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Brief language and aphasia assessment battery (ABLA battery): performance of older adults and norms

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Abstract

Background: Population aging has brought new challenges to public health, especially concerning the preservation of linguistic abilities in older adults. Aphasia, often caused by strokes, significantly compromises communication and, consequently, the quality of life of elderly individuals. As the population ages, it becomes essential to adapt assessment tools to meet the needs of a diverse population.

Aims: To investigate the performance of older adults on the ABLA Battery and to establish normative data for this population.

Methods and Procedures: The research was conducted with 125 older adults residing in the southern region of Brazil. Participants were organized into age groups (60 to 75 years and over 76 years) and categorized according to educational level (1–4 years, 5–8 years, 9–11 years, and more than 12 years of schooling). Inclusion criteria required individuals to be neurologically healthy, aged over 60 years, and native speakers of Brazilian Portuguese. Exclusion criteria included a history of acquired neurological diseases, uncorrected hearing and/or visual impairments, and previous or current use of illicit substances or alcoholism. The evaluation was conducted individually in a controlled environment, using the ABLA Battery, composed of 10 tasks aimed at analyzing different linguistic aspects. For statistical analysis, the Mann-Whitney test was applied to compare age groups, and the Kruskal-Wallis test was used for the different educational levels, adopting a significance level of p 0.05.

Outcomes and Results: The findings revealed that, for most tasks analyzed, there were no statistically significant differences between the age groups, suggesting that linguistic abilities remain stable throughout aging. However, the total naming task showed a significant result ($p = 0.027$), indicating lower performance in the 60–75 years group. Regarding education, participants with 1–4 years of schooling exhibited poorer performance in oral sentence comprehension, copying, reading aloud, and written comprehension tasks, while those with more than 12 years of education achieved the best results. Thus, the standardization of ABLA Battery data represents a significant advancement in the linguistic evaluation of older adults, providing greater diagnostic precision. This study broadens the applicability of the instrument in clinical and scientific contexts, enabling more assertive interventions and contributing to the early detection of linguistic deficits.

Keywords: aging, language, norms, assessment, aphasia

Introduction

The aging process is natural and influences various bodily functions, including abilities related to language and speech.[1] As age advances, gradual changes begin to impact communicative capacities, and these changes may be determined by biological, cognitive, and/or social factors.[2–5] Declines are common in aspects such as language processing speed, verbal memory, and articulation, affecting fluency, comprehension, and speech production.[6] However, these changes do not affect all individuals uniformly, as variables such as educational level, reading habits, and cognitive stimulation throughout life play a significant role in the preservation of linguistic abilities.[6,7] Despite possible difficulties, aging is also a phase during which accumulated experience can enrich communication, allowing individuals to express themselves meaningfully and adaptively according to their conditions.[2,5]

The assessment of speech and language in older adults is essential to identify and understand the communicative changes that may arise with aging.[8] This practice allows for the differentiation between natural changes and potential disorders, such as aphasias, dysarthrias, and cognitive-linguistic deficits, which can significantly impair quality of life.[9,10] For elderly individuals, the focus of assessment is the early identification of difficulties that affect social interaction and autonomy. For the oldest-old, assessment often seeks to understand functional adaptations and to prevent the worsening of already established deficits.[2,11]

However, the absence of specific normative instruments for language assessment, especially those aimed at the oldest-old population, represents a major challenge in clinical practice in Brazil.[12] Although standardized tools exist for adults and older adults, many do not address the peculiarities of advanced aging. This gap hinders accurate diagnoses and the identification of patterns that distinguish natural changes from pathological conditions, compromising the selection of targeted and effective therapeutic approaches.[6,9] Professionals often need to adapt existing instruments or rely on subjective observation, which compromises the validity and reliability of the assessments conducted.[13]

In this context, the Brief Language and Aphasia Assessment Battery (ABLA) — previously referred to in earlier studies as the Brief

Version of the Montreal-Toulouse Language Assessment Battery[13]—was developed based on the Alpha version of the Montreal-Toulouse Aphasia Battery.[14] This initiative aimed to offer a quick and effective assessment of linguistic functions in adults and older adults, especially in hospital settings, where brief evaluations are often necessary due to the environment, the initial severity of the condition, and the need for rapid mapping of linguistic alterations.

In addition to being practical, ABLA maintains psychometric rigor and provides a comprehensive profile of linguistic abilities, allowing for the evaluation of aspects such as oral and written comprehension, repetition, reading, writing, automatisms, naming, and nonverbal praxis. Psychometric studies have demonstrated high reliability, sensitivity above 99%, and specificity ranging from 51.6% to 93.5%, with excellent temporal stability.[15,16] However, despite its robust results, it is essential to expand normative data, especially for the oldest-old, ensuring greater diagnostic precision and applicability in different clinical contexts.

Changes in language and cognition tend to be more pronounced in the oldest-old compared to younger older adults due to the cumulative effect of aging on the central nervous system.[7] Common language difficulties include word retrieval problems (anomia), reduced verbal fluency and active vocabulary, and the need for more time to process linguistic information. Comprehension of more complex sentences may also be impaired, especially in tasks that demand greater working memory.[10]

This study aims to evaluate the performance of older adults on the ABLA Battery and to present normative data for this population.

Methods

This research is part of a larger study entitled "Development of a linguistic screening protocol for bedside use in cases of brain injury," duly approved by the Research Ethics Committee of the Federal University of Santa Maria under approval number 2.170.519. The entire study was conducted in accordance with the guidelines and norms established by Resolution 466/12 of the Brazilian National Health Council, which regulates research involving human subjects in Brazil. Before data collection, all individuals who agreed to participate as volunteers signed the Informed Consent Form (ICF).

Participants

The sample consisted of 125 older adults from the state of Rio Grande do Sul, Brazil. Participants were selected by convenience sampling in social environments and through referrals.

To participate in the study, volunteers were required to meet specific inclusion criteria: they had to be neurologically healthy, aged over 60 years, and have Brazilian Portuguese as their first language. The following exclusion criteria were adopted: participants with a history of acquired neurological diseases (such as traumatic brain injury and stroke), participants with uncorrected hearing and/or visual impairments, and participants with a history of alcoholism and/or illicit drug use (data obtained from the Sociodemographic and Health Conditions Questionnaire,[17] as well as participants presenting signs of dementia verified through the Mini-Mental State Examination – MMSE,[18] using the cutoff scores suggested for each educational level.

Older adults who did not meet the inclusion criteria or who exhibited signs of cognitive decline were referred for specialized care with professionals or interns from psychology, speech-language therapist, and neurology programs at higher education institutions in the city of Santa Maria. For analytical purposes, participants were organized into groups according to age — from 60 to 75 years and 76 years or older — and educational level: 1 to 4 years (Primary Education), 5 to 8 years (Lower Secondary Education), 9 to 11 years (Upper Secondary Education/High School), and 12 years or more (Higher Education). Illiterate participants were not included, as no individuals in this condition were identified during the sample selection process.

Table 1 presents the sociodemographic data of the participants, including age, educational level, socioeconomic status, and Mini-Mental State Examination score.

Table 1 Characterization of the sample according to sex, age, education, socioeconomic level, and Mini-Mental State Examination

Groups								
Age Groups	**60 - 75 years**				**Over 76 years**			
Subgroups by education level	01-Apr (n=11)	05-Aug (n=18)	09-Nov (n=19)	12+ (n=19)	01-Apr (n=18)	05-Aug (n=15)	09-Nov (n=8)	12+ (n=17)
Sex (M/F)	05-Jun	May-13	09-Oct	Jun-13	10-Aug	05-Oct	02-Jun	05-Dec
Age M (SD)	69 (4.22)	65.33 (4.95)	65.95 (4.64)	65.47 (5.16)	84.89 (5.17)	80.40 (3.87)	80,63 (3.20)	81.35 (3.88)
Education M(SD)	3.18 (1.08)	6.22 (1.31)	10.47 (0.84)	15.42 (3.13)	2.83 (1.20)	6.87 (1.12)	10.38 (0.91)	14.65 (2.87)
Socioeconomic Level M(SD)	16.11 (6.01)	17.76 (7.73)	24.39 (6.59)	28.94 (6.64)	22.33 (4.54)	19.14 (6.91)	22.50 (9.81)	25.35 (5.49)
MMSE	25,82 (3.71)	24.62 (2.87)	24.53 (3.24)	26.92 (3.17)	25.06 (3.03)	24.17 (1.47)	25.33 (2.80)	26.92 (3.17)

Note: M, mean; SD, standard deviation; M, male; F, female; MMSE, mini-mental state examination.

Assessment Instruments

The assessments were conducted individually in a well-lit environment, free from competing visual and auditory stimuli. Each participant was evaluated in a single session lasting approximately one hour.

All participants were assessed using the ABLA Battery, which evaluates, through 10 tasks, the linguistic components involved in oral expression and comprehension (words, simple and complex sentences), reading aloud (words, pseudowords, and sentence), writing (words, pseudoword, and sentence), repetition (words, pseudoword, and sentence), naming (nouns and verbs), and nonverbal praxis. Below is a brief description of each task:

Directed interview: This task consists of nine semi-structured questions posed by the examiner (for example: "What is your name?" "How are you feeling?" "How is the weather today?"). Its aim is to qualitatively assess oral expression and quantitatively assess auditory comprehension. Total scores for this subtest can range from 0 to 18 points.

Oral comprehension: Composed of 11 items, this task evaluates oral comprehension using five words (presented on boards containing six

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stimuli, including one target and five distractors) and six sentences (three simple and three complex, with boards containing four visual stimuli, only one of which is correct). The participant must point to the figure corresponding to the examiner's statement. Total scores for this subtest can range from 0 to 11 points.

Written comprehension: Composed of 11 items, this task evaluates written comprehension using five words (presented on boards containing the written word in block letters and six figures, with only one correct target) and six sentences (three simple and three complex, with boards containing the target sentence and four figures, only one of which is correct). After silently reading the written word or sentence, the participant must point to the corresponding figure. Total scores for this subtest can range from 0 to 11 points. It is noteworthy that this task is optional for individuals with low educational levels or for illiterate individuals, as are the tasks of reading.

Copying (optional): The participant is asked to copy a sentence, presented in printed letters, using cursive handwriting, to assess the ability to recognize and reproduce letters. Total scores for this subtest can range from 0 to 4 points.

Writing to dictation (optional): The examiner dictates two words, one pseudoword and one sentence (comprising four words) for the participant to write, evaluating the ability to represent auditory stimuli through writing. Total scores for this subtest can range from 0 to 7 points.

Repetition: The participant must repeat a total of 12 items, including words, one pseudoword and one sentence. This task assesses the ability to process and reproduce the auditory stimulus through lexical and phonological processing. Total scores for this subtest can range from 0 to 12 points.

Reading aloud (optional): To assess the reading ability through the lexical and perilexical routes, the participant must read aloud a total of 12 stimuli, including regular and irregular words, pseudowords and a sentence. Total scores for this subtest can range from 0 to 12 points.

Oral naming: The participant must name 12 black-and-white images, including nine nouns and three verbs, to assess lexical access through a visual input. The maximum score for this subtest is 24 points. Total scores for this subtest can range from 0 to 24 points.

Automatic speech: This task involves automatic series, such as counting aloud from one to twenty and singing the "Happy Birthday" song, to assess the ability to evoke linguistic automatisms. Total scores for this subtest can range from 0 to 4 points.

Nonverbal praxis: The participant must perform six nonverbal praxic gestures upon verbal command to verify the ability to produce isolated and sequential movements. Total scores for this subtest can range from 0 to 24 points.

For the interpretation of results, 1 point is assigned for each correct answer in the oral comprehension and written comprehension tasks. In the directed interview and oral naming tasks, scores can be 0, 1, or 2. In the directed interview, the scoring reflects the examiner's judgment regarding the participant's comprehension of each question. Specifically: if the examiner is certain that the individual understood the question, 2 points are assigned; if the participant's answer raises doubts about comprehension, 1 point is assigned; and if the examiner is certain that the participant did not understand the question, 0 points are assigned.

For oral naming, scoring depends on the time and accuracy of the response: correct naming within 5 seconds earns 2 points; correct responses taking longer than 5 seconds, or responses involving semantic paraphasias and/or paraphrases, earn 1 point; incorrect responses or no response earn 0 points.

The automatic speech task is analyzed in terms of form (occurrence of phonemic errors) and content (occurrence of omissions). In the copying task, 1 point is assigned for each correctly copied word in the sentence, totaling up to 4 points. In the writing to dictation, repetition, and reading aloud tasks, 1 point is assigned for each correct word or pseudoword, and 1 point for each correctly reproduced word in the sentence, totaling up to 4 points.

In the nonverbal praxis tasks, the scoring is as follows: 0 points (incorrect movement or absence of response), 1 point (partial response), 2 points (movement correctly performed after demonstration), 3 points (movement correctly performed after rehearsal), and 4 points (movement correctly performed without rehearsal, based solely on the verbal command).

Data analysis

The comparison between age groups was conducted using the Mann-Whitney test, while the analyses considering educational levels were performed using the Kruskal-Wallis test, followed by post-hoc comparisons when necessary.

The central tendencies of the data were described using the median and percentiles, as these measures offer a better representation of the variability of scores in samples with asymmetrical distributions.

The significance level adopted for all analyses was p 0.05. Additionally, percentile distributions were calculated to establish reference norms, assisting in the clinical interpretation of performance on the ABLA Battery. Statistical analysis was performed using SPSS software, version 30.0 for Mac

Results

Table 2 presents the comparative analysis of performance on the ABLA Battery between the age groups of 60–75 years and over 76 years. Overall, there were no statistically significant differences in most of the evaluated tasks ($p > 0.05$), suggesting stability of linguistic abilities across the analyzed age ranges.

However, the total naming task was the only one that showed a statistically significant difference ($p = 0.027$), with slightly lower performance in the 60–75 years group compared to the group over 76 years.

It can be observed in Table 3 that most of the evaluated tasks did not present statistically significant differences among the groups with different educational levels ($p > 0.05$). However, some tasks were influenced by educational level, with poorer performance by participants with 1–4 years of education compared to the group with more than 12 years of schooling. Significant differences were found in the tasks of oral comprehension of sentences ($p = 0.032$), total oral comprehension ($p = 0.013$), copying ($p = 0.002$), reading aloud of sentences ($p = 0.017$), and total reading aloud ($p = 0.041$).

Table 2 Comparison of performance on the ABLA Battery between groups considering age ranges

Tasks	Group/Age	N	Median	Mean	Standard deviation	p-value
Directed Interview	60-75	67	18	17.94	0.489	0.927
	76+	58	18	17.97	0.263	
Oral Comprehension – Words	60-75	67	5	4.9	0.308	0.756
	76+	58	5	4.9	0.36	
Oral Comprehension – Sentences	60-75	67	6	5.39	0.969	0.256
	76+	58	5	5.33	0.781	
Total Oral Comprehension	60-75	67	11	10.27	1.136	0.421
	76+	58	10	10.26	0.909	
Written Comprehension – Words	60-75	67	5	4.84	0.412	0.717
	76+	58	5	4.78	0.773	
Written Comprehension – Sentences	60-75	67	6	5.49	0.877	0.984
	76+	58	6	5.5	0.941	
Total Written Comprehension	60-75	67	11	10.34	1.149	0.571
	76+	58	11	10.28	1.542	
Copying	60-75	67	4	3.79	0.845	0.595
	76+	58	4	3.88	0.595	
Writing to Dictation	60-75	67	7	6.01	1.532	0.719
	76+	58	7	5.71	2.111	
Repetition – Words	60-75	67	8	7.58	0.801	0.779
	76+	58	8	7.57	0.752	
Repetition – Sentence	60-75	67	4	3.97	0.171	0.186
	76+	58	4	4	0	
Total Repetition	60-75	67	12	11.55	0.84	0.919
	76+	58	12	11.57	0.752	
Reading Aloud – Words	60-75	67	12	7.85	0.5	0.288
	76+	58	12	7.83	1.062	
Reading Aloud – Sentence	60-75	67	18	3.96	0.208	0.547
	76+	58	18	3.88	0.564	
Total Reading Aloud	60-75	67	6	11.81	0.633	0.375
	76+	58	6	11.71	1.611	
Naming – Nouns	60-75	67	24	17.7	1.101	0.237
	76+	58	24	17.76	0.657	
Naming – Verbs	60-75	67	6	5.36	1.111	0.13
	76+	58	6	5.57	0.957	
Total Naming	60-75	67	24	22.97	1.435	0.027
	76+	58	24	23.36	1.294	
Automatic Speech – Form	60-75	67	4	3.91	0.288	0.72
	76+	58	4	3.9	0.406	
Automatic Speech – Content	60-75	67	4	3.96	0.208	0.825
	76+	58	4	3.91	0.388	
Nonverbal Praxis	60-75	67	24	23.64	0.773	0.083
	76+	58	24	23.76	0.844	

Note: Mann-whitney test

Table 3 Comparison of performance on the ABLA Battery between groups considering educational level

Tasks	Group by education level				Max	p-value	Post-hoc
	01-Apr (n=29)	05-Aug (n=33)	09-Nov (n=27)	≥12 (n=36)			
	M±SD	M±SD	M±SD	M±SD			
Directed Interview	17.86±0.743	18.00±0.000	18.00±0.000	17.94±0.333	18	0.591	-
Oral Comprehension – Words	4.83±0.468	4.88±0.331	4.89±0.320	4.97±0.167	5	0.414	-
Oral Comprehension – Sentences	5.10±0.939	5.33±0.777	5.30±1.103	5.64±0.683	6	0.032	1-4 <12+ *

Table 3 Continued...

Total Oral Comprehension	9.97±1.117	10.21±0.893	10.15±1.322	10.64±0.723	11	0.013	1-4 <12+ *
Written Comprehension – Words	4.66±1.045	4.73 ±0.517	4.89±0.320	4.94±0.232	5	0.159	-
Written Comprehension – Sentence	5.38±1.178	5.39±0.966	5.56±0.641	5.64±0.762	6	0.389	-
Total Written Comprehension	10.03±2.113	10.12±1.244	10.44±0.751	10.61±0.871	11	0.092	1-4 < 12+*
Copying	3.34±1.421	3.94±0.242	4.00±0.000	4.00±0.000	4	0.002	1-4 < (5-8 = 9-11 = 12+) **
Writing to Dictation	4.97±2.542	5.85±1.642	6.41±1.118	6.22±1.476	7	0.111	-
Repetition – Words	7.48±0.986	7.70±0.585	7.56±0.847	7.56±0.695	8	0.844	-
Repetition – Sentence	4.00±0.000	3.94±0.242	4.00±0.000	4.00±0.000	4	0.132	-
Total Repetition	11.48±0.986	11.6±4.699	11.56±0.847	11.56±.0.695	12	0.945	-
Reading Aloud – Words	7.52±1.573	7.91±0.292	7.89±0.424	8.00±0.000	8	0.085	-
Reading Aloud – Sentence	3.72±0.797	3.97±0.174	3.96±0.192	4.00±0.000	4	0.017	1-4 < 12+*
Total Reading Aloud	11.24±2.340	11.8±8.415	11.85±0.456	12.00±0.000	12	0.041	1-4 < 12+*
Naming – Nouns	17.86±1.407	17.7±6.614	17.63±0.742	17,67±0.793	24	0.9	-
Naming – Verbs	4.97±1.476	5.48±1.093	5.67±0.620	5.67±0.676	6	0.136	-
Total Naming	22.62±1.699	23.24±1.437	23.30±1.068	23.39±1.178	24	0.132	-
Automatic Speech – Form	3.93±0.371	3.91±0.384	3.81±0.396	3.94±0.232	4	0.173	-
Automatic Speech – Content	3.79±0.559	3.97±0.174	3.96±0.192	4.00±0.000	4	0.062	-
Nonverbal Praxis	23.66±0.936	23.67±0.924	23.59±0.747	23.83±0.609	24	0.351	-

Note: Kruskal-Wallis test

Note: * = ≤ .05 and ** = ≤ .001.

The distribution of performance percentiles on the ABLA Battery according to different educational levels is presented in Table 4. Overall, the percentiles show a trend of poorer performance among participants with lower education levels (1 to 4 years), especially in the tasks of oral and written comprehension, reading aloud, and copying. In contrast, in the tasks of directed interview, repetition, naming, and automatic speech, the groups demonstrated more homogeneous patterns across different educational levels.

Table 4 Percentile norms for the Brief Language and Aphasia Assessment Battery (ABLA) for older adults, considering educational level

Tasks	Group by years of education	Percentiles		
		5	10	25
Directed Interview	1 to 4	16	18	18
	5 to 8	18	18	18
	9 to 11	18	18	18
	12 or more	17.7	18	18
Oral Comprehension – Words	1 to 4	3.5	4	5
	5 to 8	4	4	5
	9 to 11	4	4	5
	12 or more	4.85	5	5
Oral Comprehension – Sentences	1 to 4	2.5	4	5
	5 to 8	3.7	4	5
	9 to 11	2.2	4	5
	12 or more	3.85	5	5
Total Oral Comprehension	1 to 4	7	9	9.5
	5 to 8	8	9	10
	9 to 11	6.2	8.8	10
	12 or more	8.85	9.7	10.25
Written Comprehension – Words	1 to 4	1.5	3	5
	5 to 8	3.7	4	4.5
	9 to 11	4	4	5
	12 or more	4	5	5
Written Comprehension – Sentences	1 to 4	2	5	5
	5 to 8	3.1	5	5
	9 to 11	4	4.8	5
	12 or more	3	5	5.25
Total Written Comprehension	1 to 4	3.5	9	10
	5 to 8	7.1	9	10
	9 to 11	8.4	9.8	10
	12 or more	7.85	10	10.25
Copying	1 to 4	0	0	4
	5 to 8	3	4	4
	9 to 11	4	4	4
	12 or more	4	4	4
Writing to Dictation	1 to 4	0	0	3.5
	5 to 8	2.1	4	5
	9 to 11	3.2	5	6
	12 or more	1.7	4.7	6
Repetition – Words	1 to 4	5	5	7
	5 to 8	6	7	7.5
	9 to 11	5.2	7	7
	12 or more	6	6	7
Repetition – Sentences	1 to 4	4	4	4
	5 to 8	3	4	4
	9 to 11	4	4	4
	12 or more	4	4	4
Total Repetition	1 to 4	9	9	11
	5 to 8	9.7	11	11
	9 to 11	9.2	11	11
	12 or more	10	10	11
Reading Aloud – Words	1 to 4	2.5	7	8
	5 to 8	7	7.4	8

Table 4 Continued...

	9 to 11	6.4	7.8	8
	12 or more	8	8	8
Reading Aloud – Sentences	1 to 4	1.5	3	4
	5 to 8	3.7	4	4
	9 to 11	3.4	4	4
	12 or more	4	4	4
Total Reading Aloud	1 to 4	4	10	12
	5 to 8	10.7	11.4	12
	9 to 11	10.4	11	12
	12 or more	12	12	12
Naming – Nouns	1 to 4	16	16	18
	5 to 8	16	16.4	18
	9 to 11	16	16	18
	12 or more	15.85	16	18
Naming – Verbs	1 to 4	1	4	4
	5 to 8	2	4	5.5
	9 to 11	4	4.8	5
	12 or more	4	4	6
Total Naming	1 to 4	18	20	22
	5 to 8	19.4	20.8	23
	9 to 11	20.8	22	22
	12 or more	19.85	22	23
Automatic Speech – Form	1 to 4	3	4	4
	5 to 8	2.7	4	4
	9 to 11	3	3	4
	12 or more	3	4	4
Automatic Speech – Content	1 to 4	2	3	4
	5 to 8	3.7	4	4
	9 to 11	3.4	4	4
	12 or more	4	4	4
Nonverbal Praxis	1 a 4	21	22	24
	5 to 8	20.7	22.4	24
	9 to 11	22	22	23
	12 or more	21.85	23.7	24

Discussion

This study aimed to analyze the performance of older adults on the ABLA Battery and to establish norms for this population. The comparative analysis between the groups aged 60–75 years and over 76 years revealed that, for most tasks, there were no statistically significant differences. This finding suggests that, despite the natural changes associated with aging, the linguistic abilities assessed by the ABLA Battery remain relatively preserved.

It was observed that age has little influence on language performance compared to education level in studies using language batteries.[19,20] Semantic memory and linguistic abilities acquired throughout life tend to be maintained even into advanced ages,[5,21] which may explain the absence of differences in most tasks of this battery.

Age-related differences in language production are observed more frequently than those related to language comprehension. Older adults tend to have reduced idea density when speaking and writing, which may reflect age-related declines in processing efficiency.[6,22] However, in the present study, such differences were not observed, possibly due to the complexity of the tasks in the Battery or because the number of items in each task is smaller compared to other batteries.

The study by Bélanger and Lecours,[14] using the Alpha Battery, found significant age effects in tasks such as dictation, repetition, and naming, but when comparing young adults and older adults. In the present study, it was found that the total naming task showed significant differences between the age groups, with lower performance in the 60–75 years group. This result may be related to individual variations in lexical retrieval and the impact of cognitive factors on access to the mental lexicon, especially among younger older adults, who may exhibit greater sensitivity to the early aging of executive functions.[23] On the other hand, vocabulary knowledge increases throughout life, even into its later stages,[24] which may have contributed to the better performance of participants over 76 years of age (Table 2). Studies show that the naming task, in particular, is not affected by aging in terms of accuracy, but latency becomes greater when compared to young adults.[24,25] However, it is also necessary to consider whether this pattern may reflect a sampling or statistical artifact. Factors such as preserved cognitive status among the oldest participants, or sample size imbalances may have influenced the results, rather than indicating a genuine cognitive advantage in this age group.

The results indicate that there were no statistically significant differences in the naming of nouns and verbs when analyzed separately, both in the mean and in the median. This suggests that, in practice, there is no systematic decline in the naming of these grammatical classes with healthy aging.[26] However, the analysis of the total naming score revealed a statistically significant difference in the mean, while the median remained unchanged, indicating that this variation may have been influenced by individual differences among participants, rather than necessarily by a progressive age effect on language.[27]

The slight increase in the mean score for verb naming in the 76+ years group suggests that this grammatical class may have had a greater impact on the total score, which contradicts some theoretical expectations that point to verbs as being more susceptible to cognitive decline.[28] A possible explanation for this stability or improvement lies in the frequency of language use in daily life, since verbs are essential for communication and are associated with broad brain circuits, including motor and premotor areas.[29] This may make their activation more resistant to age-related cognitive changes, especially among individuals who remain engaged in social and intellectual interactions.

Finally, the absence of statistical differences in the median total naming score reinforces that naming ability remained relatively preserved in most participants, and that the significance found in the mean may have been driven by extreme values. This finding suggests that individual variation may play a more relevant role than a possible systematic decline in naming during healthy aging. Future studies could further explore this issue, considering variables such as educational level, cognitive reserve, and compensatory strategies, which may directly impact the preservation of linguistic abilities in older adults.[27]

The educational level proved to be fundamental for the participants' performance. Individuals with 1 to 4 years of education showed lower scores in tasks such as oral comprehension of sentences, copying, reading aloud, and written comprehension, while those with 12 or more years of education demonstrated greater proficiency. This study corroborates findings already observed in other studies and in other age groups; the influence of education was evident in oral and written comprehension tasks, which may be explained by greater exposure to written materials and the continuous practice of reading among individuals with higher educational levels.[30,31] Moreover, participants with lower educational levels exhibited greater variability in performance, indicating a higher susceptibility to linguistic difficulties that could be mistaken for pathological deficits if the educational level is not considered during assessment.[32]

Studies conducted with elderly Brazilian populations show that individuals with lower educational levels tend to have more difficulties in tasks such as naming, verbal fluency, and syntactic comprehension.[17,33,34] Furthermore, international research indicates that continuous exposure to reading and writing throughout life can serve as a protective factor against cognitive and linguistic decline.[31,35]

The norms for the Brief Language and Aphasia Assessment Battery (ABLA) were developed with an emphasis on educational level, as no significant performance differences were found among older adults of different age ranges in most tasks. However, it is crucial to recognize that each assessment battery is unique and requires application that considers the distinct age ranges, ensuring adequate and precise evaluation of linguistic abilities in older adults.

The results of this study reinforce the importance of considering educational level when interpreting linguistic tests in older adults. The absence of specific norms for different educational levels may lead to false positives for linguistic and cognitive impairments, especially among individuals with low levels of education.

Despite the contributions of this study to the understanding of linguistic performance in older adults using the ABLA Battery, some limitations must be considered. First, the sample consisted of 125 participants from the southern region of Brazil (Rio Grande do Sul), selected in a directed manner, which may limit the generalization of the results to populations with different sociocultural characteristics and educational levels. These factors can directly influence individuals' career paths and, consequently, their socioeconomic status. Additionally, the distribution across multiple age and education strata resulted in small subgroup sizes, which may reduce the statistical power of the analyses. Furthermore, the standardization was based exclusively on this specific sample and did not encompass the broader diversity of the Brazilian elderly population, potentially limiting the applicability of the results to other contexts. Finally, the cross-sectional design of the study restricts interpretations regarding longitudinal changes in language abilities across aging.

Another factor to highlight is the use of nonparametric statistical tests, which, although appropriate for small samples, may hinder the comparison of findings with studies that employ different statistical approaches. In view of these limitations, the need for future studies with larger and more diverse samples is emphasized, as well as longitudinal investigations that allow a deeper analysis of the impact of aging on linguistic functions.[36,37]

Conclusion

This study provided normative data for the Brief Language and Aphasia Assessment Battery (ABLA) for older adults, highlighting the influence of educational level on linguistic performance. The findings reinforce the importance of considering educational level when interpreting test results, contributing to more accurate evaluations.

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Conflicts of interest

The authors declare that there are no conflicts of interest.

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