

BELS Standard and Extended Normative Data and Percentiles

This document contains information to determine a patient's performance in comparison to a healthy normative sample. Table 1 contains demographic information for the normative sample. Table 2 contains the 5th percentile cut-offs for impairment on key BELS subsections and subtests. Table 3 contains means, standard deviations, and all percentiles for all BELS subsections and subtests.

Table 1.

Demographics for Normative Sample

	N	M (SD)
Age	116	63.15 (12.52)
Education	116	15.12 (3.56)

Note. Age, education, and gender did not influence BELS subsection scores, and therefore norms for the whole sample are presented.

Table 2.

BELS Subsection Normative Data and Percentiles

BELS Subsection/Subtest	5th %ile Cut-off for Abnormality
Oral Apraxia /10	8/10
Nominal Language /20	17.90/20
Word Comprehension /10	10/10
Word Repetition /10	10/10
Sentence Repetition /5	5/5
Object Naming /10	7/10
Action Naming /10	8/10
Nominal Language Extended /40	35/40
Sentence Comprehension /10	8/10
Word Comprehension II /10	10/10
Word Repetition II /10	10/10
Object Naming II /10	5/10
Propositional Language & Executive Functions /60	41.20/60
Spontaneous Speech /20	10/20
Beach WPM	74
Cookie WPM	107
Verbal Fluency /16	10/16
S WPM	10
B WPM	10
Animal WPM	17
Fruit/Veg WPM	14
Sentence Completion /22	15/22
Initiation (Weighted) /10	5.90/10
Inhibition /10	4/10
Strategy /2	1/2
Motor Go No-Go /2	1/2
Memory (Standard) /10	4/10
Memory (Extended) /30	23/30
Verbal Recognition Memory /10	10/10
Visual Recognition Memory /10	10/10
Total BELS (Standard) /100	77/100
Total BELS (Extended) /140	112.16/140

Note. For Oral Apraxia and Memory (where only a whole score is possible), percentiles were rounded up from decimals if 50th percentile or below, and rounded up if above the 50th percentile.

Table 3.

BELS Subtest and Subsection Normative Data and Percentiles

BELS Subtest	N	M (SD)	Percentiles							
			1 st	5 th	10 th	25 th	50 th	75 th	90 th	95 th
Oral Apraxia	116	9.75 (.64)	8	8	9	10	10	10	10	10
Nominal Language /20	116	19.31 (.68)	17.50	17.90	18.50	19.00	19.50	20.00	20.00	20.00
<i>Word Comprehension</i>	116	10.00 (.00)	10	10	10	10	10	10	10	10
<i>Word Repetition</i>	116	10.00 (.00)	10	10	10	10	10	10	10	10
<i>Sentence Repetition</i>	116	4.97 (.16)	4	5	5	5	5	5	5	5
<i>Object Naming</i>	116	9.05 (1.01)	6	7	8	8	9	10	10	10
<i>Action Naming</i>	116	9.63 (.67)	7	8	9	9	10	10	10	10
Extended Nominal Language /40	42	37.42 (1.53)	32.50	35.00	35.15	36.50	37.75	38.50	39.00	39.43
<i>Sentence Comprehension</i>	42	9.43 (.70)	7	8	9	9	10	10	10	10
<i>Word Comprehension II</i>	42	10.00 (.00)	10	10	10	10	10	10	10	10
<i>Word Repetition II</i>	42	10.00 (.00)	10	10	10	10	10	10	10	10
<i>Object Naming II</i>	42	7.55 (1.44)	4	5	6	7	8	8	10	10
Propositional Language & Executive Functions	105	50.37 (4.73)	40.00	41.20	43.00	47.00	51.00	54.00	56.00	58.00
<i>Spontaneous Speech Total Score /20</i>	111	14.72 (2.75)	8	10	12	12	14	16	18	20
Beach Scene wpm	114	124.82 (31.50)	42	74	86	103	123	147	162	179
Beach Score /5	111	3.74 (.90)	2	2	3	3	4	4	5	5
Cookie Scene Goal wpm	114	151.45 (29.31)	80	107	114	131	151	171	189	195
Cookie Goal Score /5	111	3.62 (.81)	2	2	3	3	4	4	5	5
<i>Verbal Fluency Total Score /16</i>	114	14.67 (1.86)	8.3	10	12	14	16	16	16	16
<i>Phonemic Fluency /8</i>	116	7.43 (1.20)	4	4	6	8	8	8	8	8
S wpm	116	17.11 (4.65)	9	10	11	14	17	20	23	25
Goal B wpm	116	17.00 (4.42)	5.51	10	11	14	17	20	23	25
<i>Semantic Fluency /8</i>	114	7.25 (1.23)	4	4	6	6	8	8	8	8
Animals	114	22.55 (4.33)	13	17	18	20	23	25	29	30
Goal Fruit and Vegetables	116	21.91 (4.46)	13	14	15	19	22	25	27	29
<i>Sentence Completion Total Score /22</i>	108	19.17 (2.39)	13	15	16	18	20	21	22	22
Initiation /10	116	9.77 (.44)	9	9	9	10	10	10	10	10

High Constraint /5	116	4.99 (.09)	5	5	5	5	5	5	5	5
Low Constraint /5	116	4.77 (.44)	4	4	4	5	5	5	5	5
<i>Initiation Reaction Time</i>	109	12.16 (5.63)	36.44	21.24	14.74	11.04	8.13	6.08	5.40	5.01
High Constraint rt	109	2.87 (1.22)	6.55	6.22	4.72	3.13	2.54	2.13	1.65	1.58
Low Constraint rt	109	9.29 (5.21)	33.20	18.90	15.03	11.64	7.90	5.82	4.10	3.52
<i>Initiation Weighted Total /10</i>	109	9.22 (1.56)	2.20	5.90	6.00	9.80	10	10	10	10
<i>Inhibition /10</i>	115	8.01 (1.86)	3	4	5	7	8	10	10	10
High Constraint /5	115	4.22 (.88)	2	3	3	4	4	5	5	5
Low Constraint /5	115	3.79 (1.27)	1	1	2	3	4	5	5	5
Strategy /2	115	1.82 (.45)	0	1	1	2	2	2	2	2
<i>Motor Go No-Go /3</i>	115	2.94 (.27)	2	2	3	3	3	3	3	3
<i>Motor Go No-Go Weighted /2</i>	115	1.90 (.45)	1	1	2	2	2	2	2	2
Memory (Standard) /10	116	6.46 (1.77)	3	4	4	5	7	8	9	10
Memory (Extended) /30	40	25.68 (1.82)	22	23	23.50	24.50	26	27	27	28
<i>Verbal Recognition Memory /10</i>	42	9.77 (.28)	9	10	10	10	10	10	10	10
<i>Visual Recognition Memory /10</i>	40	9.95 (.22)	9	10	10	10	10	10	10	10
Total BELS (Standard) /100	105	85.84 (5.18)	73.61	77.00	78.10	82.00	86.00	90.15	92.00	94.00
Total BELS (Extended) /140	36	123.71 (5.79)	108.50	112.16	116.45	120.00	123.65	128.93	131.01	133.00

Note. For Oral Apraxia, Spontaneous Speech, subtests measured by words per minute, Verbal Fluency, Sentence Completion raw scores, Motor Go No-Go and Memory (where only a whole score is possible), percentiles were rounded up from decimals if 50th percentile or below, and rounded up if above the 50th percentile.