

Table 1 Normative data of the hedgehog version of the PICture Naming and Immediate Recall (PICNIR) test in the elderly population (n=965) stratified by education, age, and gender for picture naming error score (A), for picture recall score (B) and for Recnam score as the number of correctly recalled picture names minus the number of picture naming errors (C)

The lowest normal scores are highlighted bold in gray cells and their corresponding percentiles are bold. GCE – general certificate of education (a school leaving certificate, higher education means diploma).

A Normative data for picture naming error score of the hedgehog PICNIR

	High school with the General Certificate of Education (GCE) and higher education		Primary and high school education without GCE		All participants
Years of schooling (10th-90th percentile)	13 - 19 years		9 - 13 years		12 - 19 years
Stratified subgroups by age and gender	Younger female/male	Older female/male	Younger female/male	Older female/male	female/male
Age (years, min-max)	50-68/50-68	68-89/68-90	55-68/48-67	69-87/68-87	50-89/37-90
Age (mean ± standard deviation)	62±5/62±6	74±5/75±5	63±3.5/62±5	76±5/75±6	68±8/69±8
Number of participants	299/116	286/130	35/17	54/28	674/291
Picture naming error score (mean ± standard deviation)	0.3±0.5/0.4±0.6	0.5±0.8/0.7±0.9	0.3±0.5/0.5±0.8	0.8±1.4/0.8±0.9	0.4±0.8/0.6±0.8

Mean + 1 standard deviation	1/1	1/2	1/1	2/2	1/1
Mean + 1.5 standard deviation	1/1	2/2	1/2	3/2	2/2
Mean + 2 standard deviations	1/2	2/3	1/2	4/3	2/2
Median (interquartile range)	0 (0-1)/0 (0- 1)	0 (0-1)/0 (0- 1)	0 (0-0)/0 (0- 1)	0 (0-1)/1 (0- 1)	0 (0-1)/0 (0- 1)
Picture naming error score (points)	Percentiles female/male				
0	26/28	36/48	23/35	43/57	31/40
1	3/7	8/15	3/18	17/14	6/12
2	0/1	3/5		9/7	2/3
3		2/1		6/-	1/-
4				4/-	

The more picture naming errors the worse performance. Therefore cut-offs are based on mean +1/1.5/2 standard deviations.

B Normative data for picture recall score of the hedgehog PICNIR

	High school with the General Certificate of Education (GCE) and higher education		Primary and high school education without GCE		All participants
Years of schooling (10 th - 90 th percentile)	13 - 19 years		9 - 13 years		12 - 19 years
Stratified subgroups by age and gender	Younger female/male	Older female/male	Younger female/male	Older female/male	female/male
Age (years, min-max)	50-68/50-68	68-89/68-90	55-68/48-67	69-87/68-87	50-89/37-90
Age (mean ± standard deviation)	62±5/62±6	74±4.5/75±5	63±3.5/62±5	76±5/75±6	68±8/69±8
Number of participants	299/116	286/130	35/17	54/28	674/291
Picture recall score (mean ± standard deviation)	10±2/9±2	9±2/8±2	8±2/8±2	8±2/7±2	9±2/8±2
Mean - 1 standard deviation	8/7	7/6	6/6	6/5	7/6
Mean - 1.5 standard deviation	7/6	6/5	5/5	5/4	6/5

Mean - 2 standard deviations	6/5	5/4	4/4	3/3	5/4
Median (interquartile range)	10 (8-11)/9 (7-10)	9 (7-10)/8 (6-9)	8 (7-9)/7 (6-9)	8 (6-9)/7 (6-9)	9 (8-11)/8 (6-10)
Picture recall score (points)	Percentiles female/male				
1		1/1			
2					
3	-/3	2/3		-/4	1/3
4	1/-	4/10	3/-	7/11	3/7
5	2/5	10/16	11/12	17/21	7/12
6	7/17	19/31	23/35	26/36	14/26
7	15/27	27/47	37/53	44/54	23/40
8	30/49	42/63	63/65	67/64	40/58
9	47/69	61/77	77/88	80/82	57/75
10	66/85	78/87	86/	91/93	74/87
11	80/92	89/95	89/100	96/100	85/95
12	90/96	97/97	94/-	98/-	93/97
13	97/98	98/99	100/-	100/-	97/99
14	99/100	100/100			99/100
15	100/-				100/-

C Normative data for Recname score of the hedgehog PICNIR

	High school with the General Certificate of Education (GCE) and higher education		Primary and high school education without GCE		All participants
Years of schooling (10 th - 90 th percentile)	13 - 19 years		9 - 13 years		12 - 19 years
Stratified subgroups by age and gender	Younger female/male	Older female/male	Younger female/male	Older female/male	female/male
Age (years, min-max)	50-68/50-68	68-89/68-90	55-68/48-67	69-87/68-87	50-89/37-90
Age (mean ± standard deviation)	62±5/62±6	74±4.5/75±5	63±3.5/62±5	76±5/75±6	68±8/69±8
Number of participants	299/116	286/130	35/17	54/28	674/291
Picture recall score (mean ± standard deviation)	9±2/8±2	8±3/7±3	8±2/7±2	7±3/7±2	9±2/7±3
Mean - 1 standard deviation	7/6	4/4	6/5	4/5	7/4
Mean - 1.5 standard deviation	6/5	4/3	5/4	3/4	6/3

Mean - 2 standard deviations	5/4	2/1	4/3	1/3	5/1
Median (interquartile range)	9 (8-11)/8 (7-10)	9 (7-10)/7 (5- 9)	8 (6-9)/7 (5- 9)	7 (5-9)/7 (5- 8)	9 (7-10)/8 (6-9)
Recname score (points)	Percentiles female/male				
-3		0.4/			0.1/-
-2		0.7/1			0.1/0.3
-1		0.7/1			0.3/0.3
0		1/2		2/	0.6/0.7
1		2/3		6/	1
2	-/1	3/4		6/	2
3	0.3/3	5/8	-/6	15/7	4/6
4	1/5	9/17	6/12	20/21	6/12
5	3/12	16/29	11/29	30/29	11/22
6	10/21	23/43	26/47	37/46	19/35
7	21/32	34/56	46/53	59/68	31/47
8	36/53	48/67	71	69/82	46/63
9	54/74	67/82	80/88	80/89	63/80
10	68/88	82/89	86/88	91/100	77/90
11	82/94	90/95	89/100	96/-	87/96
12	91/98	97/97	94/-	98/-	94/98
13	97/99	98/99	100/-	100/-	98/99

14	99/100	100/100			100/100
15	100/-				