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Comparison of scores obtained on the PPVT and the PPVT-R

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The Peabody Picture Vocabulary Test (PPVT) is a widely used receptive vocabulary screening tool, but it is not without its limitations, such as inadvisable I.Q. usage and a standardization procedure that lacks scope. A revision of the PPVT, known as the Peabody Picture Vocabulary Test-Revised (PPVT-R) was published in 1981, and contains a more complete standardization procedure as well as some structural changes of the test itself (Dunn, 1981). Speech/language pathology, whose diagnosticians most commonly use the age equivalent value, is a profession that would gain from information which deals with the equivalency of the PPVT-R to the original PPVT.

The purpose of the study was to compare age equivalent values obtained from the PPVT and the PPVT-R for a preschool

aged population. Specifically, this study sought to discover whether or not significant differences existed between the age equivalent values derived from the PPVT and the PPVT-R. Eighty children, age three years, six months to four years, six months participated as subjects in the study, selected on the basis of their chronological age and enrollment in one of ten selected preschools. The subjects were divided into four groups (N=20), and each group was administered one form of the PPVT (A or B) and one form of the PPVT-R (L or M). The resultant groupings were: I (A and L); II (A and M); III (B and L); and IV (B and M).

Results indicated a statistically significant difference does exist between the overall mean PPVT and PPVT-R age equivalents, and that statistically significant differences are apparent within the four subject groups. In 65 out of 80 age equivalents obtained, the PPVT age equivalent was higher than the corresponding PPVT-R age equivalent. The mean age equivalents from forms A and B of the PPVT were found to be much higher than the chronological age, as compared to the mean age equivalent from forms L and M of the PPVT-R over the mean chronological age. While no substantial differences in test performance were noted between the sexes, children of both sexes who attended preschools ranked lower according to socioeconomic percentile classification appeared to be less sensitive to the differences between the two tests.

COMPARISON OF SCORES OBTAINED ON THE PPVT AND THE PPVT-R

by

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TO THE OFFICE OF GRADUATE STUDIES AND RESEARCH:

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INTRODUCTION AND STATEMENT OF PURPOSE

INTRODUCTION

Speech/language pathologists have numerous language assessment tools available to them, and the number is growing. The appraisement of children's language abilities seems to require as much continued research as the study of language itself. As new information becomes known in the many faceted area of language use and development, language tests must be re-evaluated accordingly.

One aspect of language that speech/language pathologists are interested in measuring is receptive vocabulary. The Peabody Picture Vocabulary Test (PPVT) (Dunn, 1959) is an instrument widely used in the assessment of hearing, or receptive vocabulary in individuals from two and one-half to eighteen years of age. Advantages of this test are its attractiveness, low cost, quickness, and ease of administration. A non-verbal (usually pointing) response is all that is required of the subject. Through adaptations of the non-verbal response, such as nodding, eye movement, etc., the test is usable with various handicapped populations.

From the PPVT, a receptive vocabulary age (or age equivalent) can be derived from the raw score, which is of most use to the speech/language pathologist. Of lesser importance to this

profession are the intelligence quotient (I.Q.) and percentile score which are also derived.

The PPVT has remained largely unchanged but not unchallenged for 22 years. Critics have found its standardization procedures inadaquate (Weiner and Hoock, 1973), the use of its I.Q. score inadvisable (Piers, 1965), and the language ability levels of the children of today improved over those used in the PPVT's standardization sample (Osicka, 1976).

Lloyd M. Dunn, author of the PPVT, revised his test in 1981 (Dunn, 1981). This revision is known as the Peabody Picture Vocabulary Test-Revised (PPVT-R) and incorporated are major changes in the standardization procedure and lesser changes in the instrument itself.

While voluminous research has been done on various aspects of the PPVT, there is currently only the equivalency study concerning one form of each version, form A of the PPVT and form L of the PPVT-R noted in the PPVT-R Manual (Dunn, 1981). Therefore, professionals who use the PPVT may be concerned about replication of the Dunn (1981) research results, and the nature of the relationships between all test forms of the PPVT and the PPVT-R. This and other information leads the professional to formulating a decision about whether the PPVT-R is sufficiently improved over the PPVT to warrant its purchase and use. Given the unfavorable information regarding the PPVT's standardization procedure, the questionable relevancy of its norms, and the existence of a new revision based on a different standardization method, an examination of the two tests may reveal important information.

STATEMENT OF PURPOSE

The purpose of this study was to compare age equivalent values obtained from the PPVT and the PPVT-R, for a selected age group.

This study sought to answer the following question:

Are there significant differences between the age equivalent values derived from the PPVT and the PPVT-R?

CHAPTER II

REVIEW OF THE LITERATURE

Speech/language pathology diagnosticians are interested in an individual's auditory or receptive vocabulary as an indicator of overall language development. This information is useful, in conjunction with other test data, in identifying those individuals who may have a language disorder. The Peabody Picture Vocabulary Test (PPVT) (Dunn, 1959) is a screening instrument widely used in measuring receptive vocabulary skills. In this test, after a raw score is obtained, a mental age, percentile score, and an intelligence level are derived. Since the term "mental age" is associated with the no longer used ratio intelligence quotient, it is preferable to use the term "age equivalent" in its place (Dunn, 1981). While Dunn (1971) stated the PPVT was designed to "provide an estimate of a subject's intelligence through his hearing vocabulary," speech/language pathologists are primarily concerned with the age equivalent, which indicates receptive vocabulary age.

Though Dunn (1971) lists many research studies attesting to the PPVT's validity and reliability, there remains a body of literature concerned with its limitations (Piers, 1965). Most notably, many researchers do not recommend the PPVT be used as a measure of intelligence (Piers, 1965; DiLorenzo and Brady, 1968; Matheny, 1971; Ritter, Duffey and Fischman, 1974; Covin, 1977; Darley and Spriestersbach, 1978; Emerick and Hatten, 1979). Piers

(1965) questioned Dunn's (1971) assumption that recognition vocabulary measures verbal intelligence in the same way that tests requiring a verbal response are said to measure it.

Discrepancies have been noted between the PPVT I.Q. scores and other standard intelligence test scores when using exceptional populations (Rosenberg and Stroud, 1966; Milgram and Ozer, 1967; Fitzgerald, Pasewark, and Gloeckler, 1970; Matheny, 1971; Genseme, Walker and Cadman, 1976; Groden, Branson and Mann, 1976). Some learning disabled individuals received higher PPVT I.Q.'s than Wechsler Intelligence Scale for Children (WISC) I.Q.'s or Wechsler Intelligence Scale for Children-Revised (WISC-R) I.Q.'s (Fitzgerald et al., 1970; Genseme et al., 1976). Genseme et al. (1976) believed this discrepancy would exist if in fact the PPVT assessed a different type of intellectual functioning than the WISC or the WISC-R. Groden et al. (1976), in a study of intellectually handicapped three-, four-, five-, and six year olds, found the PPVT results underestimated Revised Stanford-Binet scores. Research with disadvantaged preschoolers and kindergarteners revealed the PPVT scores were consistently lower than those received on established tests of intelligence (Rosenberg and Stroud, 1966; Milgram and Ozer, 1967; Matheny, 1971).

There are also reported limitations to utilizing a PPVT I.Q. when testing black or other ethnic minority children (Kresheck and Nicolosi, 1973; Sattler and Anderson, 1973). According to Kresheck and Nicolosi (1973) different vocabulary uses by some black children may lead the test examiner to believe the child is lacking understanding of a particular concept.

Studies show there may be variability in test scores between the two forms of the PPVT (Nicolosi and Kresheck, 1972; Bordogna, Forcucci and Carlin, 1978). A study done by Nicolosi and Kresheck (1972) with 36 first graders demonstrated that resulting mental ages may differ as much as 38 months between forms A and B. In this case, form A scored higher than form B 75 percent of the time. In a study of 53 first graders, Bordogna et al. (1978) also reported a variability between forms A and B. Their results revealed a mental age difference of ten months or more (except in four subjects). According to their data, form A scored higher than form B 58 percent of the time.

A revised edition of the PPVT, known as the Peabody Picture Vocabulary Test-Revised (PPVT-R) now exists. This information was disclosed to this writer during correspondence with Lloyd M. Dunn, (1980), author of both the PPVT and the PPVT-R.

In the Manual for the Peabody Picture Vocabulary Test-Revised, Dunn (1981) described structural, administrative and standardization procedure differences that exist between the PPVT-R and the PPVT. Structurally, the revised edition has 175 test words per form compared to the original's 150 stimulus words per form. Approximately two-thirds of the PPVT-R's stimulus items are new. To create even more test sensitivity at each age level changes were made in the stimulus item distribution and concentration. While fewer very easy and very hard items were included, many new items were added at the middle levels, especially at ages five, six, ten, eleven and twelve years. The selection of stimulus words varied between the two tests also. For construction of the

PPVT-R, a total of 684 stimulus words comprised the initial pool of items. Traditional item analysis was used to rank the items in order of difficulty and Rasch Latent Trait item analysis was employed to construct a precise growth curve for receptive vocabulary. These two procedures were used to construct the final 350 test words. In developing the PPVT, 2055 words (from an initial pool of 3885) found in Websters New Collegiate Dictionary, Second Edition (1956), were selected. After repeated field testing and refinement the best 300 stimulus words and their decoys were chosen to comprise both forms A and B. A separate set of picture plates for each of the two test forms L and M are available for the PPVT-R, as compared to one set of picture plates for the PPVT's two test forms, A and B. The PPVT-R expanded its norms for standard score equivalents, percentile ranks, stanines and age equivalents to age 40 years. For both forms of the PPVT-R raw scores begin at one. However, since the median raw score declined after age 33, age equivalent values could not be assigned to raw scores above 160 for form L or above 159 for form M. In the PPVT's Age Equivalent (or Mental Age) table the raw scores run from 5 to 111 for both forms. Otherwise, the age equivalent norm tables for both the PPVT and the PPVT-R are similar in regards to the number and size of increments of raw scores and age equivalents, while Dunn (1981) adds the PPVT-R data in the norms tables were "smoothed" and presented in smaller increments. Administration changes in the PPVT-R concern the test instructions given to subjects below 8 years of age. In essence, the new instructions do not make reference to the test as a "game" as is done in the PPVT

instructions. Directions to subjects 8 years of age or above are the same for both tests. In terms of standarization procedure, the PPVT-R's sampling method employed the 1970 U.S. Census information to locate its 4200 subjects from different sized communities and of varying socioeconomic status and ethnic classification. The selection of the 828 adult subjects was contingent upon less rigorous criteria than the other subjects. The PPVT was standardized in 1958 on 4013 white subjects from the one city (Nashville, Tenn.), and apparently no data concerning socioeconomic status of the subjects was gathered.

The overall purposes of the two tests appears to vary. The PPVT-R was designed primarily to measure a subject's hearing vocabulary for Standard American English (Dunn, 1981), and the stated purpose of the PPVT was to provide an estimate of an individual's verbal intelligence through measurement of hearing vocabulary (Dunn, 1971).

Published research concerning the PPVT-R exists at this time only in the form of an equivalency study reported in the PPVT-R Manual (Dunn, 1981). This study, carried out in 1979 used one form of each version, from A of the PPVT and form L of the PPVT-R. The subjects were 1,849 individuals (a sample separate from the standardization group) ranging in age from 3 to 18 years. Results showed that for raw scores below 55 on form L, the corresponding scores on form A were higher, demonstrating that the PPVT had a greater concentration of easy items. Beyond that raw score form L scores were higher than on form A. Dunn (1981) believes this can be attributed to form L's additional 25 items,

and because the density of very difficult items was reduced in the upper extreme. These differences may be attributed to a number of factors, such as larger hearing vocabularies of individuals in 1979, exposure to television, improved nutrition and a more appropriate sampling in terms of socioeconomic status for the PPVT-R's standardization group (Dunn, 1981). Overall, Dunn (1981) predicts subjects will score far lower on the PPVT-R than they would on the PPVT.

Historically, some investigators have criticized the standardization of the PPVT for not taking into account most of the variables detailed for the PPVT-R standardization (Weiner and Hoock, 1973; Osicka, 1976). According to Weiner and Hoock (1973) the value of the PPVT norms is reduced due to the restriction of the standardization group to residents of one urban area, since children in other regions of the country, in cities of other sizes, or in rural areas may learn a set of word meanings different from the standardization group. These authors believe the lack of attention to socioeconomic and ethnic variables decreased the usefulness of the PPVT norms.

Research has shown the PPVT standardization procedures may be incomplete and possibly result in less accurate norms. Osicka (1976) gathered information on the performance of participants in the Child Health and Development Studies of Oakland, California on form A of the PPVT. A total of 4414 five-, nine-, ten-, and eleven year olds of average intelligence made up the participants of the study. Socioeconomically, this group was defi-

cient in only two extremes--the very wealthy and the very poor. The major emphasis of Osicka's (1976) study was the proper method of scoring the PPVT when multiple basals/ceilings occur. While none of the children studied had multiple ceilings, 45 percent of them had two or more basals, indicating that for those children the test was begun at a level appropriate for their chronological age, but too low for ability level. As a group, the sample studied performed much better than the norms indicate they should. For example, the five-, nine-, ten-, and eleven year olds did as well as the Peabody standardization group's six-, ten and a half-, twelve-, and thirteen year olds respectively. In summary, since Osicka (1976) reported verbal abilities of children have increased during the years from 1960 to 1975 (and presumably continue to increase) causing the starting points on the PPVT to be too low, he recommended higher starting points should be implemented. While higher starting points would not affect the overall PPVT score, it should decrease the number of items to which the examinee has to respond. Additionally, new norms should be established since children of average intelligence are doing so well on the PPVT.

Kaufman (1973) supports the notion of an increase in ability levels from one generation to the next. His discussion focuses on the 1960 revision of the Stanford-Binet, where the normative data were based on children tested many years ago. Kaufman (1973) stated, "It is likely that children of today tend to perform substantially better on tests of ability and achievement than did children tested a number of years ago." In order to compensate for this the

Stanford Binet was revised again in 1972 (Terman and Merrill, 1972). This lends credence to the idea that norms need to be updated as the skill levels of the population improve. If the norms are not updated, the possibility of obtaining an inordinate number of "false negative" outcomes--those that inaccurately classify a score as falling into the average or above range, exists.

Summary of Review

While the PPVT is presently a widely used receptive vocabulary screening instrument, it is not without its limitations. Critics have found the use of the I.Q. inadvisable and its standardization procedures lacking scope. Possibly in response to the criticisms, Dunn (1981) has recently revised the PPVT, and it is known as the Peabody Picture Vocabulary Test-Revised (PPVT-R). These revisions concern the standardization procedures and to a lesser extent, the instrument itself. If the assumption holds that these changes are for the better, then the PPVT-R is theoretically an improved instrument over the PPVT. If this is true, it is important for those professions who use the test to employ the instrument with the most recent and reliable norms in order to avoid obtaining too many "false negative" scores.

CHAPTER III

METHOD

Subjects

The subjects used in this study were eighty three years, six month- to four years, six month- old children drawn from various preschools in the greater Portland area. In order to assess the general socioeconomic status of the preschools, the following information was solicited from personnel knowledgeable of their preschool's population: (1) average income of the preschooler's family, and (2) average education of the preschooler's parents. From data in the U.S. Census Working Paper number 15 (U.S. Census, 1963) the information was classified into a percentile form denoting the general socioeconomic status of each preschool (see Table I). 42 males and 38 females were included in the study. Parental permission was required for inclusion of their child in the study (Appendix A).

Instrumentation

PPVT. The PPVT (Dunn, 1971) is a nonverbal test of receptive language. Its norms cover the span between two and a half and eighteen years of age. It is comprised of 150 plates, each containing four pictures. The subject is asked to point or somehow indicate the picture which best fits the stimulus word read aloud by the examiner. The test has alternate forms, A and B, for use with the same book of picture plates.

TABLE I

PERCENTILE CLASSIFICATIONS DENOTING SOCIOECONOMIC STATUS OF THE PRESCHOOLS USED IN THIS STUDY

PRESCHOOL	DECILE CLASSIFICATION
A	70
B	75
C	70
D	47
E	44
F	66
G	48
H	58
I	70
J	47

The testing begins at the starting point determined by the subject's chronological age. If the examiner suspects the subject has less than normal capabilities, the test may be begun below their recommended plate, "in keeping with best estimates of their mental ages" (Dunn, 1971).

The testing continues from the starting point until the first error is made. If the subject has made eight consecutive correct responses, then basal has been achieved and testing continues. If not, the examiner works backward consecutively from the starting point until basal has been achieved, and the testing re-continues forward from the point of the first error. Ceiling is established when the subject makes six errors on eight consecutive items. In this case the eighth item responded to is counted as the ceiling. In the event the test is begun at a level too difficult for the subject, and two or more ceilings are established in working backwards to obtain the basal, the ceiling to be used in scoring is always the lowest one. Similarly, if the test is begun at a level too easy, two or more basals may be established in working upward to obtain the ceiling. In this case, the basal closest to the established ceiling is used.

The raw score is calculated by subtracting the number of incorrect items from the number of the ceiling item. If multiple basals or multiple ceilings occur, scoring protocols vary. Items below the accepted basal are counted as correct, even though they may have been answered incorrectly. Correspondingly, items above the accepted ceilings are counted as incorrect even though they may have been answered correctly.

The resulting raw score is converted to an age equivalent, a standard score equivalent (intelligence quotient), and a percentile equivalent.

PPVT-R. The revised PPVT differs somewhat from the original. It is comprised of 175 plates, and has one test form corresponding to each set of plate books, L and M. Dunn (1981) states the separate set of plates were added to allow for a stronger decoy action and increased sensitivity. Apparently he believes the separate set of picture plates for each test form eliminates the chance the testee would recall correct or incorrect stimuli from a particular test plate, as may occur with the PPVT's single set of picture plates. Directions for introducing the test to subjects eight years of age and above remain the same as in the PPVT, but instructions to subjects under eight years of age varies. In the PPVT-R Manual (1981) the initial instruction to those below eight years of age is, "I want you to look at some pictures with me," whereas the PPVT Manual's (1971) first statement is, "I want to play a picture game with you."

A raw score obtained on the PPVT-R is converted to an age equivalent, standard score equivalent (identical to the deviation I.Q., a term not used in the PPVT-R), percentile rank and stanine score. Percentile ranks and stanines can also be computed by grade levels, kindergarten through twelfth grade.

The same rules apply to the PPVT-R and PPVT when computing the raw score when more than one basal or ceiling is obtained.

Norms for ages two and a half through forty years of age were based on a standardization sample of 5,028 subjects--4,200 children and adolescents, and 828 adults. As with the PPVT, extrapolated norms are available for ages one year, nine months to two years, five months.

Design

The group of eighty subjects were randomly divided into four groups of twenty subjects each. The subjects from each group were administered one form of the PPVT (Form A or B), and one form of the PPVT-R (form L or M) (See Appendix D for test form examples.) Each group of twenty subjects and the tests administered are enumerated here for clarity:

I. A and L II. A and M III. B and L IV. B and M

These two versions were administered with a span of no less than three days and no more than five days elapsing between presentation of each form. Counterbalancing the test ordering was accomplished by further dividing each group of twenty subjects into two groups of ten, with ten children given the tests in one order, and the other ten in the reverse order (see Table II).

TABLE II

SUBJECT GROUPING AND ORDER OF TEST DELIVERY

Group I	Group II
a. 10s A then L	a. 10s A then M
b. 10s L then A	b. 10s M then A
Group III	**Group IV**
a. 10s B then L	a. 10s B then M
b. 10s L then B	b. 10s M then B

Randomization of the sample was accomplished in two steps. First, all permission forms were numbered consecutively as they were returned, and 38 females and 42 males were selected on the basis of how their number ranked on a random table. Next, a random order table was again used to select the four groups of twenty subjects each with roughly equal numbers of females and males.

Procedures

The PPVT and PPVT-R were administered and scored according to their respective manuals. An age equivalent was derived from raw scores obtained on each test given. Raw scores and age equivalents made up the data from which various analyses were made.

The physical setting for testing varied with the school the subject attended, however, a setting was obtained in each school which was isolated from other people, quiet and well lighted. The subjects were taken out of the classroom and brought to the selected room for testing.

Approximately five minutes was spent establishing rapport with the subject before testing began. This consisted of talking with the children about what they do at school or home. Test introductions were taken verbatim from the appropriate test manual for those subjects below eight years of age.

The furniture in the testing room was arranged so the examiner and subject sat at right angles to each other at a desk. The test form was marked in the manner described by each respec-

tive test manual and the marking was done out of the subjects' vision.

Reinforcement for appropriate (regardless of correctness) responding was delivered according to variable ratio schedule on approximately every fourth response. Phrases such as "good job," "I like the way you're listening" and "nice going" were used as reinforcement. Subjects would have been dismissed from testing and excluded from the study if they failed to learn the task according to the test manual instructions or if they were uncooperative for a period of five minutes after the test instructions were given. No subject was dismissed on the basis of the above criteria.

Analysis of Data

All tests were administered and scored by the researcher. Statistical procedures were used to examine the relationships between the two tests given to each subject according to their respective group (A-L, A-M, B-L, B-M). To analyze the differences between the means within the four groups, and the overall for the PPVT (forms A and B) and the PPVT-R (forms L and M), the *t*-test was employed. To obtain an indicator of the strength of the relationships between the sets of paired scores for the four groups, Pearson's Product-Moment Correlation was used. The age equivalents obtained from each test form were converted from the year and months format to months format to faciliate statistical analysis.

CHAPTER IV

RESULTS AND DISCUSSION

This study sought to investigate the relationship between age equivalent values obtained from the PPVT and the PPVT-R for 80 preschool aged children. The research question posed was: Are there significant differences between the age equivalent values derived from the PPVT and the PPVT-R? Raw data appear in Appendix B. The format for reporting data in the statistical analysis was converted from months back to year-months for use in the results and discussion.

Results of the two-tailed t-test analysis established the mean PPVT was higher than the mean PPVT-R age equivalent value, beyond the .001 level of statistical significance (Table III). The mean age equivalent score for the PPVT (forms A and B combined) was five years with a standard deviation of one year, two months. The mean age equivalent score for the PPVT-R (forms L and M combined) was four years, three months, with a standard deviation of ten months.

A comparative analysis of PPVT and PPVT-R age equivalent values obtained by the four different subject grouping (A-L, A-M, etc.) was performed (Table IV). Significant differences were noted with all groups.

Comparisons of Group I (forms A and L) mean age equivalent values (Table IV) revealed a form A mean age equivalent of

TABLE III

COMPARISON OF MEAN AGE EQUIVALENTS OBTAINED ON THE PPVT (FORMS A AND B) AND THE PPVT-R (FORMS L AND M)

N=80

TEST	MEAN A.E.	S.D.	d.f.	t	SIGNIFICANCE LEVEL
PPVT	5.0	1.2	79	7.43	> .001
PPVT-R	4.3	.10			

five years, and a form L mean age equivalent of four years, one month. Results of the two-tailed t-test analysis established the mean form A age equivalent was higher than the mean form L age equivalent beyond the .001 level of statistical significance.

Comparisons of Group II (forms A and M) mean age equivalent values (Table IV) showed a form A mean age equivalent of four years, nine months, and a form M mean age equivalent of four years, two months. Two-tailed t-test analysis results indicated the mean form A age equivalent was higher than the mean form M age euqivalent beyond the .01 level of statistical significance.

Comparisons of mean age equivalents for Group III (forms B and L) (Table IV) revealed a form B mean age equivalent of five years and a form L mean age equivalent of four years, two months. Results of the two-tailed t-test analysis established the mean form B age equivalent to be higher than the mean form L age equivalent beyond the .001 level of statistical significance.

TABLE IV

COMPARISON OF PPVT AND PPVVT-R AGE EQUIVALENT (A.E.) VALUES ACCORDING TO SUBJECT GROUPING

N=80

GROUP		MEAN A.E.	S.D.	d.f.	t	SIGNIFICANCE LEVEL
I (N=20)	A	5.0	1.4	19	4.38	.001
	L	4.1	.10			
II (N=20)	A	4.9	1.2	19	3.66	.01
	M	4.2	.9			
III (N=20)	B	5.0	.11	19	5.13	.001
	L	4.2	.9			
IV (N=20)	B	5.1	1.3	19	2.41	.05
	M	4.6	.11			

Comparisons of mean age equivalent values for Group IV (forms B and M) (Table IV) revealed a form B mean age equivalent of five years, one month, and a form M mean age equivalent of four years, six months. Two-tailed t-test analysis revealed the form B mean age equivalent was higher than the mean form M age equivalent beyond the .05 level of statistical significance.

Results of Pearson Product-Moment correleation analysis revealed moderate to moderately strong associations between age equivalents within the four subject groups (Table V). A coefficient of determination (r^2) was also computed to display the proportion of common variance in each pair of score distributions.

Analysis of Group I (Table V) data revealed a moderately strong relationship (.66) between form A of the PPVT and form L of the PPVT-R. A further calculation established a 44 per cent proportion of common variance between the two distributions.

Analysis of Group II (Table V) data again revealed a moderately strong correlation (.75) between the PPVT's form A and the PPVT-R's form M. The coefficient of determination showed a 56 per cent common variance.

The Group III correlation between form B of the PPVT and form L of the PPVT-R was .70, also moderately strong. Computation of a coefficient of determination revealed a 49 per cent shared variance.

Analysis of Group IV data between form B of the PPVT and form M of the PPVT-R revealed a moderate correlation of .54, having a 29 per cent common variance.

TABLE V

CORRELATION ANALYSIS OF PPVT AND PPVT-R MEAN AGE EQUIVALENT (A.E.) VALUES ACORDING TO SUBJECT GROUPING

N=80

GROUP		MEAN A.E.	S.D.	r	SIGNIFICANCE LEVEL	COEFFICIENT OF DETERMINATION
I (N=20)	A	5.0	1.4	.66	.001	.44
	L	4.1	.10			
II (N=20)	A	4.9	1.2	.75	.001	.56
	M	4.2	.9			
III (N=20)	B	5.0	.11	.70	.001	.49
	L	4.2	.9			
IV (N=20)	B	5.1	1.3	.54	.001	.29
	M	4.6	.11			

For reader convenience, means and standard deviations are presented here as well as in Table IV.

DISCUSSION

This investigation sought to answer the following question: Are there significant differences between the age equivalent values obtained on the PPVT and the PPVT-R? The results indicated a significant difference existed between the combined PPVT test forms (A and B) and the combined PPVT-R test forms (L and M) mean age equivalent values (Table III), as well as between the mean age equivalent values within the four subject groups (Table V).

While two-tailed t-test studies showed these two tests to be significantly different, correlational studies indicated that moderate and moderately strong relationships existed within the four subject groups (Table V), Group II (forms A and M) demonstrated the strongest correlation (.75) and a proportion of common variance of 56 per cent. The "weakest" relationship was within Group IV (forms B and M) with a correlation of .54 and a 29 per cent proportion of common variance.

The t-test and correlational analysis indicated that while the PPVT and the PPVT-R are significantly different from each other they also share some attributes. It appears that these results are reasonable in light of the fact that the two tests are testing the same behavior and yet have fundamental differences in standardization procedure, number of test items, item distribution and concentration, etcetera.

The difference between the mean age equivalents of the PPVT and the PPVT-R is nine months, with the PPVT having the higher score (see Table III). The PPVT mean age equivalents within each of the four subject groups also received the highest

value over the PPVT-R values (see Table IV). Figure 1 displays the differences in months between the PPVT and the PPVT-R by subject grouping. It is interesting to note that while Groups I and III, which each contain form L of the PPVT-R, have mean age equivalents that differ by eleven and ten months respectively, Groups II and IV, both of which contain form M of the PPVT-R each differ by seven months. It may be that form L age equivalents are generally lower than form M age equivalents. This information does not suggest that form A age equivalents were generally higher than those of form B, as was found by Nicolosi and Kresheck (1972) and Bordogna (1978). In any case, the mean age equivalents for all test forms within the subject groupings (see Table IV) does not overwhelmingly suggest either assertion.

As seen in Figure 2, the four subject groups were divided into three general age groups to get an overall idea of the affects of chronological age on the age equivalent value obtained. The three age groupings were divided as follows: three years, six months to three years, nine months; three years, ten months to four years, two months; and from four years, three months to four years, six months. Visual examination of these data again shows the PPVT age equivalent values to be consistently higher than the PPVT-R age equivalents. Both the PPVT and the PPVT-R age equivalent values reveal a gradual increase with a corresponding increase in chronological age. There do not appear to be any consistencies within either the PPVT or PPVT-R mean age equivalents from age group to age group.

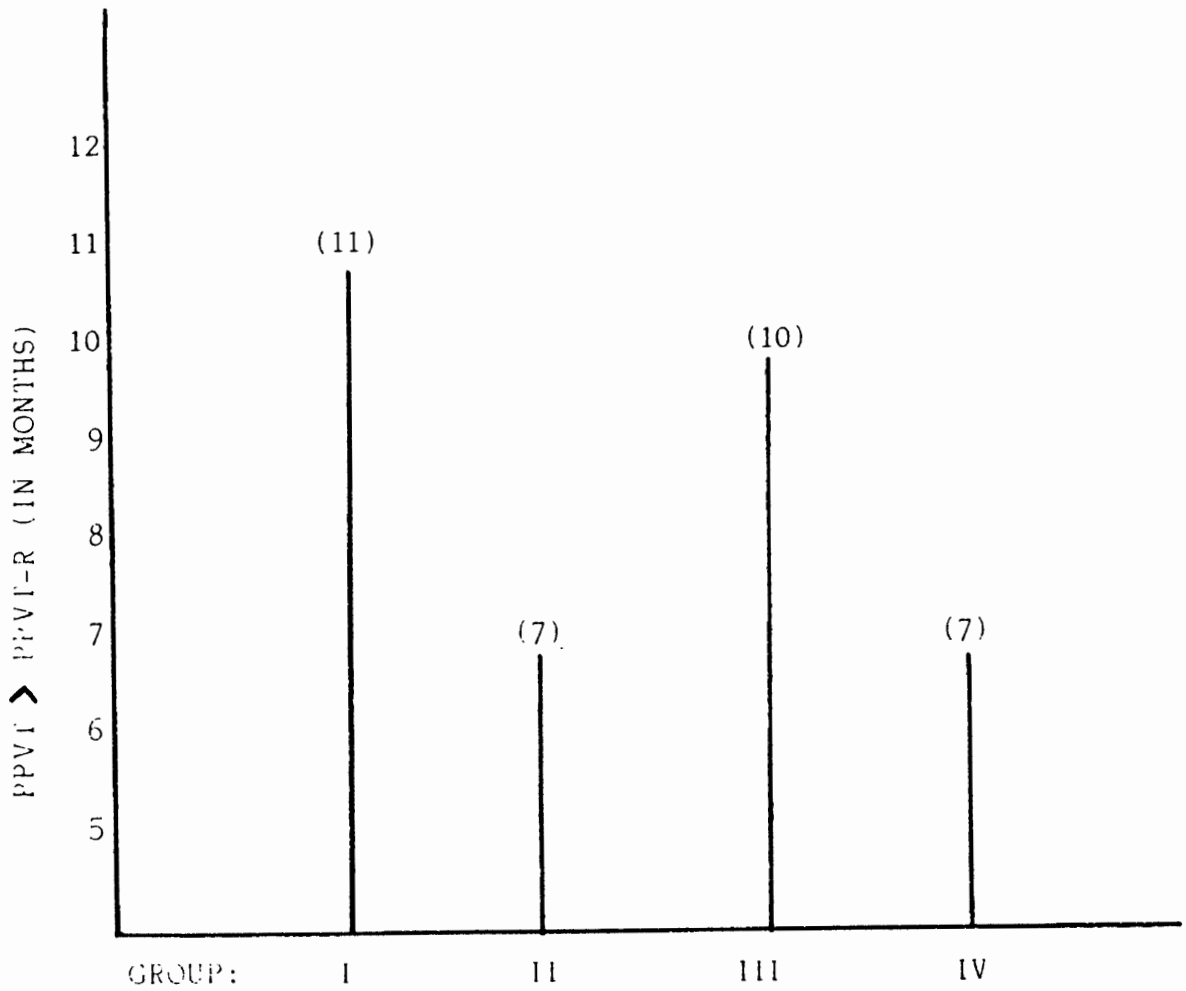

Figure 1. Differences in months between mean age equivalents by subject group.

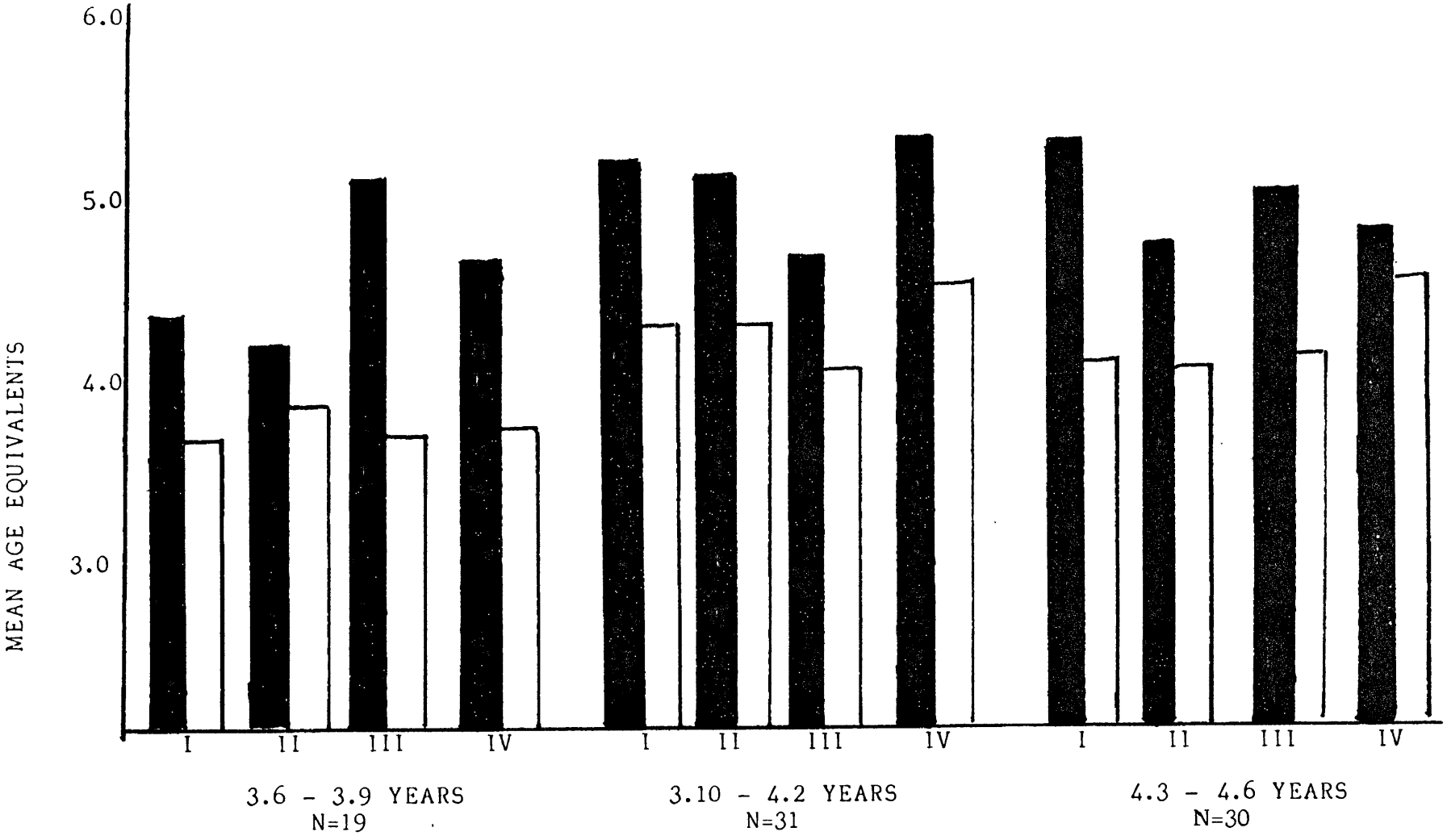

Figure 2. Mean PPVT and PPVT-R age equivalent scores by subject group and age group.

Code: PPVT
PPVT-R

Table VI gives a visual display of the mean age equivalents by individual test and sex of the subject. Consistent with other data presented in this study, the PPVT test forms A and B received higher mean age equivalents than the PPVT-R test forms L and M results. Males obtained mean age equivalents of five years, and four years, ten months for forms A and B, respectively, and a mean age equivalent of four years, three months and four years, one month form forms L and M of the PPVT-R, respectively. Females received mean age equivalents of four years, nine months and five years, two months for forms A and B, respectively, and mean age equivalents of four years, and four years, five months for forms L and M, respectively. These mean age equivalent values do not indicate the superiority of one sex's performance over another.

TABLE VI

MEAN AGE EQUIVALENTS BY TEST FORM AND SEX

	A	B	L	M
MALES	5.0	4.10	4.3	4.1
FEMALES	4.9	5.2	4.0	4.5

A ranking of the preschools used in this study according to their socioeconomic status percentile classification was performed to see if any trends could be observed between test performance and socioeconomic status (Table VII). As the data indicate, the mean age equivalent values do not appear to rank correspondingly from

TABLE VII

MEAN AGE EQUIVALENTS (A.E.) FOR, AND DIFFERENCES BETWEEN THE PPVT AND PPVT-R ACCORDING TO SOCIOECONOMIC STATUS PERCENTILE RANKING OF PRESCHOOL

DECILE	PRESCHOOL	N	PPVT (A.E.)	PPVT-R (A.E.)	PPVT > PPVT-R (IN MONTHS)
75	B	10	4.11	4.2	9
70	A	8	5.10	4.9	13
70	C	13	5.0	4.4	8
70	I	6	4.11	3.11	12
66	F	12	5.1	4.2	11
58	H	6	4.8	3.9	11
48	G	6	4.4	3.9	7
47	D	7	5.7	4.10	9
47	J	4	4.9	4.4	5
44	E	8	4.2	3.11	3

high to low mean scores when placed in the percentile high to low ranking of the preschools. However, it appears that as the percentile classification becomes lower, variability between the mean PPVT and PPVT-R age equivalents becomes smaller. One suggestion made based on this information is that children from higher socioeconomic situations may be more sensitive to the differences between the PPVT and the PPVT-R than those in lower socioeconomic circumstances.

While this study dealt primarily with age equivalent values, an examination of raw scores was done to compare the current data with those obtained by Dunn (1981) in his study of the equivalency betwen form A of the PPVT and form L of the PPVT-R (Table VIII). Dunn (1981) found that for raw scores below 55 on form L, the corresponding form A scores were higher, while for scores above 55 on form L, the form L scores were higher than the form A scores. A potential problem with comparing the current results with Dunn's (1981) is that he equated the scores from his study using an equipercentile procedure described in the PPVT-R Technical Supplement, which is unavailable at this time to this investigator. However, the results from this researcher's study appear to follow the trend found by Dunn (1981). As shown in Table VIII, for Group I, which contains form A of the PPVT and form L of the PPVT-R, in 13 of 15 instances where the form L raw score was below 55 the form L raw score was lower than the corresponding form A raw score. Similarly, in three out of five instances where the form L raw score was above 55, the form L raw score was higher than the corresponding form A raw score.

TABLE VIII

RAW SCORES ACCORDING TO GROUP

GROUP I		GROUP II		GROUP III		GROUP IV	
L	A	M	A	L	B	M	B
64	57	68	58	67	58	80	51
60	52	64	52	63	55	75	49
59	61	62	49	56	53	62	56
56	58	55	52	55	56	59	66
56	54	54	56	55	49	59	48
52	44	48	51	54	46	58	53
49	64	48	42	48	48	56	49
44	35	43	42	49	48	56	46
42	49	42	48	46	57	48	56
40	48	42	45	45	45	47	55
38	59	42	45	44	53	44	48
38	48	42	44	44	50	43	46
38	46	41	54	42	45	42	26
37	51	40	52	41	54	40	38
36	38	38	32	37	36	39	46
35	49	37	49	36	42	37	38
33	33	38	41	36	38	36	38
21	43	32	48	29	38	35	56
21	33	32	28	25	45	35	48
20	38	21	26	18	42	35	40

Additionally, though Dunn's (1981) study did not include other test form groupings, this trend was fairly consistently noted throughout the other three test groups (Table VIII).

While in only 15 out of 80 instances was the PPVT-R age equivalent value larger than the PPVT age equivalent, 28 out of the 80 corresponding PPVT-R raw scores were higher than the PPVT raw scores (see Appendix B). For example, a PPVT-R, form L raw score of 64 and a PPVT, form A raw score of 57 correspond to age equivalents of five years, six months and six years, three months, respectively. Therefore, a larger PPVT-R raw score than a PPVT raw score does not necessarily mean a correspondingly higher PPVT-R age equivalent.

Mean age equivalents from each of the four test forms used were compared to a mean chronological age (C.A.), to display the number of months each test mean was higher than the mean C.A. (Figure 3). A mean C.A. of four years, one month was computed for the sample population. When compared to this figure, the mean age equivalent from form A of the PPVT was found to be ten months higher. Form B of the PPVT had a mean age equivalent that was twelve months higher. Forms L and M of the PPVT-R were one and three months higher than the mean C.A., respectively. From this data it is clear that the PPVT-R age equivalent values are generally much closer to the C.A. of the population studied. Whether or not this indicates use of the PPVT results in inflated age equivalents is unknown since no other test data were available for comparison. However, it seems probable that the small disparity between the mean age equivalent of the PPVT-R and the mean

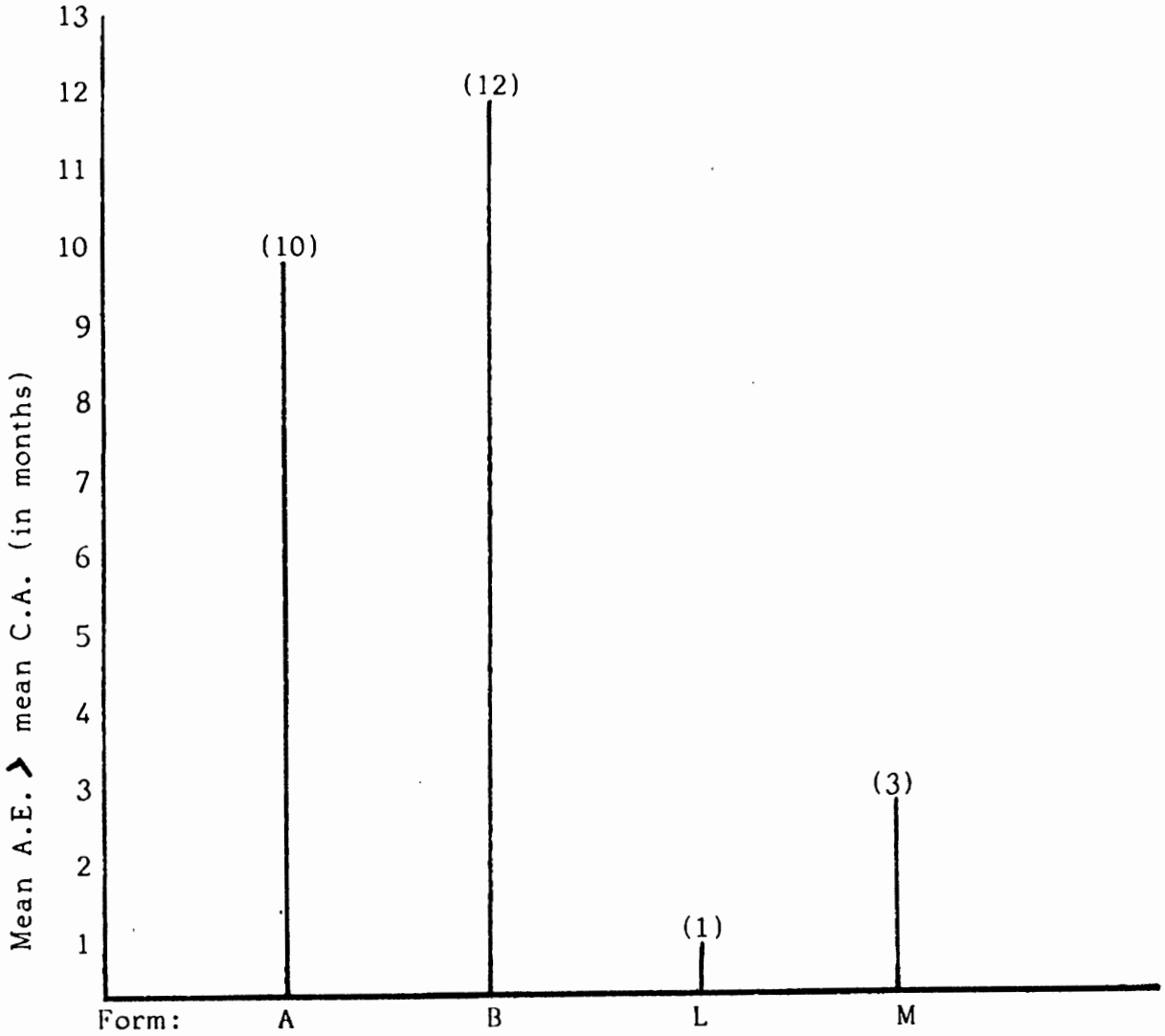

Figure 3. Number of months mean age equivalent (A.E.) was higher than mean chronological age (C.A.), by test form.

C.A. is due at least in part to the PPVT-R's standardization procedure, which resulted in normative data that may be more representative of the age equivalents of "todays" children.

False negative scores occur when one test shows a score within the normal range for a certain chronological age, while another test indicates a delay. In this study three subjects obtained false positive PPVT scores (subjects #57, 65, 78) (see Appendix B). Their PPVT-R age equivalent values were between 12 and 17 months below their PPVT-R age equivalents. All three subjects were administered from L of the PPVT-R. Whether or not form L of the PPVT-R is more sensitive in detecting a language delay in unclear due to the small size of this sub-sample.

Essentially, results of this study indicate a significant difference exists between the age equivalent values from the PPVT and the PPVT-R, as well as an overall moderate correlation. When the subject's scores are examined individually, most are found to have larger PPVT age equivalents than their corresponding PPVT-R age equivalents. These differences may occur due to the four factors outlined by Dunn (1981), i.e., the PPVT-R's additional 25 items and changes in the item distribution and concentration, which would affect the raw score, and standardization differences and possible improvement in the hearing vocabulary of the population over the past 20 years, which would be reflected in the age equivalent norms.

CHAPTER V

SUMMARY AND IMPLICATIONS

SUMMARY

The Peabody Picture Vocabulary Test (PPVT) is a widely used receptive vocabulary screening tool, but it is not without its limitations, such as inadvisable I.Q. usage and a standardization procedure that lacks scope. A revision of the PPVT, known as the Peabody Picture Vocabulary Test-Revised (PPVT-R) was published in 1981, and contains a more complete standardization procedure as well as some structural changes of the test itself (Dunn, 1981). Speech/language pathology, whose diagnosticians most commonly use the age equivalent value, is a profession that would gain from information which deals with the equivalency of the PPVT-R to the original PPVT.

The purpose of this study was to compare age equivalent vlaues obtained from the PPVT and the PPVT-R for a preschool aged population. Specifically, this study sought to discover whether or not significant differences existed between the age equivalent values derived from the PPVT and the PPVT-R. Eighty children, aged three years, six months to four years, six months participated as subjects in the study, selected on the basis of their chronological age and enrollment in one of ten selected preschools. The subjects were dividied into four groups (N=20), and each group was administered one form of the PPVT (A or B) and one

form of the PPVT-R (L or M). The resultant groupings were: I (A and L); II (A and M); III (B and L) and IV (B and M).

Results indicated a statistically significant difference does exist between the overall mean PPVT and PPVT-R age equivalents, and that statistically significant differences are apparent within the four subject groups. In 65 out of 80 age equivalents obtained, the PPVT age equivalent was higher than the corresponding PPVT-R age equivalent. The mean age equivalents from forms A and B of the PPVT were found to be much higher than the mean chronological age, as compared to the mean age equivalent from forms L and M of the PPVT-R over the mean chronological age. While no substantial differences in test performances were noted between the sexes, children of both sexes who attended preschools ranked lower according to socioeconomic percentile classification appeared to be less sensitive to the differences between the two tests.

IMPLICATIONS

Clinical

This researcher suggests the use of the PPVT-R as a receptive language screening tool rather than the PPVT, since results of this study indicate the PPVT-R to be significantly different from the PPVT age equivalent, and since the PPVT-R normative data is more current than that of the PPVT. Those clinicians who continue to use the PPVT should recognize the possibility of obtaining inflated age equivalents, which may not reflect the testees true abilities.

Changes in the PPVT-R's format made its administration

somewhat easier than the PPVT's. The easel-type stimulus books only exposed one stimulus page at a time, and it is believed the subjects found the addition of at least some color (blue or green borders around the pictures) more interesting visually. The PPVT-R's instructions to subjects under eight years of age were much more in keeping with a three or four year old child's intelligence, i.e., "I want you to look at some pictures with me" rather than the PPVT's assertion to children that the test is a "picture game." The PPVT's training plates included only one verb presentation with one training plate, while the PPVT-R included two entire training plates with verbs presented in each of the four pictures. It appears likely that this helped some children be less indecisive when presented with the first verb test stimulus.

Research

It would be interesting to see what kind of data would have resulted had a language disordered or language delayed population been used. Also if an older population were used further comparisons could be made with Dunn's (1981) data in his equivalency study. Research comparing PPVT age equivalents, PPVT-R age equivalents, and a "receptive vocabulary age" score from a third receptive language test would shed light on the issue of whether or not the PPVT age equivalents are "inflated."

However, this researcher is so impressed with the improvement of the PPVT-R over the PPVT, that numerous equivalency studies are not suggested. Rather, more research should be spent in studying the performance of various population types on the PPVT-R, or comparing the PPVT-R's age equivalent values with that of other receptive language tests.

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APPENDIX A

PERMISSION FORM

I agree/do not agree to let my child _____ _____ participate as a subject in a study entitled "Comparison of Scores Obtained on the Peabody Picture Vocabulary Test (PPVT) and the Peabody Picture Vocabulary Test-Revised (PPVT-R)." This is a frequently used test to determine how many words an individual understands. This study is being carried out by Mrs. Jennie Choong under the supervision of Professor Joan McMahon, thesis director, Speech and Hearing Sciences Program, Portland State University.

The purpose of this study is to determine what, if any, differences exist between scores obtained on the PPVT and its revision, the PPVT-R. My child will be tested on two separate occasions, three to five days apart. Each session will last about fifteen minutes. All children will be identified only by number and no names will be used at any time.

There are no risks or dangers inherent in the procedures of the study. My child will simply be asked to point to a series of pictures. Subjects are free to withdraw from the study at any time without jeopardizing their position in the preschool.

_____
Signature of Parent/Guardian

_____
Date

Birthdate of Child ___-___-___
Mo. Day Yr.

Please return this form indicating your approval (or disapproval) with your child tomorrow. If you have any question, leave a message with the director at the preschool and I will return your call (J. Choong).

APPENDIX B

PPVT AND PPVT-R AGE EQUIVALENTS FOR EACH SUBJECT

SUBJECT #	SEX	C.A.	PPVT (FORM)	PPVT-R (FORM)
1	M	4.0	6.6 (A)	5.10(M)
2	F	4.5	6.2 (B)	4.10(L)
3	F	4.3	5.11(B)	4.3 (M)
4	F	4.0	8.0 (B)	5.1 (M)
5	F	4.4	4.11(A)	5.4 (M)
6	M	4.0	3.8 (B)	3.8 (L)
7	M	4.0	6.6 (A)	4.11(L)
8	M	4.4	4.11(A)	4.0 (L)
9	F	4.0	4.6 (B)	4.0 (L)
10	M	4.6	4.0 (A)	4.3 (M)
11	F	4.5	3.7 (B)	3.9 (L)
12	M	4.5	5.4 (B)	6.10(M)
13	F	4.2	4.7 (B)	3.9 (M)
14	M	3.9	5.2 (A)	3.9 (L)
15	M	3.7	6.8 (A)	3.9 (L)
16	M	3.6	4.0 (B)	2.8 (L)
17 +	F	4.1	5.10(B)	3.11(L)
18	F	4.6	5.5 (A)	5.3 (L)
19	M	4.1	4.10(A)	3.5 (M)
20	M	4.1	3.3 (A)	3.9 (M)
21	F	4.0	5.1 (B)	4.10(M)
22	M	4.6	7.8 (A)	4.5 (L)
23	M	4.2	5.8 (B)	5.0 (M)
24	M	3.9	4.11(B)	4.0 (M)
25	M	4.1	5.1 (B)	4.10(L)
26	M	3.10	4.11(B)	3.7 (M)
27	F	3.10	4.11(B)	5.1 (M)
28	F	3.7	4.3 (A)	4.7 (L)
29	M	4.4	4.11(B)	4.4 (L)
30	M	3.6	3.5 (A)	4.1 (L)
31	F	3.8	6.1 (A)	4.8 (M)
32 +	M	4.4	6.6 (B)	5.9 (L)
33	F	4.1	3.8 (A)	3.8 (L)
34	N	4.5	5.7 (B)	4.11(L)
35	M	4.2	4.6 (B)	4.2 (L)
36	F	3.9	5.3 (B)	4.1 (L)
37	M	3.11	6.3 (A)	5.6 (L)
38	M	3.11	7.1 (A)	5.2 (L)
39	F	4.3	4.7 (B)	4.0 (M)
40	M	4.4	4.7 (B)	4.9 (L)
41	F	4.5	2.10(B)	3.11(M)
42	F	4.0	3.3 (A)	3.6 (L)
43	F	4.5	4.10(A)	3.9 (L)
44	M	4.0	4.11(A)	3.11(L)

SUBJECT #	SEX	C.A.	PPVT (FORM)	PPVT-R (FORM)
45	F	4.2	4.11(B)	4.5 (L)
46	F	3.7	3.3 (A)	2.10(L)
47	F	3.6	4.0 (A)	4.1 (M)
48	F	3.6	6.4 (B)	4.2 (L)
49 *	F	3.10	4.7 (A)	3.11(M)
50	M	3.9	5.2 (A)	4.3 (M)
51	M	3.8	3.7 (B)	3.7 (M)
52	M	3.6	3.8 (B)	3.8 (M)
53	F	4.6	5.9 (A)	4.11(L)
54	F	4.4	5.8 (B)	4.1 (L)
55	M	4.4	5.11(B)	5.6 (L)
56	M	4.4	4.10(A)	3.11(M)
57 *	M	4.3	4.1 (A)	2.10(L)
58	F	4.0	7.6 (A)	5.6 (M)
59 *	M	4.4	4.7 (A)	3.9 (L)
60	M	3.9	2.10(A)	2.9 (M)
61 *	M	4.6	5.9 (A)	3.10(M)
62	F	4.0	4.7 (B)	4.10(M)
63 *	F	3.10	4.3 (A)	3.11(M)
64 *	M	4.2	3.10(B)	3.7 (M)
65	F	4.6	4.6 (B)	3.1 (L)
66	M	4.0	4.0 (B)	3.8 (L)
67	M	3.11	4.11(A)	3.7 (L)
68	M	4.4	3.11(A)	3.9 (M)
69	F	4.1	5.5 (A)	4.9 (M)
70	F	4.6	5.5 (A)	3.10(M)
71	F	3.6	3.8 (A)	2.10(L)
72	M	4.1	6.2 (B)	5.4 (M)
73	F	3.7	4.5 (A)	3.11(M)
74	M	3.8	6.2 (B)	3.7 (M)
75	M	3.8	2.11(A)	3.5 (M)
76	F	4.5	6.2 (B)	4.3 (M)
77	F	4.6	6.8 (B)	6.5 (M)
78	M	4.3	3.8 (B)	3.3 (L)
79	F	4.5	3.8 (B)	3.10(M)
80	F	4.2	4.11(A)	3.8 (M)

+ DENOTES ASIAN SUBJECTS
* DENOTES BLACK SUBJECTS

APPENDIX C

SCORES FOR CATEGORIES OF YEARS OF SCHOOL COMPLETED

SCORE	CATEGORY	SCORE	CATEGORY
98	COLLEGE: 5 or more	67	HIGH SCHOOL: 4
93	4	49	3
89	3	42	2
86	2	34	1
83	1		

SCORES FOR CATEGORIES OF FAMILY INCOME (OR INCOME OF PERSONS NOT IN FAMILIES) *

SCORE	CATEGORY	SCORE	CATEGORY
100	$75,000 or more	69	$19,500 to 20,999
98	$45,000 to 74,999	63	$18,000 to 19,499
94	$30,000 to 44,999	57	$16,500 to 17,999
89	$28,500 to 29,999	49	$15,000 to 16,499
87	$27,000 to 28,499	41	$13,500 to 14,999
84	$25,500 to 26,999	34	$12.000 to 13,499
81	$24,000 to 25,499	27	$10,500 to 11,999
78	$22,500 to 23,999	21	$9,000 to 10,499
74	$21,000 to 22,499	17	$7,500 to 8,999

* Income data updated to 1978 standards. (U.S. Department of Commerce, Bureau of Census, personal correspondence, Portland, Oregon, March 18, 1981)

APPENDIX D

Test Form Examples
PPVT (form B)

SCORE SHEET FORM

Suggested Starting Points (see manual page 8)

Age Category	Begin with:	Age Category	Begin with:
below 3-3	Plate No. 1	9-6 to 11-5	Plate No. 60
3-3 to 4-2	Plate No. 15	11-6 to 13-5	Plate No. 70
4-3 to 5-5	Plate No. 25	13-6 to 15-5	Plate No. 80
5-6 to 7-5	Plate No. 40	15-6 to 17-5	Plate No. 90
7-6 to 9-5	Plate No. 50	above 17-6	Plate No. 100

BASAL: 8 consecutive correct responses

CEILING: 6 errors in 8 consecutive responses

*TO RECORD ERRORS: Make oblique strokes through the geometric figures. Every eighth figure is i

Plate No.	Word	Key	Resp.	Errors*
1	table	(2)		○
2	bus	(4)		□
3	horse	(2)		△
4	dog	(3)		✣
5	shoe	(4)		♡
6	finger	(4)		☆
7	boat	(3)		◇
8	children	(2)		○
9	bell	(1)		□
10	turtle	(4)		△
11	climbing	(2)		✣
12	lamp	(1)		♡
13	sitting	(3)		☆
14	jacket	(2)		◇
15	pulling	(1)		○
16	ring	(2)		□
17	nail	(1)		△
18	hitting	(2)		✣
19	tire	(3)		♡
20	ladder	(3)		☆
21	snake	(1)		◇
22	river	(1)		○
23	ringing	(4)		□
24	baking	(4)		△
25	cone	(2)		✣
26	engineer	(3)		♡
27	peeking	(4)		☆
28	kite	(1)		◇
29	rat	(1)		○
30	time	(1)		□
31	sail	(4)		△
32	ambulance	(2)		✣
33	trunk	(2)		♡
34	skiing	(4)		☆
35	hook	(2)		◇
36	tweezers	(1)		○
37	wasp	(3)		□
38	barber	(2)		△
39	parachute	(3)		✣
40	saddle	(4)		♡
41	temperature	(3)		☆
42	captain	(1)		◇
43	whale	(2)		○
44	cash	(4)		□
45	balancing	(1)		△
46	cobweb	(3)		✣
47	pledging	(3)		♡
48	argument	(1)		☆
49	hydrant	(3)		◇
50	binocular	(4)		○
51	locomotive	(1)		□
52	hive	(2)		△
53	reel	(4)		✣
54	insect	(1)		♡
55	gnawing	(1)		☆
56	weapon	(2)		◇
57	bannister	(3)		○
58	idol	(1)		□
59	globe	(1)		△
60	walrus	(3)		✣
61	filing	(1)		♡
62	shears	(3)		☆
63	horror	(1)		◇
64	chef	(4)		○
65	harvesting	(4)		□
66	construction	(3)		△
67	observatory	(4)		✣
68	assistance	(4)		♡
69	erecting	(2)		☆
70	thoroughbred	(3)		◇
71	casserole	(2)		○
72	ornament	(4)		□
73	cobbler	(3)		△
74	autumn	(2)		✣
75	dissatisfaction	(3)		♡

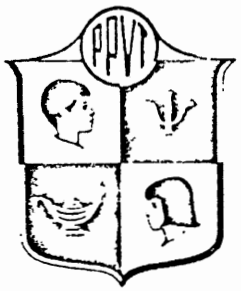
PPVT (form B continued)

RAW SCORE CALCULATIONS

Ceiling item . . . . . ____

Less errors . . . . . ____

Raw score . . . . . ____



dentical to facilitate the determination of the basal or ceiling.

Plate No.	Word	Key Resp.	Errors*	
76	scholar	(4)		☆
77	oasis	(1)		◇
78	soldering	(3)		○
79	astonishment	(3)		⌐
80	tread	(1)		△
81	thatched	(2)		✣
82	jurisprudence	(1)		♡
83	sapling	(2)		☆
84	arch	(3)		◇
85	dwelling	(4)		○
86	lubricating	(1)		⌐
87	pedestrian	(2)		△
88	vale	(3)		✣
89	jubilant	(3)		♡
90	laden	(2)		☆
91	pursuit	(2)		◇
92	goblet	(4)		○
93	rodent	(2)		□
94	confiding	(3)		△
95	reclining	(4)		✣
96	frisking	(1)		♡
97	moat	(2)		☆
98	salutation	(3)		◇
99	barrier	(2)		○
100	foal	(3)		□
101	incandescent	(4)		△
102	cornucopia	(3)		✣
103	ascending	(2)		♡
104	summit	(1)		☆
105	caster	(3)		◇
106	lobe	(2)		○
107	patriarch	(3)		□
108	sampler	(3)		△
109	ingenious	(3)		✣
110	repose	(1)		♡
111	constrain	(3)		☆
112	tangent	(1)		◇
113	sconce	(4)		○
114	hoary	(4)		⌐
115	pendant	(1)		△
116	prodigy	(1)		✣
117	casement	(2)		♡
118	quiescent	(1)		☆
119	talon	(4)		◇
120	chevron	(1)		○
121	feline	(4)		⌐
122	cairn	(2)		△
123	convergence	(4)		✣
124	apothecary	(3)		♡
125	indigent	(2)		☆
126	edifice	(4)		◇
127	scallion	(3)		○
128	infirm	(1)		⌐
129	emaciate	(1)		△
130	catapult	(2)		✣
131	arable	(2)		♡
132	orifice	(4)		☆
133	renovate	(3)		◇
134	precarious	(1)		○
135	dromedary	(2)		⌐
136	pedagogue	(1)		△
137	sepal	(1)		✣
138	lethargic	(3)		♡
139	delectation	(4)		☆
140	embellish	(3)		◇
141	osculation	(1)		○
142	cincture	(2)		□
143	barrister	(3)		△
144	carrion	(3)		✣
145	lanate	(2)		♡
146	chirography	(4)		☆
147	mendicant	(1)		◇
148	saltation	(1)		○
149	florescence	(2)		□
150	culver	(4)		△

PPVT-R (form L)

BASAL 8 consecutive responses

CEILING 6 errors in 8 consecutive responses

TO START Locate the small circle containing the subject's age in years. Circle the corresponding item number and begin the test with this item. Determine the subject's basal level.

TO STOP When the subject's ceiling is reached, circle the number of the *last* item administered.

TO RECORD RESPONSE Circle the response number chosen by the subject.

TO RECORD AN ERROR Draw an oblique line (/) through the geometric figure. Every eighth figure is identical to facilitate the determination of the basal or ceiling levels.

Consult the Directions for Administering for additional information.

Plate Number	Word	Key	Response	Error
E ⓔ 1	bus	(4)	1 2 3 4	
2	hand	(1)	1 2 3 4	
3	bed	(3)	1 2 3 4	
4	tractor	(2)	1 2 3 4	⌐
5	closet	(1)	1 2 3 4	⌐
6	snake	(4)	1 2 3 4	≈
7	boat	(2)	1 2 3 4	⊎
8	tire	(3)	1 2 3 4	
9	cow	(1)	1 2 3 4	
10	lamp	(4)	1 2 3 4	
11	drum	(3)	1 2 3 4	⌐
12	knee	(4)	1 2 3 4	⌐
13	helicopter	(2)	1 2 3 4	≈
14	elbow	(4)	1 2 3 4	⊎
15	bandage	(4)	1 2 3 4	
16	feather	(1)	1 2 3 4	
17	empty	(3)	1 2 3 4	⌐
18	fence	(4)	1 2 3 4	⊏
19	accident	(2)	1 2 3 4	⌐
ⓔ 20	net	(2)	1 2 3 4	≈
21	tearing	(4)	1 2 3 4	⊎
22	sail	(1)	1 2 3 4	
23	measuring	(2)	1 2 3 4	
24	peeling	(3)	1 2 3 4	
57	mechanic	(2)	1 2 3 4	⌐
58	tambourine	(1)	1 2 3 4	
59	disappointment	(4)	1 2 3 4	⌐
ⓔ 60	awarding	(3)	1 2 3 4	⊏
61	pitcher	(3)	1 2 3 4	⌐
62	reel	(1)	1 2 3 4	≈
63	signal	(1)	1 2 3 4	⊎
64	trunk	(2)	1 2 3 4	⌐
65	human	(2)	1 2 3 4	
66	nostril	(1)	1 2 3 4	
67	disagreement	(1)	1 2 3 4	⊔
68	exhausted	(2)	1 2 3 4	⌐
69	vine	(4)	1 2 3 4	≈
ⓔ 70	ceremony	(4)	1 2 3 4	⊎
71	casserole	(2)	1 2 3 4	⌐
72	vehicle	(4)	1 2 3 4	⌐
73	globe	(3)	1 2 3 4	
74	filling	(3)	1 2 3 4	⊏
75	clamp	(2)	1 2 3 4	⌐
76	reptile	(2)	1 2 3 4	≈
77	island	(1)	1 2 3 4	⊎
78	spatula	(3)	1 2 3 4	⌐
79	cooperation	(4)	1 2 3 4	⌐
ⓔ 80	scalp	(4)	1 2 3 4	⌐
113	utensil	(2)	1 2 3 4	
114	citrus	(3)	1 2 3 4	
ⓔⓔ 115	pedestrian	(2)	1 2 3 4	⌐
116	parallelogram	(1)	1 2 3 4	⊏
117	slumbering	(3)	1 2 3 4	⌐
118	peninsula	(4)	1 2 3 4	≈
119	upholstery	(2)	1 2 3 4	⊎
ⓔⓔ 120	barricade	(4)	1 2 3 4	⌐
121	quartet	(4)	1 2 3 4	
122	tranquil	(3)	1 2 3 4	⌐
123	abrasive	(1)	1 2 3 4	⊏
124	fatigued	(3)	1 2 3 4	⌐
125	spherical	(2)	1 2 3 4	≈
126	syringe	(2)	1 2 3 4	⊎
127	feline	(2)	1 2 3 4	⌐
128	arid	(4)	1 2 3 4	⌐
129	exterior	(1)	1 2 3 4	⌐
130	constellation	(4)	1 2 3 4	⊏
131	cornea	(2)	1 2 3 4	⌐
132	mercantile	(1)	1 2 3 4	≈
133	ascending	(3)	1 2 3 4	⊎
134	filtration	(1)	1 2 3 4	
135	consuming	(4)	1 2 3 4	
136	cascade	(4)	1 2 3 4	⌐
137	perpendicular	(3)	1 2 3 4	⊏
138	replenishing	(1)	1 2 3 4	⌐
139	emission	(3)	1 2 3 4	≈
140	talon	(3)	1 2 3 4	⊎
141	wrath	(3)	1 2 3 4	⌐
142	incandescent	(4)	1 2 3 4	
143	arrogant	(2)	1 2 3 4	⌐
144	confiding	(3)	1 2 3 4	⊏

PPVT-R (form L continued)

25	cage	(1) 1 2 3 4	81	twig	(2) 1 2 3 4	145	rhombus	(3) 1 2 3 4
26	tool	(4) 1 2 3 4	82	weasel	(2) 1 2 3 4	146	nautical	(3) 1 2 3 4
27	square	(4) 1 2 3 4	83	demolishing	(4) 1 2 3 4	147	tangent	(1) 1 2 3 4
28	stretching	(1) 1 2 3 4	84	balcony	(1) 1 2 3 4	148	inclement	(4) 1 2 3 4
29	arrow	(2) 1 2 3 4	85	locket	(1) 1 2 3 4	149	trajectory	(1) 1 2 3 4
① 30	tying	(2) 1 2 3 4	86	amazed	(3) 1 2 3 4	150	fettered	(1) 1 2 3 4
31	nest	(1) 1 2 3 4	87	tubular	(1) 1 2 3 4	151	wail	(3) 1 2 3 4
32	envelope	(2) 1 2 3 4	88	tusk	(1) 1 2 3 4	152	jubilant	(2) 1 2 3 4
33	hook	(3) 1 2 3 4	89	bolt	(3) 1 2 3 4	153	pilfering	(4) 1 2 3 4
34	pasting	(4) 1 2 3 4	⑨ 90	communication	(4) 1 2 3 4	154	repose	(2) 1 2 3 4
35	patting	(1) 1 2 3 4	91	carpenter	(2) 1 2 3 4	155	carrion	(3) 1 2 3 4
36	penguin	(1) 1 2 3 4	92	isolation	(1) 1 2 3 4	156	indigent	(2) 1 2 3 4
37	sewing	(2) 1 2 3 4	93	inflated	(3) 1 2 3 4	157	convex	(1) 1 2 3 4
38	delivering	(1) 1 2 3 4	94	coast	(3) 1 2 3 4	158	emaciated	(2) 1 2 3 4
39	diving	(2) 1 2 3 4	95	adjustable	(2) 1 2 3 4	159	divergence	(4) 1 2 3 4
① 40	parachute	(3) 1 2 3 4	96	fragile	(3) 1 2 3 4	160	dromedary	(2) 1 2 3 4
41	furry	(4) 1 2 3 4	97	assaulting	(1) 1 2 3 4	161	embellishing	(2) 1 2 3 4
42	vegetable	(4) 1 2 3 4	98	appliance	(1) 1 2 3 4	162	entomologist	(3) 1 2 3 4
43	shoulder	(3) 1 2 3 4	99	pyramid	(4) 1 2 3 4	163	constrain	(1) 1 2 3 4
44	dripping	(2) 1 2 3 4	⑫ 100	blazing	(1) 1 2 3 4	164	infirm	(1) 1 2 3 4
45	claw	(4) 1 2 3 4	101	hoisting	(1) 1 2 3 4	165	anthropoid	(3) 1 2 3 4
46	decorated	(3) 1 2 3 4	102	arch	(4) 1 2 3 4	166	specter	(4) 1 2 3 4
47	frame	(1) 1 2 3 4	103	lecturing	(4) 1 2 3 4	167	incertitude	(2) 1 2 3 4
48	forest	(3) 1 2 3 4	104	dilapidated	(4) 1 2 3 4	168	vitreous	(1) 1 2 3 4
49	faucet	(2) 1 2 3 4	⑬ 105	contemplating	(2) 1 2 3 4	169	obelisk	(1) 1 2 3 4
① 50	group	(3) 1 2 3 4	106	canister	(1) 1 2 3 4	170	embossed	(4) 1 2 3 4
51	stem	(3) 1 2 3 4	107	dissecting	(3) 1 2 3 4	171	ambulation	(2) 1 2 3 4
52	vase	(3) 1 2 3 4	108	link	(4) 1 2 3 4	172	calyx	(2) 1 2 3 4
53	pedal	(1) 1 2 3 4	109	solemn	(3) 1 2 3 4	173	osculation	(3) 1 2 3 4
54	capsule	(2) 1 2 3 4	⑭ 110	archery	(2) 1 2 3 4	174	cupola	(4) 1 2 3 4
55	surprised	(4) 1 2 3 4	111	transparent	(3) 1 2 3 4	175	homunculus	(4) 1 2 3 4
56	bark	(2) 1 2 3 4	112	husk	(1) 1 2 3 4			