when compared to the WISC according to Anderson and Flax (1968). Their study was conducted on 406 children between the ages of 6 and 13 who had been given both the WISC and the PPVT in individual administrations. The test scores of the children were analyzed separately for each of eight year groups. Results indicated in all age levels from eight years and above, the PPVT score was greater than either the WISC Verbal or Performance score. Among the correlations of the PPVT with the three WISC scores, the highest relationship was found for the WISC Verbal score. The total correlations between the PPVT and WISC scales were Verbal .66; Performance .46; and Full .63.

Gage and Naumann (1965) concluded from their study of the WISC and PPVT, that the correlation between the two tests was comparable to the correlation between the WISC and other tests. The data was collected from the records of 30 referrals to one of the authors. These authors obtained correlations of: Verbal Scale .69;

Performance Scale .56; and Full Scale .68. Correlations significant at the 1% confidence level were obtained between the PPVT IQ score and the Verbal, Performance and Full Scale IQ scores on the WISC. Also significant at the .01 level were correlations between the IQ scores obtained on the PPVT and WISC scaled subscores on Information, Similarities, Vocabulary, Picture Arrangement and Object Assembly. The correlation between the PPVT and the Comprehension subtest of the WISC was significant at the .05 confidence level.

Moed, Wright and James (1963) explored the possibility of substituting a brief picture vocabulary test for the WISC with physically disabled children. All of the subjects were in a rehabilitation hospital and ranged in age from six to sixteen. They were given the WISC, Ammons Full Range Picture Vocabulary (FRPV) Form A and the PPVT, Form A. Their results showed that either the FRPV or the PPVT may be substituted for the WISC with these physically disabled children. The PPVT was more difficult than the other tests but showed greater concurrent validity with the WISC. The correlation between the PPVT and WISC Full Scale was .84; WISC-Performance .74; WISC-Verbal .82; and WISC-Vocabulary sub-test, .78.

One hundred and thirty seven Black and White culturally deprived children from a rural county who were suspected of being mentally retarded were administered

the WISC and PPVT, Form A with the aim of determining if the PPVT could appropriately be substituted for the WISC as an individual test of intelligence (Hughes & Lessler, 1965). The correlations between all WISC verbal and full scale IQ scores and the PPVT scores were statistically different from zero in the positive direction.

The results of a study by Shaw, Matthews and Kløve (1966) yielded correlations between the PPVT IQ scores and the WISC IQ scores as follows: Verbal IQ score .71; Performance IQ score .53; Full Scale IQ score .66. These three authors tested 83 children who had been suspected of having some kind of organic brain damage. The authors suggested that though statistically significant, these coefficients have little practical utility since frequency of agreement between Wechsler's diagnostic categories using Verbal IQ scores and Performance IQ scores and similar categories for the PPVT respectively is only 40 percent and 36 percent. They further suggested that disagreement was far greater for those below average than for those above average, the very group most likely to be classified by these instruments.

The purpose of the study of Brown and Rice (1967) was to report further on the validity of the PPVT in an Educable Mentally Retarded (EMR) sample. The subjects were 90 children in a special education program. Both forms of the PPVT were given during the same session and

alternated to eliminate any systematic practice effect. Stanford-Binet and WISC scores provided the comparative individual intelligence test measures. PPVT, Form A compared with Full Scale WISC IQ scores yielded a coefficient of .40 and PPVT, Form B compared with Full scale WISC IQ scores yielded a coefficient of .54. These authors questioned the feasibility of using the PPVT as a reliable indicator of intellectual functioning for educable mental retardates.

In their study, McArthur and Wakefield (1968) compared the results from 123 children, who were tested by two graduate students. The subjects were administered the PPVT, Form A and either the Stanford-Binet, Form LM or the WISC. This study yielded correlations between the PPVT, Form A and WISC-Full .71; WISC-Verbal .73; and WISC-Performance .55.

Although the PPVT has a reliability coefficient ranging from .30 to .84 (Dunn, 1965), several studies have questioned the validity of the PPVT as a measure of intelligence. Taylor (1975) tested 133 children (65 boys and 68 girls) of lower socioeconomic status attending kindergarten and grade one in four communities in the Province of Newfoundland and Labrador. The aim of the study was to clarify what the PPVT measures by correlating scores on it with a measure of language ability and intelligence. The PPVT, Form A, the Wechsler Pre-school

and Primary Scale of Intelligence (WPPSI), and the Illinois Test of Psycholinguistic Abilities (ITPA) were administered. Taylor concluded that the verbal sections of the WPPSI correlate more highly with the PPVT than the performance section. However, none of the correlations with an individual subtest were particularly high (.58 being the highest) nor were the correlations between the PPVT and the WPPSI totals very high (Verbal .55, Performance .48, and Total IQ score .57). His results showed that the PPVT is a somewhat better measure of intellectual functioning at only the verbal level than a measure of linguistic functioning as defined by the subtests of the ITPA.

The study of Blue (1969) concluded that the PPVT is a reliable instrument for use with the Trainable Mentally Retarded (TMR) from age 6 into adulthood. Subjects were 116 individuals previously diagnosed and educationally classified as TMR for purposes of educational placement. The first year, subjects were tested with Form A of the PPVT; one year later the subjects were tested with Forms A and B. High reliability (.92) was demonstrated in both alternate form testing and one year interval test-retest regardless of the PPVT form employed.

Alternate-Form Reliability between A and B of the PPVT has been researched over the years. Norris, Hottel and Brooks (1960) quoted in Dunn (1965), found neither

order of presentation, form of the test, nor type of administration (group or individual) influenced the scores in any way which could be attributable to chance. Practice effect after two days averaged only about one point.

Both forms of the PPVT were group administered to 150 7th grade students in the study of Tempero and Ivanoff (1960). The resulting reliability coefficient was .75, which is comparable to the .78 reported for the age group on whom the test was standardized.

Kimbrell (1960) compared the WISC Verbal Scale with Forms A and B of the PPVT. He reported coefficients of .43 and .41 respectively.

Purpose of the Study

The purposes of this study are to determine the correlation between Form A and Form B of the PPVT and the WISC-R and to determine if there is a significant difference in the scores yielded by the three instruments. Another purpose is to determine the correlation between the WISC-R subtests and the PPVT, Forms A and B.

Hypotheses

The hypotheses to be tested are as follows:

- There is no significant difference in the WISC-R
 Verbal IQ score and the PPVT, Form A and Form B IQ scores.
- 2. There is no significant difference in the WISC-R Performance IQ score and the PPVT, Form A and Form B IQ scores.

3. There is no significant difference in the WISC-R Full Scale and the PPVT, Form A and Form B IQ scores.

In addition, the correlation coefficients between the PPVT, Forms A and B scores and the WISC-R Verbal, Performance, and Full-Scale scores will be determined.

Since the WISC-R Verbal and Performance IQ scores are determined by the scores on ten sub-tests, it was also considered valuable to determine how the Form A and Form B of the PPVT correlated with each of the subtest scores.

Limitations of the Study

- 1. Since the students who participated in the study were volunteers, it cannot be assumed that a representative sample of children were included.
- 2. Since the students were not being administered the test for any placement purpose, the motivation for maximum performance on the instruments may not have been present.
- 3. Since the sample included only one age group, it cannot be assumed that the findings will generalize to other age groups.
- 4. Although there was some control for practice effect as approximately one-half of the subjects were given the PPVT, Form A first and the other one-half Form B first, there was no statistical control for practice effect.

CHAPTER II

METHOD

Subjects

The sample used in this study was terminating sixth grade students from public schools in the Clarksville-Montgomery County School System. All participants volunteered to serve as subjects in exchange for football or basketball tickets at Austin Peay State University home games.

Letters were sent home by the children during the last week of the 1976 school year asking for volunteers to participate in the study. Only those children who had signed permission forms from their parents were used as subjects. The parents were also given an opportunity to have the child's scores placed in his/her school records. The scores were not to be placed in the child's record unless the parents requested that this be done.

The sample was composed of fifty-one students of which 28 or 55% were female and 23 or 45% were male; 39 or 76.5% White and 12 or 23.5% nonwhite. Although the number of girls is higher than the WISC-R standardization sample of 50% of each sex, the ratio of Whites and non-whites compared favorably with the sample of 24% White

and 8% nonwhite in the south, used in the WISC-R standardization group (Wechsler, 1974).

Subjects ranged in age from 11 to 13 years with the mean age being 12 years 3 months. Students who were included were in a 19 month age range in order to include children who might have been retained one year for the purpose of securing a more representative sample of sixth grade students.

Description of the Instruments

The four instruments used in this study were the WISC, WISC-R, and PPVT, Forms A and B. The data from the WISC is not included in this study.

Alternate form reliability coefficients for the PPVT were obtained by calculating Pearson Product-Moment correlations on the raw scores of standardization subjects for Forms A and B at each level (Dunn, 1965). Correlations ranged from a low of .67 at the six year level to a high of .84 at the 17 and 18 year levels, with a median of .77.

Validity data for the PPVT were obtained both for individual items and for the total test (Dunn, 1965). The PPVT correlates more highly with the Wechsler Full and Verbal scales than with the Performance Scale. It correlates somewhat better with Verbal scales than Full scales. Dunn (1965) further reports that there is a tendency for the PPVT IQ scores to be one or two points higher than Wechsler IQ scores.

The Wechsler Intelligence Scale for Children was revised in 1974 and renamed the Wechsler Intelligence Scale for Children, Revised. The WISC-R is basically similar to the WISC. One of the primary differences between the WISC and WISC-R is the age range covered by the two scales. The WISC-R is intended for use with children 6 through 16, while the WISC was used with children from 5 through 15 years of age.

Changes were made on many of the subtests in the revised version. The purposes of these changes were to increase the reliability of the subtests (Wechsler, 1974), to eliminate obsolete items, and to include more current language and pictorial representations of objects in the items. The order of presentation of the subtests was also changed. The WISC presented all verbal subtests first followed by all performance subtests. The WISC-R alternates the verbal and performance subtests throughout the presentation. The WISC and WISC-R use the Deviation IQ with a mean of 100 and a standard deviation of 15 to provide the intelligence quotient. The PPVT also has a mean of 100 and a standard deviation of 15.

Of concern to this study is the Vocabulary subtest of the WISC-R. According to the manual, almost half of the 40 words in the 1949 WISC Vocabulary test were eliminated, including those that were out of date

("hari-kari"), had common homonyms or slang meanings ("fur" and "hero"), were highly specific to a particular field ("microscope"), or were too difficult, even for bright adolescents ("traduce") (Wechsler, 1974). In selecting new items, an attempt was made to avoid these pitfalls, and several verbs and adjectives were included to make the total list of words more varied in parts of speech. The test was reduced from 40 to 32 words.

WISC-R Verbal, Performance, and Full Scale IQ scores have high reliability coefficients, the average coefficients being .94, .90 and .96 respectively (Wechsler, 1974). The validity of the WISC-R was determined by comparison with the Wechsler Adult Intelligence Scale (WAIS), revised Stanford-Binet, and WPPSI (Wechsler, 1974). The correlation between the WISC-R Full Scale and Binet was .73. The WISC-R and WAIS correlations were as follows: Verbal Scale .96; Performance Scale .83; and Full Scale .95. The WPPSI correlations were: Verbal Scale .80; Performance Scale .82.

Procedure

Although all of the data is not included in this study, each child was administered the WISC, the WISC-R, and Forms A and B of the PPVT. Four examiners administered the WISC and Form A of the PPVT to the first child he or she tested and the WISC-R and Form B of the PPVT to the second child he/she tested. The purpose of this

presentation was to control for practice effect since approximately one-half of the children were given the WISC and PPVT, Form A first and the other half given the WISC-R and PPVT, Form B first. Each examiner then retested the same children 30 to 84 days later using the other form of the Wechsler and PPVT.

The tests were administered individually by four well-trained examiners; two of whom are licensed school psychologists, one is a school psychology intern, and this author, who is also a school psychology intern. All examiners were trained on the Wechsler tests and PPVT by the same instructor, who was also one of the examiners. All had completed at least two courses in individual assessment.

Analysis of Data

The Pearson Product-Moment technique was used to compute the correlation coefficients. The coefficients were computed from scale scores for the WISC-R subtests and from the IQ scores for the Verbal, Performance and Full Scale (WISC-R) and PPVT, Forms A and B. These correlations are shown in Table I.

Table 1

Coefficients of Correlation of Scaled Scores and IQs on the WISC-R with IQs on the PPVT, Forms A and B

N = 51

N=21	
PPVT-A	PPVT-B
.71**	.76**
.61**	.73**
.51**	.60**
.47**	.55**
.34*	.44**
.46**	.47**
.36*	.42**
.35*	.41*
.35*	.39*
01	.04
.63**	.74**
.43**	.49**
.60**	.70**
	PPVT-A .71** .61** .51** .47** .34* .46** .36* .35* .35*01

^{*}Significant at .01 level

^{**}Significant at .001 level

All the correlations of the PPVT, Forms A and B, with the WISC-R subtests were significant at the .01 or .001 level with the exception of coding. The subtests are listed in Table 1 in descending order according to the correlation coefficients. The correlations with the Verbal subtests and the PPVT, Form A ranged from .34 to .71, with the highest correlations found between the Vocabulary and Information subtests and the PPVT. The lowest correlation was with the Arithmetic subtest. Form B of the PPVT yielded higher coefficients with the WISC-R on all subtests, ranging from .44 to .76, but in the same order.

The correlations of Form A with the WISC-R Performance subtests yielded correlation coefficients from -.01 on Coding to .46 on Block Design. Again the Form B correlations with the WISC-R Performance subtests were slightly higher on all subtests, ranging from .04 on Coding to .47 on Block Design.

The PPVT, Form A correlation with the WISC-R Verbal Scale was .63, with the Performance Scale .43, and with the Full Scale .60. The Form B showed higher correlations with the Verbal Scale .74, with the Performance Scale .49, and with the Full Scale .70.

The means, standard deviations and standard errors of measurement for each of the tests is shown in Table 2.

Table 2

Means, Standard Deviations and Standard
Error of Measurement of WISC-R
and PPVT, Forms A and B

	N=51		
WISC-R	$\overline{\mathbf{X}}$	SD	SEm
Verbal	101.10	13.01	1.82
Performance	102.76	13.60	1.90
Full Scale	102.00	13.14	1.84
DD1m 4			
PPVT-A	107.67	17.35	2.43
PPVT-B	100.35	18.42	2.58
	9 A X X A		

A \underline{t} -test was employed to determine if a significant difference existed between the IQ scores yielded by the tests. The results are shown in Table 3.

Table 3

t-Test Comparisons of the PPVT,
Form A, PPVT, Form B and WISC-R

PPVT-A	PPVT-B
4.68**	
3.41**	.43
2.08*	1.10
	4.68** 3.41**

	PPVT-A	PPVT-B
WISC-R Full Scale	2.75**	.92

^{*}Significant at .05 level

df=50

The PPVT, Form A was significantly higher than the WISC-R Verbal Scale score, with a t of 3.41, while a t of 2.68 is necessary for significance at the .01 level.

Therefore, the hypothesis of no significant difference was rejected. The PPVT, Form B, as compared to the WISC-R Verbal Scale yielded a t of .43, which is not statistically significant. Therefore, the hypothesis of no difference between the Form B and the WISC-R Verbal Scale was accepted.

The PPVT, Form A was significantly higher than the WISC-R Performance Scale, with a <u>t</u> of 2.08, which is significant at the .05 level, a <u>t</u> of 2.01 being necessary for significance at that level. The hypothesis of no significant difference was rejected. The <u>t</u> of the Form B and WISC-R Performance was 1.10, which is not significant, so the hypothesis of no difference in these two measures was accepted.

^{**}Significant at .01 level

The PPVT, Form A was significantly higher than the WISC-R Full Scale, with a \underline{t} of 2.75, which is significant at the .01 level. The hypothesis of no significant difference was rejected. The \underline{t} of the Form B and the WISC-R Full Scale was .92, which is not significant, so the hypothesis of no difference in these two measures was accepted.

Since the two forms of the PPVT were showing differences as compared to the WISC-R, Forms A and B were examined to determine if there were significant differences in the scores. Form A was found to be higher with a \underline{t} of 4.68, which is significant at the .001 level of confidence.

Interpretation of Data

Dunn (1965) reported the following median correlation coefficients between the PPVT and WISC: Verbal .67, Performance .39 and Full Scale .61. The present study yielded the following coefficients between the WISC-R and PPVT, Form A: Verbal .63; Performance .43 and Full Scale .60, which were similar to Dunn's median coefficients comparing the WISC and PPVT. Form B showed slightly higher correlation coefficients, Verbal .74; Performance .49 and Full Scale .70. Most of the studies cited in the literature made no mention of which form of the PPVT was used. However, the studies reported found the highest correlation coefficients between the PPVT and the

WISC-Verbal (Anderson & Flax, 1968), the next highest correlation between the PPVT and Full Scale (Gage & Naumann, 1965) and the lowest correlation between the PPVT and Performance (Moed, Wright & James, 1963). The same pattern was shown in the comparison of the PPVT scores with the WISC-R in the present study.

In terms of comparability of IQ scores, the PPVT and WISC IQ values appear to be very similar with a tendency for the PPVT IQ scores to be one or two points higher than WISC IQ scores (Dunn, 1965). Results from this study show the mean IQ score of the PPVT, Form A to be approximately 6 points higher than the mean WISC-R Full Scale score. The difference between the PPVT, Form B mean IQ score and the WISC-R Full Scale IQ score is less than 2 points with the PPVT score being lower. Although the PPVT, Form B does yield slightly lower IQ scores than the WISC-R, it is not significantly lower. Forms A and B of the PPVT are not yielding comparable scores, according to the results of this study, for the age group involved. Thus, the present study indicates that the PPVT, Form B would be more comparable to the WISC-R scores for 11 to 13 year old children.

CHAPTER III

SUMMARY AND CONCLUSIONS

The purposes of this study were to determine the correlation between Form A and Form B of the PPVT and the WISC-R, and to determine if there was a significant difference in the scores yielded by the three instruments. Another purpose was to determine the correlation between the WISC-R subtests and the PPVT, Forms A and B.

Fifty-one sixth graders from public schools in Clarksville-Montgomery County volunteered for the study. All subjects were individually administered the WISC, WISC-R, and PPVT, Forms A and B. The data from the WISC is not included in this study.

The statistical analysis of the data yielded the following conclusions:

- 1. There was a significant difference between the PPVT, Form A and the WISC-R Verbal, Performance and Full Scale, in favor of the PPVT, Form A.
- 2. There was no significant difference between the WISC-R Verbal, Performance and Full Scale and the PPVT, Form B.
- 3. There was a significant difference between the PPVT, Form A and the PPVT, Form B, in favor of Form A.

- 4. The correlation coefficients of the WISC-R Verbal Scale and the PPVT, Forms A and B, ranged from a low of .34 to .76.
- 5. The correlation coefficients of the WISC-R Performance Scale and the PPVT, Forms A and B ranged from -.01 to .47.
- 6. Both forms of the PPVT correlated highest with the Vocabulary subtest of the WISC-R.
- 7. Form B of the PPVT correlated higher with the WISC-R Verbal, Performance, and Full Scale than Form A.

The PPVT is a welcome addition to measures employed in the evaluation of school children. Because of its ease of administration, it can be a useful tool for untrained persons who need an estimate of a child's verbal intelligence. Its high correlation with the Vocabulary subtest on the WISC-R, which is an established and accepted clinical tool, indicates the usefulness of this test.

These findings suggest that Form B of the PPVT, would yield scores more comparable with the WISC-R when assessing a child's hearing vocabulary. Most of the studies which have been conducted have used Form A. It could not be recommended that either Form A or Form B of the PPVT be used alone in the measurement of a child's intellectual functioning. However, the PPVT, Form A would be likely to yield higher scores for 11 to 13

year old children, according to results of this study, than would be found with the WISC-R. In employing the ppVT as a supplementary measure of intelligence or as a screening instrument, the results of this study suggest that Form B would yield scores more comparable with the WISC-R.

Recommendations for Further Research

Because most of the studies found by this author used the Form A of the PPVT in comparison with other intelligence measures, it is recommended that further study be given to the comparison of Form B with other measures of intellectual functioning. It is further recommended that more research be conducted using different age groupings.

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