

Supplementary Material

Reference Data for Attentional, Executive, Linguistic, and Visual Processing Tests Obtained from Cognitively Healthy Individuals with Normal Alzheimer's Disease Cerebrospinal Fluid Biomarker Levels

Examples of the use of the normative data provided in this work in comparison with standard norms.

In the following hypothetical cases, impaired performance will be considered below percentile ≤ 5 .

Example 1: A 60-year-old male with a secondary degree of education (14 years) obtains a score of 20 in the Semantic Fluency test, corresponding to a percentile range between 29 and 40 according to published Spanish norms [1], and a percentile range between 30-40 in the norms presented here. Thus 20 is a normal performance in both norms (group 1, according to Bos et al. proposal [2]). However, if the same participant obtains a score of 14, this score corresponds to a percentile 6-10 in the published standard norms, but a percentile 2-5 in the current norms. In this case, performance would be impaired only by applying the norms presented in the current work, derived from the negative biomarker sample (group 2 classification).

Example 2: A 56-year-old woman with an elementary degree of education (11 years) lasts 30 seconds in completing the TMT part A, corresponding to a percentile range between 60-71 according to the published Spanish norms [3], and a percentile range between 40-50 in the norms presented here, thus being within normal ranges in both cases. However, if the same individual lasts 50 seconds in completing the TMT part A, such score would correspond to a percentile range between 19-28 according to the published Spanish norms [3], and a percentile range between 2-5 in the norms presented here and therefore, would be considered impaired according to the negative AD biomarker norms, but not according to the conventional references (group 2 classification).

REFERENCES

- [1] Peña-Casanova J, Quiñones-Úbeda S, Gramunt-Fombuena N, Quintana-Aparicio M, Aguilar M, Badenes D, Cerulla N, Molinuevo JL, Ruiz E, Robles A, Barquero MS, Antúnez C, Martínez-Parra C, Frank-García A, Fernández M, Alfonso V, Sol JM, Blesa R (2009) Spanish multicenter normative studies (NEURONORMA project): Norms for verbal fluency tests. *Arch Clin Neuropsychol* **24**, 395–411.
- [2] Bos I, Vos SJB, Jansen WJ, Vandenberghe R, Gabel S, Estanga A, Ecay-Torres M, Tomassen J, den Braber A, Lleó A, Sala I, Wallin A, Kettunen P, Molinuevo JL, Rami L, Chetelat G, de la Sayette V, Tsolaki M, Freund-Levi Y, Johannsen P, Novak GP, Ramakers I, Verhey FR, Visser PJ (2018) Amyloid- β , tau, and cognition in cognitively normal older individuals: examining the necessity to adjust for biomarker status in normative data. *Front Aging Neurosci* **10**, 193.
- [3] Peña-Casanova J, Quiñones-Úbeda S, Quintana-Aparicio M, Aguilar M, Badenes D, Molinuevo JL, Torner L, Robles A, Barquero MS, Villanueva C, Antúnez C, Martínez-Parra C, Frank-García A, Sanz A, Fernández M, Alfonso V, Sol JM, Blesa R (2009) Spanish multicenter normative studies (NEURONORMA project): Norms for verbal Span, visuospatial Span, letter and number sequencing, trail making test, and symbol digit modalities test. *Arch Clin Neuropsychol* **24**, 321–341.

Percentiles associated to sociodemographic-adjusted z-scores using the formula provided in the footnote of each table are provided.

Supplementary Table 1. Digit Span forward. Age range 50-70.

Percentile	Males	Females
1	3.74	3.02
2	4.03	3.31
5	4.47	3.74
10	4.86	4.13
15	5.12	4.39
20	5.32	4.6
30	5.66	4.94
40	5.95	5.23
50	6.22	5.5
60	6.49	5.77
70	6.78	6.06
80	7.12	6.39
90	7.59	6.86
95	7.97	7.25
98	8.41	7.69

The interval shows the results of introducing Sex in the formula. Formula used: $(\text{Raw Score} - [6.2211 + \text{Sex} * -0.7243])/1.06586$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.

Supplementary Table 2. Digit Span backward. Age range 50-70.

Percentile	Males				Females			
	Primary	Secondary	Graduate	Postgraduate	Primary	Secondary	Graduate	Postgraduate
1	1.79	1.99	2.20	2.40	1.21	1.41	1.62	1.82
2	2.13	2.33	2.54	2.74	1.55	1.75	1.95	2.16
5	2.63	2.84	3.04	3.25	2.05	2.26	2.46	2.67
10	3.08	3.29	3.49	3.70	2.50	2.71	2.91	3.12
15	3.39	3.59	3.80	4.00	2.81	3.01	3.21	3.42
20	3.63	3.83	4.04	4.24	3.05	3.25	3.46	3.66
30	4.02	4.23	4.43	4.64	3.44	3.64	3.85	4.05
40	4.36	4.56	4.77	4.97	3.78	3.98	4.19	4.39
50	4.67	4.88	5.08	5.29	4.09	4.29	4.50	4.70
60	4.99	5.19	5.40	5.60	4.40	4.61	4.81	5.02
70	5.32	5.53	5.73	5.94	4.74	4.94	5.15	5.35
80	5.72	5.92	6.12	6.33	5.13	5.34	5.54	5.75
90	6.26	6.47	6.67	6.87	5.68	5.88	6.09	6.29
95	6.71	6.92	7.12	7.32	6.13	6.33	6.54	6.74
98	7.22	7.42	7.63	7.83	6.64	6.84	7.04	7.25

The interval shows the results of introducing Sex and Education in the formula. Formula used: $(\text{Raw Score} - [4.67255 + \text{Education} * 0.20451 + \text{Sex} * -0.58233])/5.045744$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.

Supplementary Table 3. Digit Span. Age range 50-59.

Percentile	Males				Females			
	Primary	Secondary	Graduate	Postgraduate	Primary	Secondary	Graduate	Postgraduate
1	14.68-16.25	15.49-17.06	16.3-17.87	17.11-18.68	11.2-12.77	12.01-13.58	12.82-14.39	13.63-15.19
2	16.06-17.62	16.87-18.43	17.68-19.24	18.48-20.05	12.57-14.14	13.38-14.95	14.19-15.76	15-16.57
5	18.12-19.69	18.93-20.5	20.55-21.31	20.55-22.11	14.64-16.21	15.45-17.01	16.26-17.82	17.07-18.63
10	19.95-21.52	20.76-22.33	22.38-23.14	22.38-23.95	16.47-18.04	17.28-18.85	18.09-19.66	18.9-20.47
15	21.19-22.76	22-23.57	23.62-24.38	23.62-25.18	17.71-19.28	18.52-20.08	19.33-20.89	20.14-21.7
20	22.17-23.74	22.98-24.55	23.79-25.36	24.6-26.17	18.69-20.26	19.5-21.07	20.31-21.88	21.12-22.69
30	23.77-25.34	24.58-26.15	25.39-26.96	26.2-27.77	20.29-21.86	21.1-22.67	21.91-23.48	22.72-24.29
40	25.14-26.71	25.95-27.52	26.76-28.33	27.57-29.14	21.66-23.23	22.47-24.04	23.28-24.85	24.09-25.65
50	26.42-27.99	27.23-28.8	28.04-29.61	28.85-30.41	22.94-24.5	23.75-25.31	24.56-26.12	25.37-26.93
60	27.7-29.26	28.51-30.07	29.32-30.88	30.13-31.69	24.22-25.78	25.03-26.59	25.83-27.4	26.64-28.21
70	29.07-30.63	29.87-31.44	30.68-32.25	31.49-33.06	25.58-27.15	26.39-27.96	27.2-28.77	28.01-29.58
80	30.67-32.23	31.48-33.04	32.28-33.85	33.09-34.66	27.18-28.75	27.99-29.56	28.8-30.37	29.61-31.18
90	32.89-34.45	33.7-35.26	34.5-36.07	35.31-36.88	29.4-30.97	30.21-31.78	31.02-32.59	31.83-33.4
95	34.72-36.29	35.53-37.1	36.34-37.9	37.15-38.71	31.24-32.8	32.05-33.61	32.86-34.42	33.66-35.23
98	36.78-38.35	37.59-39.16	38.4-39.97	39.21-40.78	33.3-34.87	34.11-35.68	34.92-36.49	35.73-37.3

The interval shows the results of introducing 59 and 50 years in the formula. Formula used: $(\text{Raw Score} - [26.24519 + \text{Age} * -0.17414 + \text{Education} * 0.80929 + \text{Sex} * -3.48183]) / 5.045744$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.

Supplementary Table 4. Digit Span. Age range 60-70.

Percentile	Males				Females			
	Primary	Secondary	Graduate	Postgraduate	Primary	Secondary	Graduate	Postgraduate
1	12.77-14.51	13.57-15.32	14.38-16.13	15.19-16.93	9.28-11.03	10.09-11.83	10.9-12.64	11.71-13.45
2	14.14-15.88	14.95-16.69	15.76-17.5	16.57-18.31	10.66-12.4	11.47-13.21	12.28-14.02	13.09-14.83
5	16.2-17.95	17.01-18.75	17.82-19.56	18.63-20.37	12.72-14.46	13.53-15.27	14.34-16.08	15.15-16.89
10	18.04-19.78	18.85-20.59	19.66-21.4	20.47-22.21	14.56-16.3	15.36-17.11	16.17-17.92	16.98-18.72
15	19.27-19.27	20.08-21.82	20.89-22.63	21.7-23.44	15.79-17.53	16.6-18.34	17.41-19.15	18.22-19.96
20	20.26-22	21.07-22.81	21.88-23.62	22.69-24.43	16.78-18.52	17.58-19.33	18.39-20.14	19.2-20.94
30	21.86-23.6	22.67-24.41	23.48-25.22	24.29-26.03	18.38-20.12	19.19-20.93	19.99-21.74	20.8-22.55
40	23.23-24.97	24.03-25.78	24.84-26.59	25.65-27.39	19.74-21.49	20.55-22.29	21.36-23.1	22.17-23.91
50	24.5-26.25	25.31-27.05	26.12-27.86	26.93-28.67	21.02-22.76	21.83-23.57	22.64-24.38	23.45-25.19
60	25.78-27.52	26.59-28.33	27.4-29.14	28.21-29.95	22.3-24.04	23.11-24.85	23.92-25.66	24.73-26.47
70	27.15-28.89	27.96-29.7	28.77-30.51	29.58-31.32	23.67-25.41	24.48-26.22	25.29-27.03	26.1-27.84
80	28.75-30.49	29.56-31.3	30.37-32.11	31.18-32.92	25.27-27.01	26.08-27.82	26.89-28.63	27.7-29.44
90	30.97-32.71	31.78-33.52	32.59-34.33	33.4-35.14	27.49-29.23	28.3-30.04	29.11-30.85	29.92-31.66
95	32.8-34.54	33.61-35.35	34.42-36.16	35.23-36.97	29.32-31.06	30.13-31.87	30.94-32.68	31.75-33.49
98	34.87-36.61	35.68-37.42	36.49-38.23	37.29-39.04	31.38-33.13	32.19-33.94	33-34.74	33.81-35.55

The interval shows the results of introducing 70 and 60 years in the formula. Formula used: $(\text{Raw Score} - [26.24519 + \text{Age} * -0.17414 + \text{Education} * 0.80929 + \text{Sex} * -3.48183]) / 5.045744$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.

Supplementary Table 5. Symbol Span. Age range 50-59.

Percentile	Males				Females			
	Primary	Secondary	Graduate	Postgraduate	Primary	Secondary	Graduate	Postgraduate
1	7.33-10.4	8.19-11.26	9.06-12.13	9.92-12.99	4.19-7.26	5.06-8.13	5.92-8.99	6.79-9.86
2	8.89-11.95	9.75-12.82	10.62-13.68	11.48-14.55	5.75-8.82	6.61-9.68	7.48-10.55	8.34-11.41
5	11.22-14.29	12.08-15.15	12.95-16.02	13.82-16.88	8.08-11.15	8.95-12.02	9.81-12.88	10.68-13.75
10	13.29-16.36	14.16-17.23	15.02-18.09	15.89-18.96	10.16-13.22	11.02-14.09	11.89-14.95	12.75-15.82
15	14.69-17.76	15.56-18.63	16.42-19.49	17.29-20.36	11.56-14.62	12.42-15.49	13.29-16.35	14.15-17.22
20	15.8-18.87	16.67-19.74	17.54-20.6	18.4-21.47	12.67-15.74	13.53-16.6	14.4-17.47	15.26-18.33
30	17.62-20.68	18.48-21.55	19.35-22.41	20.21-23.28	14.48-17.55	15.34-18.41	16.21-19.28	17.07-20.14
40	19.16-22.23	20.03-23.1	20.89-23.96	21.76-24.83	16.03-19.09	16.89-19.96	17.76-20.82	18.62-21.69
50	20.61-23.68	21.47-24.54	22.34-25.41	23.21-26.27	17.47-20.54	18.34-21.41	19.2-22.27	20.07-23.14
60	22.06-25.12	22.92-25.99	23.79-26.85	24.65-27.72	18.92-21.99	19.78-22.85	20.65-23.72	21.51-24.58
70	23.6-26.67	24.47-27.54	25.33-28.4	26.2-29.27	20.47-23.53	21.33-24.4	22.2-25.26	23.06-26.13
80	25.41-28.48	26.28-29.35	27.14-30.21	28.01-31.08	22.28-25.34	23.14-26.21	24.01-27.08	24.87-27.94
90	27.93-30.99	28.79-31.86	29.66-32.72	30.52-33.59	24.79-27.86	25.65-28.72	26.52-29.59	27.38-30.45
95	30-33.07	30.86-33.93	31.73-34.8	32.6-35.66	26.86-29.93	27.73-30.8	28.59-31.66	29.46-32.53
98	32.33-35.4	33.2-36.27	34.06-37.13	34.93-38	29.2-32.26	30.06-33.13	30.93-34	31.79-34.86

The interval shows the results of introducing 59 and 50 years in the formula. Formula used: (Raw Score - [20.2684 + Age * -0.3409 + Education * 0.8653 + Sex * -3.1371])/5.708696. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.

Supplementary Table 6. Symbol Span. Age range 60-70.

Percentile	Males				Females			
	Primary	Secondary	Graduate	Postgraduate	Primary	Secondary	Graduate	Postgraduate
1	3.58-6.99	4.44-7.85	5.31-8.72	6.17-9.58	0.44-3.85	1.31-4.72	2.17-5.58	3.04-6.45
2	5.14-8.54	6-9.41	6.87-10.27	7.73-11.14	2-5.41	2.86-6.27	3.73-7.14	4.59-8
5	7.47-10.88	8.33-11.74	9.2-12.61	10.07-13.47	4.33-7.74	5.2-8.61	6.06-9.47	6.93-10.34
10	9.54-12.95	10.41-13.82	11.27-14.68	12.14-15.55	6.41-9.82	7.27-10.68	8.14-11.55	9-12.41
15	10.94-14.35	11.81-15.22	12.67-16.08	13.54-16.95	7.81-11.21	8.67-12.08	9.54-12.95	10.4-13.81
20	12.05-15.46	12.92-16.33	13.79-17.19	14.65-18.06	8.92-12.33	9.78-13.19	10.65-14.06	11.51-14.92
30	13.87-17.27	14.73-18.14	15.6-19.01	16.46-19.87	10.73-14.14	11.59-15	12.46-15.87	13.32-16.73
40	15.41-18.82	16.28-19.69	17.14-20.55	18.01-21.42	12.28-15.69	13.14-16.55	14.01-17.42	14.87-18.28
50	16.86-20.27	17.72-21.13	18.59-22	19.46-22.86	13.72-17.13	14.59-18	15.45-18.86	16.32-19.73
60	18.31-21.71	19.17-22.58	20.04-23.45	20.9-24.31	15.17-18.58	16.03-19.44	16.9-20.31	17.76-21.17
70	19.85-23.26	20.72-24.13	21.58-24.99	22.45-25.86	16.72-20.12	17.58-20.99	18.45-21.86	19.31-22.72
80	21.66-25.07	22.53-25.94	23.39-26.8	24.26-27.67	18.53-21.94	19.39-22.8	20.26-23.67	21.12-24.53
90	24.18-27.58	25.04-28.45	25.91-29.31	26.77-30.18	21.04-24.45	21.9-25.31	22.77-26.18	23.63-27.04
95	26.25-29.66	27.11-30.52	27.98-31.39	28.85-32.25	23.11-26.52	23.98-27.39	24.84-28.25	25.71-29.12
98	28.58-31.99	29.45-32.86	30.31-33.72	31.18-34.59	25.45-28.86	26.31-29.72	27.18-30.59	28.04-31.45

The interval shows the results of introducing 70 and 60 years in the formula. Formula used: $(\text{Raw Score} - [20.2684 + \text{Age} * -0.3409 + \text{Education} * 0.8653 + \text{Sex} * -3.1371])/5.708696$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.

Supplementary Table 7. TMT-A. Age range 50-59.

Percentile	Males	Females
1	47.46-52.81	50.66-56.01
2	43.56-48.9	46.75-52.1
5	40.08-45.43	43.28-48.63
10	35.88-41.22	39.07-44.42
15	32.85-38.19	36.04-41.39
20	30.25-35.6	33.45-38.8
30	27.83-33.18	31.03-36.38
40	25.41-30.76	28.61-33.95
50	22.82-28.17	26.02-31.36
60	19.79-25.13	22.98-28.33
70	17.93-23.27	21.12-26.47
80	15.58-20.93	18.78-24.13
90	12.11-17.46	15.31-20.65
95	8.2-13.55	11.4-16.74
98	5.6-10.94	8.79-14.14

The interval shows the results of introducing 59 and 50 years in the formula. Formula used: $(\text{Raw Score} - [33.7738 + \text{Age} * 0.5941 + \text{Sex} * 3.1966]) / 9.558886$. Age centered to 60.5. Sex entered as: Male=0; Female=1.

Supplementary Table 8. TMT-A. Age range 60-70.

Percentile	Primary	Females
1	53.41-59.35	56.6-62.54
2	49.5-55.44	52.69-58.63
5	46.02-51.97	49.22-55.16
10	41.82-47.76	45.02-50.96
15	38.79-44.73	41.98-47.92
20	36.2-42.14	39.39-45.33
30	33.77-39.71	36.97-42.91
40	31.35-37.29	34.55-40.49
50	28.76-34.7	31.96-37.9
60	25.73-31.67	28.93-34.87
70	23.87-29.81	27.06-33
80	21.52-27.46	24.72-30.66
90	18.05-23.99	21.25-27.19
95	14.14-20.08	17.34-23.28
98	11.54-17.48	14.73-20.67

The interval shows the results of introducing 70 and 60 years in the formula. Formula used: $(\text{Raw Score} - [33.7738 + \text{Age} * 0.5941 + \text{Sex} * 3.1966]) / 9.558886$. Age centered to 60.5. Sex entered as: Male=0; Female=1.

Supplementary Table 9. TMT-B. Age range 50-59.

Percentile	Primary	Secondary	Graduate	Postgraduate
1	131.47-147	123.86-139.38	116.24-131.76	108.62-124.15
2	120.13-135.65	112.51-128.03	104.89-120.42	97.27-112.8
5	110.05-125.57	102.43-117.95	94.81-110.34	87.19-102.72
10	97.84-113.36	90.22-105.75	82.6-98.13	74.99-90.51
15	89.04-104.56	81.42-96.94	73.8-89.32	66.18-81.71
20	81.51-97.04	73.9-89.42	66.28-81.8	58.66-74.19
30	74.48-90.01	66.87-82.39	59.25-74.77	51.63-67.16
40	67.45-82.98	59.84-75.36	52.22-67.74	44.6-60.13
50	59.93-75.46	52.31-67.84	44.7-60.22	37.08-52.6
60	51.13-66.65	43.51-59.04	35.89-51.42	28.28-43.8
70	45.72-61.25	38.11-53.63	30.49-46.01	22.87-38.4
80	38.92-54.45	31.3-46.83	23.69-39.21	16.07-31.59
90	28.84-44.36	21.22-36.75	13.61-29.13	5.99-21.51
95	17.49-33.02	9.88-25.4	2.26-17.78	<10.17
98	9.93-25.45	2.31-17.84	<10.22	<2.6

The interval shows the results of introducing 59 and 50 years in the formula. Formula used: $(\text{Raw Score} - [91.7332 + \text{Age} * 1.7249 + \text{Education} * -7.6176])/27.74928$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3.

Supplementary Table 10. TMT-B. Age range 60-70.

Percentile	Primary	Secondary	Graduate	Postgraduate
1	148.72-165.97	141.11-158.35	133.49-150.74	125.87-143.12
2	137.38-154.63	129.76-147.01	122.14-139.39	114.52-131.77
5	127.3-144.54	119.68-136.93	112.06-129.31	104.44-121.69
10	115.09-132.34	107.47-124.72	99.85-117.1	92.23-109.48
15	106.28-123.53	98.67-115.92	91.05-108.3	83.43-100.68
20	98.76-116.01	91.15-108.39	83.53-100.78	75.91-93.16
30	91.73-108.98	84.12-101.36	76.5-93.75	68.88-86.13
40	84.7-101.95	77.09-94.33	69.47-86.72	61.85-79.1
50	77.18-94.43	69.56-86.81	61.95-79.2	54.33-71.58
60	68.38-85.63	60.76-78.01	53.14-70.39	45.53-62.78
70	62.97-80.22	55.36-72.6	47.74-64.99	40.12-57.37
80	56.17-73.42	48.55-65.8	40.94-58.18	33.32-50.57
90	46.09-63.34	38.47-55.72	30.85-48.1	23.24-40.49
95	34.74-51.99	27.13-44.37	19.51-36.76	11.89-29.14
98	27.18-44.43	19.56-36.81	11.94-29.19	4.33-21.57

The interval shows the results of introducing 70 and 60 years in the formula. Formula used: (Raw Score - [91.7332 + Age * 1.7249 + Education * -7.6176])/27.74928. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3.

Supplementary Table 11. WAIS: Coding. Age range 50-59.

Percentile	Primary	Secondary	Graduate	Postgraduate
1	30.93-37.92	35.14-42.13	39.35-46.34	43.56-50.55
2	34.46-41.45	38.67-45.66	42.88-49.87	47.09-54.07
5	39.75-46.74	43.96-50.95	48.17-55.16	52.38-59.37
10	44.45-51.44	48.66-55.65	52.87-59.86	57.08-64.07
15	47.62-54.61	51.83-58.82	56.04-63.03	60.25-67.24
20	50.14-57.13	54.35-61.34	58.56-65.55	62.77-69.76
30	54.25-61.24	58.46-65.45	62.67-69.66	66.88-73.86
40	57.76-64.75	61.97-68.95	66.17-73.16	70.38-77.37
50	61.03-68.02	65.24-72.23	69.45-76.44	73.66-80.65
60	64.31-71.3	68.52-75.51	72.73-79.72	76.94-83.93
70	67.82-74.81	72.03-79.02	76.24-83.23	80.45-87.44
80	71.93-78.91	76.13-83.12	80.34-87.33	84.55-91.54
90	77.62-84.61	81.83-88.82	86.04-93.03	90.24-97.23
95	82.32-89.31	86.53-93.52	90.74-97.73	94.95-101.94
98	87.61-94.6	91.82-98.81	96.03-103.02	100.24-107.23

The interval shows the results of introducing 59 and 50 years in the formula. Formula used: $(\text{Raw Score} - [60.2581 + \text{Age} * -0.7766 + \text{Education} * 4.2089]) / 12.94024$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3.

Supplementary Table 12. WAIS: Coding. Age range 60-70.

Percentile	Primary	Secondary	Graduate	Postgraduate
1	22.39-30.15	26.6-34.36	30.81-38.57	35.02-42.78
2	25.92-33.68	30.12-37.89	34.33-42.1	38.54-46.31
5	31.21-38.97	35.42-43.18	39.63-47.39	43.83-51.6
10	35.91-43.67	40.12-47.88	44.33-52.09	48.54-56.3
15	39.08-46.85	43.29-51.06	47.5-55.26	51.71-59.47
20	41.6-49.37	45.81-53.58	50.02-57.79	54.23-61.99
30	45.71-53.47	49.92-57.68	54.12-61.89	58.33-66.1
40	49.21-56.98	53.42-61.19	57.63-65.4	61.84-69.61
50	52.49-60.26	56.7-64.47	60.91-68.68	65.12-72.88
60	55.77-63.54	59.98-67.75	64.19-71.95	68.4-76.16
70	59.28-67.04	63.49-71.25	67.7-75.46	71.9-79.67
80	63.38-71.15	67.59-75.36	71.8-79.57	76.01-83.78
90	69.08-76.84	73.28-81.05	77.49-85.26	81.7-89.47
95	73.78-81.54	77.99-85.75	82.19-89.96	86.4-94.17
98	79.07-86.83	83.28-91.04	87.49-95.25	91.69-99.46

The interval shows the results of introducing 70 and 60 years in the formula. Formula used: $(\text{Raw Score} - [60.2581 + \text{Age} * -0.7766 + \text{Education} * 4.2089]) / 12.94024$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3.

Supplementary Table 13. WAIS: Matrix. Age range 50-59.

Percentile	Males				Females			
	Primary	Secondary	Graduate	Postgraduate	Primary	Secondary	Graduate	Postgraduate
1	7.39-9.28	8.73-10.63	10.08-11.97	11.42-13.31	6.02-7.91	7.36-9.25	8.7-10.6	10.05-11.94
2	8.41-10.3	9.75-11.65	11.1-12.99	12.44-14.34	7.04-8.93	8.38-10.27	9.73-11.62	11.07-12.96
5	9.94-11.84	11.29-13.18	12.63-14.52	13.97-15.87	8.57-10.46	9.91-11.81	11.26-13.15	12.6-14.49
10	11.3-13.2	12.65-14.54	13.99-15.89	15.34-17.23	9.93-11.82	11.27-13.17	12.62-14.51	13.96-15.86
15	12.22-14.12	13.57-15.46	14.91-16.8	16.25-18.15	10.85-12.74	12.19-14.09	13.54-15.43	14.88-16.77
20	12.95-14.85	14.3-16.19	15.64-17.53	16.98-18.88	11.58-13.47	12.92-14.82	14.27-16.16	15.61-17.5
30	14.14-16.03	15.49-17.38	16.83-18.72	18.17-20.07	12.77-14.66	14.11-16.01	15.46-17.35	16.8-18.69
40	15.16-17.05	16.5-18.39	17.84-19.74	19.19-21.08	13.78-15.68	15.13-17.02	16.47-18.36	17.81-19.71
50	16.11-18	17.45-19.34	18.79-20.69	20.14-22.03	14.73-16.63	16.08-17.97	17.42-19.31	18.76-20.66
60	17.06-18.95	18.4-20.29	19.74-21.64	21.09-22.98	15.68-17.58	17.03-18.92	18.37-20.26	19.71-21.61
70	18.07-19.96	19.41-21.31	20.76-22.65	22.1-24	16.7-18.59	18.04-19.93	19.39-21.28	20.73-22.62
80	19.26-21.15	20.6-22.5	21.95-23.84	23.29-25.18	17.89-19.78	19.23-21.12	20.57-22.47	21.92-23.81
90	20.91-22.8	22.25-24.15	23.6-25.49	24.94-26	19.53-21.43	20.88-22.77	22.22-24.12	23.57-25.46
95	22.27-24.16	23.61-25.51	24.96-26	-	20.9-22.79	22.24-24.13	23.58-25.48	24.93-26
98	23.8-25.69	25.15-26	-	-	22.43-24.32	23.77-25.67	25.12-26	-

The interval shows the results of introducing 59 and 50 years in the formula. Formula used: $(\text{Raw Score} - [15.89589 + \text{Age} * -0.21038 + \text{Education} * 1.34383 + \text{Sex} * -1.37351]) / 3.746918$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.

Supplementary Table 14. WAIS: Matrix. Age range 60-70.

Percentile	Males				Females			
	Primary	Secondary	Graduate	Postgraduate	Primary	Secondary	Graduate	Postgraduate
1	5.08-7.18	6.42-8.52	7.76-9.87	9.11-11.21	3.7-5.81	5.05-7.15	6.39-8.49	7.73-9.84
2	6.1-8.2	7.44-9.54	8.78-10.89	10.13-12.23	4.72-6.83	6.07-8.17	7.41-9.51	8.75-10.86
5	7.63-9.73	8.97-11.08	10.32-12.42	11.66-13.76	6.26-8.36	7.6-9.7	8.94-11.05	10.29-12.39
10	8.99-11.09	10.33-12.44	11.68-13.78	13.02-15.13	7.62-9.72	8.96-11.06	10.3-12.41	11.65-13.75
15	9.91-12.01	11.25-13.36	12.6-14.7	13.94-16.04	8.54-10.64	9.88-11.98	11.22-13.33	12.57-14.67
20	10.64-12.74	11.98-14.09	13.33-15.43	14.67-16.77	9.27-11.37	10.61-12.71	11.95-14.06	13.3-15.4
30	11.83-13.93	13.17-15.27	14.51-16.62	15.86-17.96	10.45-12.56	11.8-13.9	13.14-15.25	14.49-16.59
40	12.84-14.95	14.19-16.29	15.53-17.63	16.87-18.98	11.47-13.57	12.81-14.92	14.16-16.26	15.5-17.6
50	13.79-15.9	15.14-17.24	16.48-18.58	17.82-19.93	12.42-14.52	13.76-15.87	15.11-17.21	16.45-18.55
60	14.74-16.85	16.09-18.19	17.43-19.53	18.77-20.88	13.37-15.47	14.71-16.82	16.06-18.16	17.4-19.5
70	15.76-17.86	17.1-19.2	18.44-20.55	19.79-21.89	14.38-16.49	15.73-17.83	17.07-19.17	18.41-20.52
80	16.95-19.05	18.29-20.39	19.63-21.74	20.98-23.08	15.57-17.68	16.92-19.02	18.26-20.36	19.6-21.71
90	18.59-20.7	19.94-22.04	21.28-23.39	22.63-24.73	17.22-19.32	18.56-20.67	19.91-22.01	21.25-23.36
95	19.96-22.06	21.3-23.4	22.64-24.75	23.99-26.09	18.58-20.69	19.93-22.03	21.27-23.37	22.61-24.72
98	21.49-23.59	22.83-24.93	24.17-26	25.52-26	20.11-22.22	21.46-23.56	22.8-24.91	24.15-26

The interval shows the results of introducing 70 and 60 years in the formula. Formula used: $(\text{Raw Score} - [15.89589 + \text{Age} * -0.21038 + \text{Education} * 1.34383 + \text{Sex} * -1.37351])/3.746918$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.

Supplementary Table 15. Semantic Fluency. Age range 50-59.

Percentile	Primary	Secondary	Graduate	Postgraduate
1	9.47-10.7	10.89-12.12	12.31-13.54	13.73-14.96
2	10.82-12.06	12.24-13.48	13.66-14.9	15.09-16.32
5	12.85-14.09	14.28-15.51	15.7-16.93	17.12-18.35
10	14.66-15.9	16.08-17.32	17.5-18.74	18.93-20.16
15	15.88-17.12	17.3-18.54	18.72-19.96	20.14-21.38
20	16.85-18.08	18.27-19.51	19.69-20.93	21.11-22.35
30	18.43-19.66	19.85-21.08	21.27-22.5	22.69-23.93
40	19.78-21.01	21.2-22.43	22.62-23.85	24.04-25.27
50	21.04-22.27	22.46-23.69	23.88-25.11	25.3-26.53
60	22.3-23.53	23.72-24.95	25.14-26.37	26.56-27.79
70	23.64-24.88	25.06-26.3	26.49-27.72	27.91-29.14
80	25.22-26.46	26.64-27.88	28.06-29.3	29.49-30.72
90	27.41-28.64	28.83-30.06	30.25-31.49	31.67-32.91
95	29.22-30.45	30.64-31.87	32.06-33.29	33.48-34.71
98	31.25-32.48	32.67-33.91	34.09-35.33	35.51-36.75

The interval shows the results of introducing 59 and 50 years in the formula. Formula used: $(\text{Raw Score} - [20.89791 + \text{Age} * -0.13718 + \text{Education} * 1.42148]) / 4.973485$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3.

Supplementary Table 16. Semantic Fluency. Age range 60-70.

Percentile	Primary	Secondary	Graduate	Postgraduate
1	7.96-9.33	9.38-10.75	10.8-12.17	12.22-13.59
2	9.31-10.68	10.73-12.11	12.15-13.53	13.58-14.95
5	11.35-12.72	12.77-14.14	14.19-15.56	15.61-16.98
10	13.15-14.52	14.57-15.95	16-17.37	17.42-18.79
15	14.37-15.74	15.79-17.16	17.21-18.59	18.64-20.01
20	15.34-16.71	16.76-18.13	18.18-19.56	19.6-20.98
30	16.92-18.29	18.34-19.71	19.76-21.13	21.18-22.55
40	18.27-19.64	19.69-21.06	21.11-22.48	22.53-23.9
50	19.53-20.9	20.95-22.32	22.37-23.74	23.79-25.16
60	20.79-22.16	22.21-23.58	23.63-25	25.05-26.42
70	22.13-23.51	23.56-24.93	24.98-26.35	26.4-27.77
80	23.71-25.08	25.13-26.51	26.55-27.93	27.98-29.35
90	25.9-27.27	27.32-28.69	28.74-30.11	30.16-31.54
95	27.71-29.08	29.13-30.5	30.55-31.92	31.97-33.34
98	29.74-31.11	31.16-32.53	32.58-33.96	34-35.38

The interval shows the results of introducing 70 and 60 years in the formula. Formula used: $(\text{Raw Score} - [20.89791 + \text{Age} * -0.13718 + \text{Education} * 1.42148]) / 4.973485$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3.

Supplementary Table 17. Visual Puzzles. Age range 50-59.

Percentile	Males				Females			
	Primary	Secondary	Graduate	Postgraduate	Primary	Secondary	Graduate	Postgraduate
1	6.27-8.77	7.02-9.53	7.78-10.28	8.53-11.04	3.88-6.38	4.63-7.14	5.39-7.89	6.14-8.64
2	7.23-9.73	7.98-10.49	8.73-11.24	9.49-11.99	4.83-7.34	5.59-8.09	6.34-8.85	7.1-9.6
5	8.66-11.17	9.42-11.92	10.17-12.67	10.92-13.43	6.27-8.77	7.02-9.53	7.78-10.28	8.53-11.04
10	9.94-12.44	10.69-13.2	11.45-13.95	12.2-14.7	7.54-10.05	8.3-10.8	9.05-11.56	9.81-12.31
15	10.8-13.3	11.55-14.06	12.31-14.81	13.06-15.56	8.4-10.91	9.16-11.66	9.91-12.42	10.67-13.17
20	11.48-13.99	12.24-14.74	12.99-15.49	13.74-16.25	9.09-11.59	9.84-12.35	10.6-13.1	11.35-13.86
30	12.59-15.1	13.35-15.85	14.1-16.61	14.86-17.36	10.2-12.71	10.96-13.46	11.71-14.22	12.46-14.97
40	13.55-16.05	14.3-16.8	15.05-17.56	15.81-18.31	11.15-13.66	11.91-14.41	12.66-15.17	13.42-15.92
50	14.44-16.94	15.19-17.69	15.94-18.45	16.7-19.2	12.04-14.55	12.8-15.3	13.55-16.06	14.31-16.81
60	15.32-17.83	16.08-18.58	16.83-19.34	17.59-20.09	12.93-15.44	13.69-16.19	14.44-16.95	15.19-17.7
70	16.28-18.78	17.03-19.53	17.78-20.29	18.54-21.04	13.88-16.39	14.64-17.14	15.39-17.9	16.15-18.65
80	17.39-19.89	18.14-20.65	18.9-21.4	19.65-22.16	15-17.5	15.75-18.26	16.51-19.01	17.26-19.76
90	18.93-21.44	19.69-22.19	20.44-22.95	21.2-23.7	16.54-19.05	17.3-19.8	18.05-20.55	18.8-21.31
95	20.21-22.71	20.96-23.47	21.72-24.22	22.47-24.98	17.82-20.32	18.57-21.08	19.32-21.83	20.08-22.58
98	21.64-24.15	22.4-24.9	23.15-25.66	23.91-26	19.25-21.76	20.01-22.51	20.76-23.26	21.51-24.02

The interval shows the results of introducing 59 and 50 years in the formula. Formula used: $(\text{Raw Score} - [14.15703 + \text{Age} * -0.27828 + \text{Education} * 0.75432 + \text{Sex} * -2.39266])/3.510158$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.

Supplementary Table 18. Visual Puzzles. Age range 60-70.

Percentile	Males				Females			
	Primary	Secondary	Graduate	Postgraduate	Primary	Secondary	Graduate	Postgraduate
1	3.21-5.99	3.96-6.75	4.72-7.5	5.47-8.25	0.82-3.6	1.57-4.35	2.32-5.11	3.08-5.86
2	4.17-6.95	4.92-7.7	5.67-8.46	6.43-9.21	1.77-4.56	2.53-5.31	3.28-6.06	4.04-6.82
5	5.6-8.38	6.35-9.14	7.11-9.89	7.86-10.65	3.21-5.99	3.96-6.74	4.72-7.5	5.47-8.25
10	6.88-9.66	7.63-10.41	8.38-11.17	9.14-11.92	4.48-7.27	5.24-8.02	5.99-8.77	6.75-9.53
15	7.74-10.52	8.49-11.27	9.24-12.03	10-12.78	5.34-8.13	6.1-8.88	6.85-9.63	7.61-10.39
20	8.42-11.2	9.17-11.96	9.93-12.71	10.68-13.47	6.03-8.81	6.78-9.56	7.54-10.32	8.29-11.07
30	9.53-12.32	10.29-13.07	11.04-13.82	11.8-14.58	7.14-9.92	7.9-10.68	8.65-11.43	9.4-12.19
40	10.48-13.27	11.24-14.02	11.99-14.78	12.75-15.53	8.09-10.88	8.85-11.63	9.6-12.38	10.36-13.14
50	11.37-14.16	12.13-14.91	12.88-15.67	13.64-16.42	8.98-11.76	9.74-12.52	10.49-13.27	11.24-14.03
60	12.26-15.05	13.02-15.8	13.77-16.55	14.53-17.31	9.87-12.65	10.63-13.41	11.38-14.16	12.13-14.92
70	13.21-16	13.97-16.75	14.72-17.51	15.48-18.26	10.82-13.61	11.58-14.36	12.33-15.11	13.09-15.87
80	14.33-17.11	15.08-17.87	15.84-18.62	16.59-19.37	11.94-14.72	12.69-15.47	13.44-16.23	14.2-16.98
90	15.87-18.66	16.63-19.41	17.38-20.16	18.14-20.92	13.48-16.26	14.23-17.02	14.99-17.77	15.74-18.53
95	17.15-19.93	17.9-20.69	18.66-21.44	19.41-22.19	14.76-17.54	15.51-18.29	16.26-19.05	17.02-19.8
98	18.58-21.37	19.34-22.12	20.09-22.87	20.85-23.63	16.19-18.97	16.94-19.73	17.7-20.48	18.45-21.24

The interval shows the results of introducing 70 and 60 years in the formula. Formula used: $(\text{Raw Score} - [14.15703 + \text{Age} * -0.27828 + \text{Education} * 0.75432 + \text{Sex} * -2.39266])/3.510158$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.

Supplementary Table 19. RBANS: Judgement of line orientation. Age range 50-59.

Percentile	Males				Females			
	Primary	Secondary	Graduate	Postgraduate	Primary	Secondary	Graduate	Postgraduate
1	12.73-13.25	13.33-13.85	13.93-14.45	14.53-15.05	10.76-11.28	11.36-11.88	11.96-12.48	12.56-13.08
2	13.32-13.84	13.92-14.44	14.52-15.04	15.12-15.64	11.36-11.87	11.96-12.47	12.56-13.07	13.15-13.67
5	14.21-14.73	14.81-15.33	15.41-15.93	16.01-16.53	12.25-12.76	12.85-13.36	13.44-13.96	14.04-14.56
10	15-15.52	15.6-16.12	16.2-16.72	16.8-17.32	13.04-13.55	13.64-14.15	14.24-14.75	14.83-15.35
15	15.54-16.05	16.14-16.65	16.73-17.25	17.33-17.85	13.57-14.09	14.17-14.69	14.77-15.29	15.37-15.88
20	15.96-16.48	16.56-17.08	17.16-17.68	17.76-18.27	13.99-14.51	14.59-15.11	15.19-15.71	15.79-16.31
30	16.65-17.17	17.25-17.77	17.85-18.37	18.45-18.96	14.68-15.2	15.28-15.8	15.88-16.4	16.48-17
40	17.24-17.76	17.84-18.36	18.44-18.96	19.04-19.55	15.27-15.79	15.87-16.39	16.47-16.99	17.07-17.59
50	17.79-18.31	18.39-18.91	18.99-19.51	19.59-20.11	15.83-16.34	16.42-16.94	17.02-17.54	17.62-18.14
60	18.34-18.86	18.94-19.46	19.54-20	20.14-20	16.38-16.89	16.98-17.49	17.57-18.09	18.17-18.69
70	18.93-19.45	19.53-20	-	-	16.97-17.48	17.56-18.08	18.16-18.68	18.76-19.28
80	19.62-20	-	-	-	17.66-18.17	18.25-18.77	18.85-19.37	19.45-19.97
90	-	-	-	-	18.61-19.13	19.21-19.73	19.81-20.33	20
95	-	-	-	-	19.4-19.92	20	20	-
98	-	-	-	-	20	-	-	-

The interval shows the results of introducing 59 and 50 years in the formula. Formula used: (Raw Score - [17.73402 + Age * -0.05749 + Education * 0.59889 + Sex * -1.96645])/2.175314. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.

Supplementary Table 20. RBANS: Judgement of line orientation. Age range 60-70.

Percentile	Males				Females			
	Primary	Secondary	Graduate	Postgraduate	Primary	Secondary	Graduate	Postgraduate
1	12.1-12.67	12.7-13.27	13.3-13.87	13.9-14.47	10.13-10.71	10.73-11.31	11.33-11.9	11.93-12.5
2	12.69-13.27	13.29-13.87	13.89-14.46	14.49-15.06	10.73-11.3	11.32-11.9	11.92-12.5	12.52-13.1
5	13.58-14.16	14.18-14.75	14.78-15.35	15.38-15.95	11.61-12.19	12.21-12.79	12.81-13.39	13.41-13.99
10	14.37-14.95	14.97-15.55	15.57-16.14	16.17-16.74	12.4-12.98	13-13.58	13.6-14.18	14.2-14.78
15	14.9-15.48	15.5-16.08	16.1-16.68	16.7-17.28	12.94-13.51	13.54-14.11	14.14-14.71	14.73-15.31
20	15.33-15.9	15.93-16.5	16.53-17.1	17.12-17.7	13.36-13.94	13.96-14.54	14.56-15.13	15.16-15.73
30	16.02-16.59	16.62-17.19	17.22-17.79	17.82-18.39	14.05-14.63	14.65-15.23	15.25-15.82	15.85-16.42
40	16.61-17.18	17.21-17.78	17.81-18.38	18.4-18.98	14.64-15.22	15.24-15.82	15.84-16.41	16.44-17.01
50	17.16-17.73	17.76-18.33	18.36-18.93	18.96-19.53	15.19-15.77	15.79-16.37	16.39-16.97	16.99-17.56
60	17.71-18.29	18.31-18.88	18.91-19.48	19.51-20.08	15.74-16.32	16.34-16.92	16.94-17.52	17.54-18.12
70	18.3-18.87	18.9-19.47	19.5-20.07	20.1-20.67	16.33-16.91	16.93-17.51	17.53-18.11	18.13-18.7
80	18.99-19.56	19.59-20.16	-	20.79-21.36	17.02-17.6	17.62-18.2	18.22-18.8	18.82-19.4
90	19.95-20.52	-	-	21.74-22.32	17.98-18.56	18.58-19.15	19.18-19.75	19.78-20.35
95	-	-	-	22.53-23.11	18.77-19.35	19.37-19.94	19.97-20.54	20.57-21.14
98	-	-	-	23.42-24	19.66-20.24	20.26-20.83	20.86-21.43	21.46-22.03

The interval shows the results of introducing 70 and 60 years in the formula. Formula used: $(\text{Raw Score} - [17.73402 + \text{Age} * -0.05749 + \text{Education} * 0.59889 + \text{Sex} * -1.96645]) / 2.175314$. Age centered to 60.5. Education as: Elementary=0; Secondary=1; Graduate=2; Postgraduate=3; Sex entered as: Male=0; Female=1.