

# TECHNICAL REPORT



Peabody Picture Vocabulary Test, Fourth Edition

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## Overview

The *Peabody Picture Vocabulary Test, Fourth Edition* (PPVT-4) is an individually administered, norm-referenced instrument that assesses receptive vocabulary for individuals age 2 years 6 months through 90 years and older. PPVT-4 is available in two parallel forms. Each form contains training items and 228 test items, each consisting of four full-color pictures as response options on a page. For each item, the examiner says a word, and the examinee responds by selecting the picture that best illustrates that word's meaning.

PPVT-4 may be administered by individuals with a range of educational backgrounds, including speech-language pathologists, school psychologists, learning disabilities specialists, and educational diagnosticians, who are trained in standardized test administration. Professionals can use PPVT-4 as a part of a larger assessment battery or simply as a broad indicator of oral vocabulary or verbal ability.

## Revisions in the New Edition

The goal for the PPVT revision (i.e., PPVT-4) was to make only those changes that would improve the assessment process while preserving the nature of the instrument. Based on that goal, the following features of earlier editions were retained in PPVT-4.

- Vocabulary and illustrations that were carefully selected to represent the current U.S. populations by sex, race/ethnicity, and culture
- Basal and ceiling rules printed in the record form
- A pronunciation guide for the items of greatest difficulty
- Administration of only those items that are in the examinee's critical range (i.e., items near his or her vocabulary level)

The following new features are introduced in PPVT-4:

- Illustrations that are larger and in full color
- New stimulus words have replaced many older items
- Addition of very easy items to strengthen the test floor
- Streamlined procedures for administering training items
- Expanded interpretive options consisting of analyses of item content by part of speech (noun, verb, and attribute)
- New Growth Scale Value (GSV) scale for measuring change

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## Content Coverage

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PPVT™-4 test content covers a broad range of receptive vocabulary levels, ranging from preschool through adulthood. The test items broadly sample words that represent 20 content areas (e.g., actions,

vegetables, tools), parts of speech (nouns, verbs, attributes), and home and school vocabulary.

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## Scores Reported

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PPVT-4 results can be reported as age-based or grade-based standard scores (with a mean of 100 and a standard deviation of 15) that range from 20 to 160. In addition to standard scores, percentiles, normal curve equivalents (NCEs), stanines, age and grade equivalents, and growth scale value scores are available for reporting PPVT-4 results.

**Note:** PPVT-4 can be scored by hand or by computer entry, using Pearson's Q-global™ online scoring and reporting system. Computer entry may be completed by entering individual item responses or by entering the raw score only.

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## Standardization of PPVT-4

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Standardization testing began in the fall of 2005 and ended in the spring of 2006. Data were collected from a sample of 3540 examinees ages 2 years 6 months to 90 years and older by 450 examiners from 320 test sites. The PPVT-4 normative sample is representative of the English speaking U.S. population of individuals ages 2 years 6 months

to 81 years and older (U.S. Census, 2004). The sample was stratified for race/ethnicity, self or primary caregiver education level, and geographic region. Tables 4.6–4.9 and Figure 4.1 present demographic information for the PPVT-4 standardization sample.

**Table 4.6 Representation of the PPVT™-4 Age Norm Sample, by Sex and Age**

Age	Female			Male			Total	
	N	%	Target %	N	%	Target %	N	% <sup>a</sup>
2:6-2:11	50	50	50	50	50	50	100	100
3:0-3:5	50	50	50	50	50	50	100	100
3:6-3:11	50	50	50	50	50	50	100	100
4:0-4:5	50	50	50	50	50	50	100	100
4:6-4:11	50	50	50	50	50	50	100	100
5:0-5:5	55	50	50	55	50	50	110	100
5:6-5:11	55	50	50	55	50	50	110	100
6:0-6:5	64	51	50	61	49	50	125	100
6:6-6:11	62	50	50	63	50	50	125	100
7	100	50	50	100	50	50	200	100
8	100	50	50	100	50	50	200	100
9	102	51	50	98	49	50	200	100
10	76	51	50	74	49	50	150	100
11	62	50	50	63	50	50	125	100
12	63	50	50	62	50	50	125	100
13	64	51	50	61	49	50	125	100
14	63	50	50	62	50	50	125	100
15-16	99	50	50	101	51	50	200	100
17-18	98	49	50	102	51	50	200	100
19-21	75	50	50	75	50	50	150	100
22-24	51	51	50	49	49	50	100	100
25-30	50	50	50	50	50	50	100	100
31-40	50	50	50	50	50	50	100	100
41-50	50	50	50	50	50	50	100	100
51-60	63	50	50	62	50	50	125	100
61-70	66	53	53	59	47	47	125	100
71-80	35	58	59	25	42	42	60	100
81+	40	67	67	20	33	33	60	100
Total	1,793			1,747			3,540	

Note. N = 3,540. At ages 2:6 through 6:0, a target of 50% female and 50% male was used. At ages 6:6+, target percentages were based on the U.S. population, using data from *Current Population Survey, March 2004* (Bureau of the Census, 2004).

<sup>a</sup> Row percentages may not sum to 100% due to rounding.

**Table 4.7 Representation of the PPVT™-4 Age Norm Sample, by Race/Ethnicity and Age**

Age	Race/Ethnicity								Total	
	African American		Hispanic		White		Other <sup>a</sup>			
	N	%	N	%	N	%	N	%	N	% <sup>b</sup>
2:6-2:11	17	17	20	20	60	60	3	3	100	100
3:0-3:5	16	16	19	19	59	59	6	6	100	100
3:6-3:11	17	17	20	20	60	60	3	3	100	100
4:0-4:5	14	14	20	20	61	61	5	5	100	100
4:6-4:11	17	17	18	18	60	60	5	5	100	100
5:0-5:5	18	16	19	17	66	60	7	6	110	100
5:6-5:11	18	16	19	17	67	61	6	5	110	100
Total, 2-5	117	16.3	135	18.8	433	60.1	35	4.9	720	100
U.S. Pop., 2-5		16.6		18.2		59.0		6.3		100
6:0-6:5	19	15	20	16	79	63	7	6	125	100
6:6-6:11	21	17	20	16	76	61	8	6	125	100
7	29	15	33	17	124	62	14	7	200	100
8	31	16	34	17	122	61	13	7	200	100
9	34	17	34	17	121	61	11	6	200	100
Total, 6-9	134	15.8	141	16.6	522	61.4	53	6.2	850	100
U.S. Pop., 6-9		16.0		17.4		60.2		6.3		100
10	25	17	23	15	93	62	9	6	150	100
11	20	16	20	16	76	61	9	7	125	100
12	21	17	20	16	75	60	9	7	125	100
13	23	18	21	17	76	61	5	4	125	100
Total, 10-13	89	17.0	84	16.0	320	61.0	32	6.1	525	100
U.S. Pop., 10-13		17.2		15.9		61.1		5.7		100
14	19	15	20	16	79	63	7	6	125	100
15-16	29	15	26	13	130	65	15	8	200	100
17-18	31	16	27	14	129	65	13	7	200	100
19-21	20	13	25	17	95	63	10	7	150	100
22-24	14	14	17	17	62	62	7	7	100	100
Total, 14-24	113	14.6	115	14.8	495	63.9	52	6.7	775	100
U.S. Pop., 14-24		15.9		15.9		61.6		6.6		100
25-30	14	14	18	18	61	61	7	7	100	100
31-40	11	11	18	18	63	63	8	8	100	100
Total, 25-40	25	12.5	36	18.0	124	62.0	15	7.5	200	100
U.S. Pop., 25-40		13.8		16.7		61.5		8.0		100
41-50	11	11	10	10	72	72	7	7	100	100
51-60	18	14	13	10	86	69	8	6	125	100
Total, 41-60	29	12.9	23	10.2	158	70.2	15	6.7	225	100
U.S. Pop., 41-60		13.1		9.8		70.8		6.3		100
61-70	18	14.4	6	4.8	96	76.8	5	4.0	125	100
U.S. Pop., 61-70		12.6		7.8		73.4		6.3		100
71-80	7	11.7	3	5.0	47	78.3	3	5.0	60	100
U.S. Pop., 71-80		10.9		6.3		77.9		4.9		100
81+	4	6.7	3	5.0	49	81.7	4	6.7	60	100
U.S. Pop., 81+		9.5		5.6		80.5		4.4		100
Total, all ages	536	15.1	546	15.4	2,244	63.4	214	6.1	3,540	100
U.S. Pop., <sup>c</sup> all ages		15.7		15.8		62.3		6.3		100

Note. U.S. population data from *Current Population Survey, March 2004* (Bureau of the Census, 2004).

<sup>a</sup> Includes American Indians, Alaska Natives, Asian Americans, Pacific Islanders, and all other groups not classified as African American, Hispanic, or White.

<sup>b</sup> Row percentages may not sum to 100% due to rounding.

<sup>c</sup> Weighted to match norm sample age distribution.

**Table 4.8 Representation of the PPVT™-4 Age Norm Sample, by Education Level and Age**

Age	Parent or Examinee Education Level <sup>a</sup>								Total	
	Grade 11 or Less		Grade 12 or GED		1–3 Years of College		4+ Years of College			
	N	%	N	%	N	%	N	%	N	% <sup>b</sup>
2:6–2:11	15	15	26	26	27	27	32	32	100	100
3:0–3:5	15	15	25	25	31	31	29	29	100	100
3:6–3:11	11	11	30	30	31	31	28	28	100	100
4:0–4:5	10	10	27	27	29	29	34	34	100	100
4:6–4:11	10	10	28	28	32	32	30	30	100	100
5:0–5:5	14	13	29	26	33	30	34	31	110	100
5:6–5:11	14	13	28	25	37	34	31	28	110	100
Total, 2–5	89	12.4	193	26.8	220	30.6	218	30.3	720	100
U.S. Pop., 2–5		11.7		25.9		32.2		30.2		100
6:0–6:5	14	11	35	28	41	33	35	28	125	100
6:6–6:11	10	8	36	29	42	34	37	30	125	100
7	21	11	54	27	67	34	58	29	200	100
8	23	12	49	25	68	34	60	30	200	100
9	20	10	55	28	67	34	58	29	200	100
Total, 6–9	88	10.4	229	26.9	285	33.5	248	29.2	850	100
U.S. Pop., 6–9		10.7		26.0		33.7		29.5		100
10	16	11	40	27	51	34	43	29	150	100
11	17	14	33	26	41	33	34	27	125	100
12	13	10	38	30	44	35	30	24	125	100
13	17	14	34	27	42	34	32	26	125	100
Total, 10–13	63	12.0	145	27.6	178	33.9	139	26.5	525	100
U.S. Pop., 10–13		10.5		26.8		34.6		28.1		100
14	9	7	35	28	43	34	38	30	125	100
15–16	21	11	59	30	65	33	55	28	200	100
17–18	23	12	51	26	67	34	59	30	200	100
19–21	16	11	39	26	51	34	44	29	150	100
22–24	8	8	30	30	35	35	27	27	100	100
Total, 14–24	77	9.9	214	27.6	261	33.7	223	28.8	775	100
U.S. Pop., 14–24		10.0		27.7		33.9		28.3		100
25–30	10	10	30	30	29	29	31	31	100	100
31–40	9	9	30	30	29	29	32	32	100	100
Total, 25–40	19	9.5	60	30.0	58	29.0	63	31.5	200	100
U.S. Pop., 25–40		12.1		29.9		27.8		30.1		100
41–50	9	9	31	31	31	31	29	29	100	100
51–60	15	12	38	30	34	27	38	30	125	100
Total, 41–60	24	10.7	69	30.7	65	28.9	67	29.8	225	100
U.S. Pop., 41–60		11.3		31.3		27.2		30.2		100
61–70	29	23.2	41	32.8	27	21.6	28	22.4	125	100
U.S. Pop., 61–70		20.2		36.2		21.1		22.5		100
71–80	16	26.7	21	35.0	12	20.0	11	18.3	60	100
U.S. Pop., 71–80		29.0		35.5		17.8		17.7		100
81+	24	40.0	17	28.3	9	15.0	10	16.7	60	100
U.S. Pop., 81+		39.9		32.7		13.3		14.0		100
Total, all ages	429	12.1	989	27.9	1,115	31.5	1,007	28.5	3,540	100
U.S. Pop. <sup>c</sup> , all ages		12.0		27.7		31.8		28.5		100

Note. U.S. population data from *Current Population Survey, March 2004* (Bureau of the Census, 2004).

<sup>a</sup> Examinee's education level was used for ages 25 and older.

<sup>b</sup> Row percentages may not sum to 100% due to rounding.

<sup>c</sup> Weighted to match norm sample age distribution.

**Table 4.9 Representation of the PPVT™-4 Age Norm Sample, by Geographic Region and Age**

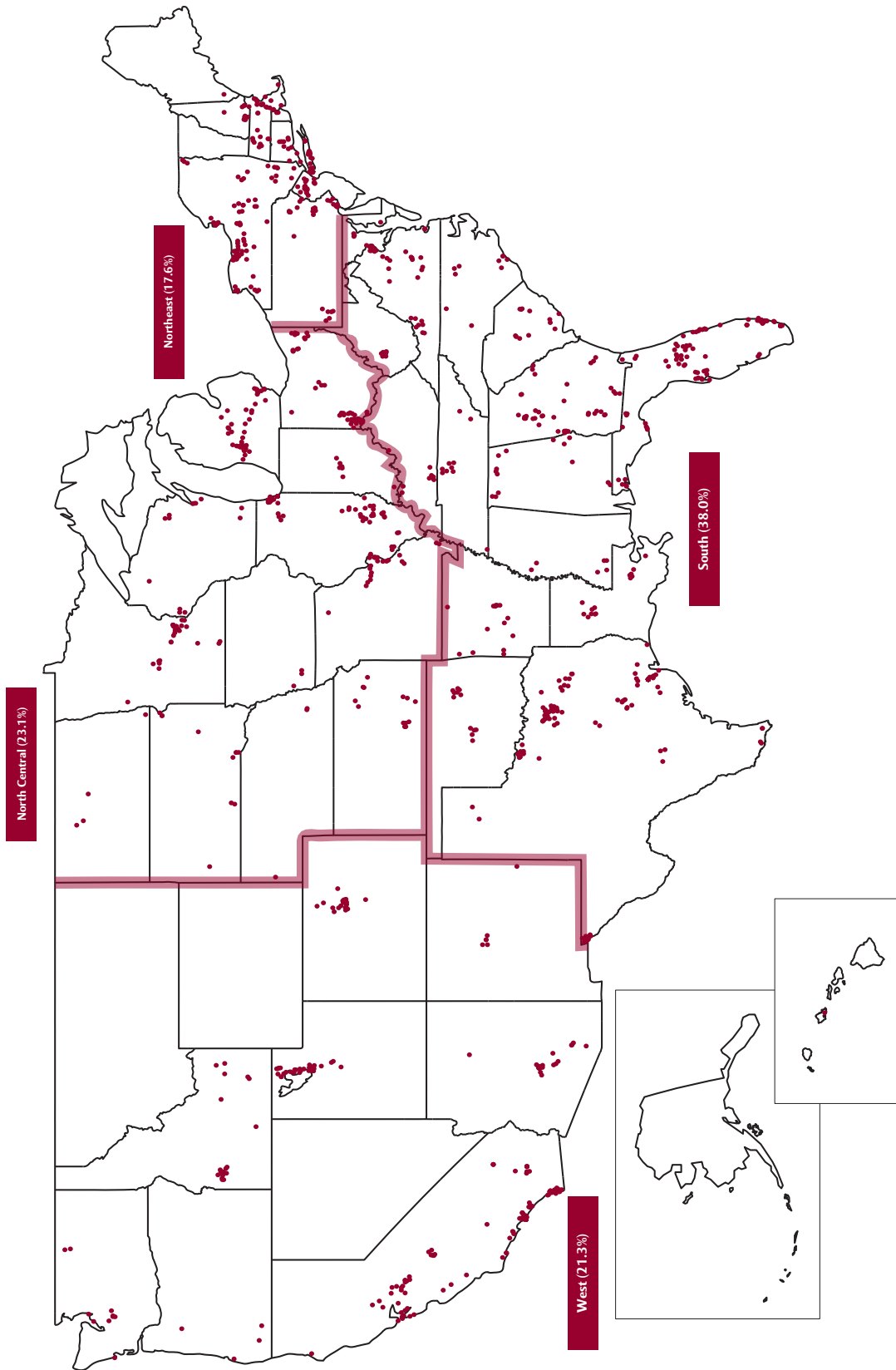
Age	Geographic Region								Total	
	Northeast		North Central		South		West			
	N	%	N	%	N	%	N	%	N	% <sup>a</sup>
2:6-2:11	16	16	19	19	43	43	22	22	100	100
3:0-3:5	14	14	24	24	34	34	28	28	100	100
3:6-3:11	17	17	23	23	40	40	20	20	100	100
4:0-4:5	16	16	24	24	39	39	21	21	100	100
4:6-4:11	16	16	24	24	39	39	21	21	100	100
5:0-5:5	20	18	26	24	48	44	16	15	110	100
5:6-5:11	19	17	26	24	36	33	29	26	110	100
Total, 2-5	118	16.4	166	23.1	279	38.8	157	21.8	720	100
U.S. Pop., 2-5		16.5		22.6		37.3		23.6		100
6:0-6:5	21	17	30	24	49	39	25	20	125	100
6:6-6:11	16	13	28	22	49	39	32	26	125	100
7	40	20	47	24	75	38	38	19	200	100
8	38	19	44	22	73	37	45	23	200	100
9	36	18	49	25	72	36	43	22	200	100
Total, 6-9	151	17.8	198	23.3	318	37.4	183	21.5	850	100
U.S. Pop., 6-9		18.1		22.9		35.5		23.5		100
10	27	18	39	26	54	36	30	20	150	100
11	19	15	33	26	43	34	30	24	125	100
12	29	23	28	22	43	34	25	20	125	100
13	26	21	28	22	34	27	37	30	125	100
Total, 10-13	101	19.2	128	24.4	174	33.1	122	23.2	525	100
U.S. Pop., 10-13		18.4		22.6		35.2		23.9		100
14	24	19	26	21	50	40	25	20	125	100
15-16	33	17	39	20	81	41	47	24	200	100
17-18	31	16	43	22	91	46	35	18	200	100
19-21	31	21	36	24	55	37	28	19	150	100
22-24	16	16	25	25	42	42	17	17	100	100
Total, 14-24	135	17.4	169	21.8	319	41.2	152	19.6	775	100
U.S. Pop., 14-24		17.9		22.6		36.1		23.4		100
25-30	17	17	23	23	35	35	25	25	100	100
31-40	18	18	22	22	36	36	24	24	100	100
Total, 25-40	35	17.5	45	22.5	71	35.5	49	24.5	200	100
U.S. Pop., 25-40		18.3		22.4		35.8		23.5		100
41-50	20	20	23	23	36	36	21	21	100	100
51-60	18	14	33	26	49	39	25	20	125	100
Total, 41-60	38	16.9	56	24.9	85	37.8	46	20.4	225	100
U.S. Pop., 41-60		19.4		22.5		35.6		22.5		100
61-70	21	17	28	22	57	46	19	15	125	100
71-80	10	17	14	23	23	38	13	22	60	100
81+	12	20	15	25	20	33	13	22	60	100
Total, 61+	43	17.6	57	23.3	100	40.8	45	18.4	245	100
U.S. Pop., 61+		20.1		21.8		36.9		21.2		100
Total, all ages	621	17.5	819	23.1	1,346	38.0	754	21.3	3,540	100
U.S. Pop. <sup>b</sup> , all ages		18.0		22.6		36.1		23.3		100

Note. U.S. population data from *Current Population Survey, March 2004* (Bureau of the Census, 2004).

<sup>a</sup> Row percentages may not sum to 100% due to rounding.

<sup>b</sup> Weighted to match norm sample age distribution.

**Figure 4.1** Communities participating in the national standardization program



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## Evidence Based on Reliability

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Reliability refers to the consistency of scores that would theoretically be obtained if the same examinee were repeatedly tested on the same test under identical conditions. Although this could never be done, various estimates of reliability are obtained in practice. The reliability of PPVT™-4 was estimated using internal consistency (data that show test items within a test are homogenous and yield consistent estimates of ability), alternate form reliability (data that show test forms, i.e., Form A and Form B, are homogenous and yield consistent estimates of ability), and test-retest stability (data that show scores are stable across repeated administrations).

Split-half reliability was calculated for each of 28 age groups in the age norm sample. Split-half reliability is based on a correlation of each examinee's total score on the odd-numbered items with his or her score on the even-numbered items. PPVT-4 split-half reliabilities are good to excellent, ranging from .89 to .97 for the age groups. Alternate form stability was calculated based on the data of 508 examinees who took both Form A and Form B of the test. Alternate form reliabilities are good to excellent, ranging from .87 to .93. Test-retest stability was calculated based on the data from 340 examinees who were administered the same form of PPVT-4 twice. Approximately half of the sample took Form A, and half of the sample took Form B. The test-retest correlations range from .92 to .96, indicating that PPVT-4 performance is highly stable over time.

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## Standard Error of Measurement

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The standard error of measurement (SEM) is a statistic that estimates the amount of error present in an assessment and the SEM is directly related to the test's reliability coefficients and the variability (standard deviation) of the test scores. The smaller the SEM, the more confident you can be in the precision of the test results. The SEMs for PPVT-4

Form A and Form B are shown in standard score units in Table 5.1 for age groups and in Table 5.2 for grade levels. The SEMs are based on the split-half reliabilities. The average SEM is the same on Form A and Form B both across ages ( $M=3.6$ ) and across grades ( $M=3.7$ ).



**Table 5.1** Split-Half and Standard-Score *SEM*s, by Age

Age	N		Split-Half <sup>a</sup>		SEM <sup>b</sup>	
	Form A	Form B	Form A	Form B	Form A	Form B
2:6–2:11	50	50	.95	.96	3.1	2.7
3:0–3:5	50	50	.95	.97	3.6	2.8
3:6–3:11	44	56	.94	.93	3.8	4.0
4:0–4:5	52	48	.94	.92	3.4	3.9
4:6–4:11	51	49	.96	.96	3.2	2.9
5:0–5:5	65	45	.95	.94	3.3	3.7
5:6–5:11	45	65	.93	.95	3.9	3.2
6:0–6:5	64	61	.97	.94	2.8	3.9
6:6–6:11	57	68	.94	.95	3.6	3.5
7	89	111	.94	.95	3.8	3.5
8	99	101	.93	.94	3.6	3.3
9	87	113	.94	.90	3.4	4.4
10	65	85	.93	.94	3.9	3.7
11	65	60	.96	.94	3.4	4.1
12	65	60	.95	.95	3.8	4.0
13	58	67	.96	.95	3.5	3.7
14	53	72	.93	.95	3.7	3.0
15–16	96	104	.95	.94	3.4	3.6
17–18	106	94	.93	.93	4.2	4.1
19–21	89	61	.94	.92	3.6	4.4
22–24	51	49	.89	.91	4.7	4.1
25–30	61	39	.94	.96	3.8	3.2
31–40	51	49	.91	.92	3.9	3.7
41–50	51	49	.93	.95	4.0	3.4
51–60	70	55	.96	.96	3.1	2.9
61–70	68	57	.96	.96	2.9	2.9
71–80	31	29	.97	.96	2.7	2.9
81+	42	18	.97	.97	2.4	2.7
<b>Mean<sup>c</sup></b>			<b>.94</b>	<b>.94</b>	<b>3.6</b>	<b>3.6</b>

Note. N = 3,540.

<sup>a</sup> Adjusted to reflect the standard deviation of scores in the entire age group.

<sup>b</sup> In standard score units, based on each form's split-half reliability and the actual standard deviation of standard scores for the entire age group.

<sup>c</sup> Weighted mean, using Fisher's *z* transformation for the reliabilities.

**Table 5.2** Split-Half and Standard-Score SEMs, by Grade and Season

Grade	N		Split-Half <sup>a</sup>		SEM <sup>b</sup>	
	Form A	Form B	Form A	Form B	Form A	Form B
Kindergarten, Fall	42	64	.97	.96	2.6	3.0
Kindergarten, Spring	70	57	.94	.94	3.2	3.3
1, Fall	50	67	.95	.95	3.3	3.4
1, Spring	54	62	.94	.95	3.6	3.5
2, Fall	42	58	.97	.95	2.7	3.3
2, Spring	49	50	.91	.93	4.3	4.0
3, Fall	50	41	.95	.91	3.3	4.3
3, Spring	48	61	.93	.92	3.7	4.0
4, Fall	29	55	.95	.94	3.5	3.6
4, Spring	44	49	.92	.90	3.7	4.3
5, Fall	36	32	.92	.92	4.0	4.2
5, Spring	28	44	.96	.95	3.2	3.8
6, Fall	28	27	.93	.90	4.4	5.4
6, Spring	35	35	.97	.94	2.6	4.1
7, Fall	28	31	.96	.95	4.0	4.2
7, Spring	34	23	.96	.96	3.9	3.7
8, Fall	26	37	.94	.96	4.0	3.6
8, Spring	34	44	.95	.96	3.7	3.2
9, Fall	29	29	.96	.97	3.1	2.6
9, Spring	27	31	.95	.96	3.2	2.9
10, Fall	22	25	.93	.89	3.7	4.6
10, Spring	26	27	.95	.95	3.3	3.3
11, Fall	27	23	.97	.95	3.1	3.8
11, Spring	25	30	.93	.96	4.3	3.2
12, Fall	26	33	.87	.90	5.4	4.8
12, Spring	30	29	.90	.91	4.8	4.4
Mean <sup>c</sup>			.95	.94	3.6	3.7

Note. N = 2,003.

<sup>a</sup> Adjusted to reflect the standard deviation of scores in the entire grade group.

<sup>b</sup> In standard score units, based on each form's split-half reliability and the actual standard deviation of standard scores for the entire grade group.

<sup>c</sup> Weighted average, using Fisher's z transformation for reliabilities.

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## Evidence Based on Validity

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Evidence of test validity refers to the degree to which specific data, research, or theory supports that a test measures the concepts it purports to measure and is applicable to the intended population (AERA, APA, & NCME, in press). Different sources of evidence represent different aspects of validity; however, these sources do not represent distinct types of validity. PPVT™-4 addresses evidence based on test content, correlations with other tests, and studies with special populations.

**Content Validity.** Content validity addresses the question of whether the items in a test adequately sample the domains that the test purports to measure. Development of the PPVT-4 items included a review of over twelve published reference works. The items were chosen on the basis of frequency and common usage to ensure an objective and appropriate appraisal of standard American English vocabulary. The final item set represents twenty content categories.

**Correlations With Other Tests.** Three correlation studies compare PPVT-4 scores with scores obtained on instruments that measure vocabulary (Expressive Vocabulary Test, Second Edition), language ability (Clinical Evaluation of Language Fundamentals, Fourth Edition), and reading achievement (Group Reading Assessment and Diagnostic Evaluation). These studies provide convergent evidence of the validity of interpreting PPVT-4 scores as measures of vocabulary because it is expected that any instrument that measures vocabulary will correlate strongly with other tests that measure vocabulary, and at a somewhat lower, but still substantial, level with other aspects of language and reading skills. The fourth study was a correlation between scores on the PPVT-4 and PPVT-III, with the purpose of assessing the degree of continuity in the construct measured by the two editions.

- **Correlations of PPVT-4 with Expressive Vocabulary Test, Second Edition (EVT™-2).** Correlations between PPVT-4 and EVT-2 standard scores are presented for 3,540 examinees separated into seven age groups. The correlations are high and uniform across age, ranging from .80 to .84.
- **Correlations of PPVT-4 with Clinical Evaluation of Language Fundamentals®, Fourth Edition (CELF®-4).** Correlations between PPVT-4 and CELF-4 standard scores are presented for III examinees separated into two age groups. The correlations are moderate to high, ranging from .67 to .75.
- **Correlations of PPVT-4 with Group Reading Assessment and Diagnostic Evaluation (GRADE™).** A sample of 487 examinees in kindergarten through Grade II was administered PPVT-4 and GRADE. Correlations between PPVT-4 and GRADE total test scores range from .43 to .79. Overall, the pattern of correlations supports the point that vocabulary plays a central role in reading comprehension.
- **Correlations of PPVT-4 with Peabody Picture Vocabulary Test, Third Edition (PPVT-III).** The PPVT-4 and PPVT-III were administered in a counterbalanced sequence to 322 examinees in five age groups. Correlations between PPVT-4 and PPVT-III are consistently high, ranging from .81 to .91, indicating that there is a strong relationship between the two editions.

**Correlations With Special Populations.** PPVT-4 is often used with individuals who are exceptional in some way. Studies were completed with 12 groups that represent specific clinical diagnoses or special education categories. Each group's mean PPVT-4 standard scores were compared to the general population average. Tables 5.16–5.19 present the differences between four clinical samples (that are commonly seen by speech-language pathologists) and the general population, all of which are statistically significant at the .001 level.

**Table 5.16** Language Delay Sample: Average PPVT™-4 Score and Comparison to Nonclinical Reference Group

Age	N	PPVT-4 Standard Score		Difference From Nonclinical Reference Group <sup>a</sup>
		Mean	SD	
3-7	63	87.5	11.5	-13.0*

<sup>a</sup> Controlling for sex, race/ethnicity, and education level.  
\**p* < .001.

**Table 5.18** Hearing-Impairment Samples, Ages 4 Through 12: Average PPVT-4 Score and Comparison to Nonclinical Reference Group

Cochlear Implants	N	PPVT-4 Standard Score		Difference From Nonclinical Reference Group <sup>a</sup>
		Mean	SD	
Yes	46	72.0	19.0	-29.7*
No	53	83.7	20.9	-17.3*

<sup>a</sup> Controlling for sex, race/ethnicity, and education level.  
\**p* < .001.

**Table 5.17** Language Disorder Samples, by Age: Average PPVT-4 Score and Comparison to Nonclinical Reference Group

Age	N	PPVT-4 Standard Score		Difference From Nonclinical Reference Group <sup>a</sup>
		Mean	SD	
8-12	65	89.7	13.2	-10.2*
50-92	45	86.4	14.1	-13.4*

<sup>a</sup> Controlling for sex, race/ethnicity, and education level.  
\**p* < .001.

**Table 5.19** Learning-Disability (Reading) Sample: Average PPVT-4 Score and Comparison to Nonclinical Reference Group

Age	N	PPVT-4 Standard Score		Difference From Nonclinical Reference Group <sup>a</sup>
		Mean	SD	
8-14	71	89.0	14.1	-10.1*

<sup>a</sup> Controlling for sex, race/ethnicity, and education level.  
\**p* < .001.

## Summary

PPVT-4 is a quick measure of receptive vocabulary for individuals aged 2 years 6 months through 90 years and older. PPVT-4 was developed using rigorous scientific procedures in order to ensure that it would

produce highly reliable and valid scores. PPVT-4 can be administered as a part of a larger assessment battery or simply as a broad indicator of oral vocabulary.