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Adaptation of the Bilingual Aphasia Test to Lebanese Arabic

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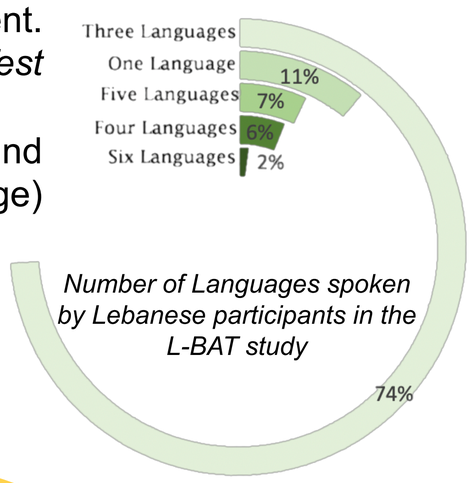
Science of Aphasia

Assessment of Bilingual Aphasia in Lebanon

- Lebanese Arabic (LA) is spoken in Lebanon along with other languages such as French (45%), English (40%), Kurdish (4.9%), Armenian (4.9%)…
- In addition to diglossic context, bilingual education is mandatory: 55.8% for French vs. 21.6% for English as a second language of Lebanese schools.
- Due to bilingualism, codeswitching (CS) is frequent and practiced in different settings (media, classrooms, etc.).

- No aphasia test exists for the Lebanese linguistic context: diagnosis of aphasia is limited to qualitative assessment. *This is why the short version of the Bilingual Aphasia Test was adapted to Lebanese Arabic (L-BAT).*
- The BAT is composed of 3 parts: A (linguistic background questionnaire, B (subtests for oral and written language) & C (translation skills).



Number of Languages spoken by Lebanese participants in the L-BAT study

Standardization Process: Method & Results

1. STIMULI SELECTION FOR THE L-BAT

Part A: 59 items. Add questions related to the use of standard Arabic and CS habits.

Part B: 21 subtests

- **Auditory discrimination:** consonantic structure & pronunciation. E.g.: [ʃal] & [ʃel] refer to the word "scarf".
- **Syntactic comprehension:** non-standard sentence (inexistent passive structure) → VSO sentence forms (e.g. عضت البسينة الكلب. = bit the.cat the.dog = the cat bit the dog).

2. STANDARDIZATION PROCEDURE 1

- 55 participants (43F)
- Mean age=40.27; Mean level of education= 15.45 years
- 80% of participants CS frequently

3. RESULTS FROM 1ST STUDY

- L-BAT success rate= 92,54%.
- Score are correlated with age and education level.
- Despite this relatively high success rate, multiple items needed re-evaluation, especially in auditory discrimation, syntactic comprehension, series.
- Changes were made for L-BAT.
- Stimuli for a French BAT (F-BAT) and Part C LA-French were chosen.

4. STANDARDIZATION PROCEDURE 2

- 28 participants (21F)
- Mean age=48.66; Mean level of education: 14.85 years
- 89% of participants CS frequently

5. RESULTS FROM 2ND STUDY

- **Success rates:** L-BAT (92.98%) > F-BAT (92.07%)
- **Effects** of age and education level for the L-BAT only
- **Item analyses:** low success rate for some items in the F-BAT, e.g. "goulot" (bottleneck) leading to major changes in the F-BAT.

Testing the L-BAT with a Lebanese-French Bilingual Patient With Aphasia

The patient

- Female, Right handed,
- Age 71, 14 years of education (accountant),
- Stroke in the LH (at 68),
- 3 years post onset at time of study
- LA-French Bilingual:
  - Native speaker of LA, acquired at home,
  - Early French bilingualism, acquired at school (education only in French)
  - Written language skills: French > LA.

Language assessment & intervention

- Initial assessment of LA: Qualitative approach,
- Non Fluent aphasia with anomia & phonological processing deficits,
- Compensation strategies: CS & phonological repair strategies,
- Language therapy for 2 years,
- Improvement in language skills; verbal deficits only increased with fatigue and stress.

Results from assessment with the BAT

- BAT's language questionnaires provided a clear image of her linguistic background.
- F-BAT (196/228) scores > L-BAT (207/291) → better recovery of French compared to LA.
- Errors at specific subtests involving phonological processing in both languages.
- CS in both directions in spontaneous speech.

Summary & Discussion

- The BAT is adaptable to LA (high success rate of 92.98%) despite the dialectal variation.
- Age and education level effect only for LA suggest an heterogeneity in French proficiency among participants, regardless of their sociodemographic characteristics.

- The case study indicates effectiveness of the L-BAT in establishing aphasia diagnosis and stresses the necessity to describe CS behavior in Lebanese population.
- Normative data for language assessment in Arabic-speaking countries is needed to allow speech-language practice improvement.

Ongoing work with a collaborative group of linguists and speech-language pathologists aims at:

- Adapting the French and English versions of the BAT to the Lebanese context,
- Obtaining normative data for these versions.

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*Charts and diagrams are made with www.showeet.com

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