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SPEECH AUDIOMETRY

Assessment of 20 disyllabic Albanian word lists for speech audiometry in normal hearing adults and children

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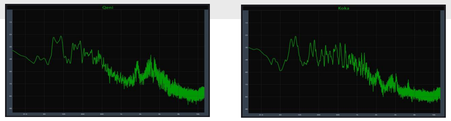
Abstract

We created 20 lists of ten disyllabic words in Albanian. They were evaluated in a normal-hearing adult and pediatric population. It is now possible to perform speech audiometry in Albanian.

Background



PHONETIC FEATURES OF THE ALBANIAN LANGUAGE

- 36 letters: 7 vowels and 29 consonants (36 phonemes).
- One letter corresponds to one phoneme.
- Most syllables are open
- 92% of words begin with a consonant, 67% of words end with a vowel
- The phoneme (vowel) "ë" is the most used as a final phoneme (29% of words), but also very rarely pronounced in everyday language.
- Consonants alone cannot form syllables, they are always accompanied by a vowel.
- The most used words are disyllabic.
- The average length of a word in spoken Albanian is 1.8 syllables / 4.0 phonemes.

Goals

- Create 20 lists of 10 disyllabic words in Albanian
- Evaluate these lists on a normal-hearing population : calculation of the gap between the Speech Recognition Threshold (SRT) and the Pure Tone Average (PTA) of each ear. This gap must be $\leqslant$ 7dB.

Materials and Methods

WORD SELECTION CRITERIA

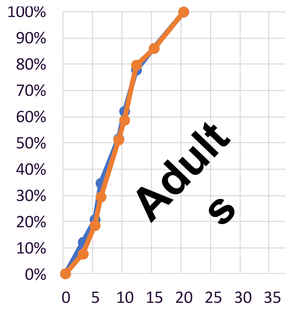
- familiar to children and adults
- auditory and grammaticaly homogenous
- phonetically different
- 4 or 5 phonemes
- "sponded": each syllable is pronounced with the same intensity
- each list contains almost all the phonemes of the Albanian language
- All words begin with a consonant
- The phoneme (vowel) "ë" will not be retained

EVALUATION

- Population: 83 adults and 86 children (5 to 14 years)
- Tonal audiometry
- Speech audiometry: 7 lists of 10 words for each ear. Descending method with a step of 3dB.

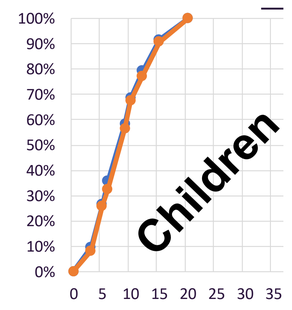
Results

	Liste 1	Liste 2	Liste 3	Liste 4	Liste 5	Liste 6	Liste 7	Liste 8	Liste 9	Liste 10
Adultes	1.PINCA	1.PRAGU	1.NJOLLA	1.LISTA	1.KASHTA	1.GRIMCA	1.TANKU	1.GJALPI	1.FSHATI	1.KOKA
	2.VËNDI	2.TULLA	2.DËNGU	2.PESHKU	2.SHKALLA	2.LËNDA	2.DJATHI	2.SUPI	2.SHTEGU	2.DERRI
	3.LËNGU	3.GISHTI	3.TRURI	3.PLAKU	3.KLLAPA	3.KISHA	3.BOTA	3.GJËZA	3.FILMI	3.RRUSHI
	4.KAFSHA	4.PESHKU	4.FORMA	4.MURI	4.PISHA	4.GJUHA	4.MOTRA	4.BRRYLI	4.SHTYPI	4.BREGU
	5.BARI	5.BUSTI	5.KLUBI	5.GJESTI	5.VEPRA	5.CUNGU	5.KOCKA	5.VRIMA	5.DELJA	5.DETI
	6.PYKA	6.KRIMBI	6.TREGU	6.QËNGJI	6.MUSHKA	6.GOZHDA	6.PREDHA	6.SHANSI	6.NGJYRA	6.SHESHI
	7.DHËMBI	7.PORTA	7.LAKRA	7.SHKËMBI	7.VARKA	7.ZËMRA	7.TRARI	7.SALLA	7.GRIPI	7.BANKA
	8.FUCIA	8.PLAGA	8.BRAZDA	8.GJOKSI	8.BIRRA	8.BRUMI	8.BLUZA	8.POSTA	8.SHERRI	8.VICI
	9.DEMI	9.TRUNGU	9.KUSHTI	9.SHULI	9.PLUMBI	9.PIRGU	9.VAJZA	9.SHEGA	9.KAFJA	9.SOFRA
	10.KOCKA	10.VESA	10.BLOZA	10.VESHKA	10.PUSHKA	10.BASTI	10.DUSHI	10.LISI	10.KYCI	10.XHAMI
Enfants	1.BALLI	1.VEZA	1.LAPSI	1.ÇANTA	1.PULA	1.GJYSHI	1.KRIPA	1.VESHI	1.SHKOLLA	1.LLAMPA
	2.SYRI	2.MAMI	2.SHOKU	2.TRENI	2.BUZA	2.LESHI	2.GJAKU	2.TRIKO	2.CIFTI	2.TORTA
	3.GJURI	3.DORA	3.THESI	3.KËNGA	3.MALI	3.MACJA	3.SHALA	3.LUMI	3.PULLA	3.SHKOPI
	4.LUFTA	4.BUKA	4.VULA	4.DERA	4.XHAJA	4.ZOGU	4.XHAXHI	4.QENI	4.FUSHA	4.FIKU
	5.GOMA	5.LECKA	5.GOJA	5.GJUMI	5.GJELI	5.BORA	5.THIKA	5.NATA	5.PIKA	5.SUPA
	6.KALI	6.BOJA	6.TRIMI	6.NOTI	6.BURRI	6.RRYPI	6.KRAHU	6.GRYKA	6.KATI	6.BARKU
	7.BABI	7.KOSI	7.LULJA	7.PLESHTI	7.GOTA	7.LUANI	7.TOKA	7.FORCA	7.PRINCI	7.SHARRA
	8.PUNA	8.LUGA	8.PASTA	8.RRUFA	8.VAPA	8.PJATA	8.DRITA	8.SHTETI	8.NËNA	8.XHEPI
	9.LIBRI	9.FURCA	9.TYMI	9.FERRA	9.KOLLA	9.DREKA	9.GURI	9.LODRA	9.MIKU	9.KËMBA
	10.DARKA	10.TOPI	10.RROTA	10.PEMA	10.DIELLI	10.GRURI	10.DIMRI	10.FSHESA	10.KOHA	10.PYLLI



SRT-PTA gap :
Adult : 2,0+/-3,3dB
Children : 1,9+/-3,6dB

Speech audiometry curves in adults and children.
Each point is the average percentage of intelligibility for each 3dB step within both normal-hearing groups.
- Right ear in blue, left ear in orange -



Conclusion

The speech audiometry curves obtained with our word lists are sigmoids that reach 100% at 20dB in a normal-hearing population. We can now perform speech audiometry in Albanian. Patients' curves can now be compared to the normal reference sigmoid. We still need to test these lists on patients with different types and grades of hearing impairment.

Références

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