Perceptual attrition of lexical tone among L1 Yoruba-speaking children in Canada

BUCLD39 * Friday Nov 7, 2014

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SUMMARY

This study investigates perceptual attrition of lexical tone in Yoruba (Niger-Congo). Two participant groups -- children and adults -- were all born into Yoruba-speaking homes, and now live in English-dominant Canada. We compare their accuracy in three tonal perception tasks: discrimination, identification and lexical recognition. Overall, child participants show poor tonal perception in all tasks, compared to adults: H tone is most easily perceived; tonal contours can be particularly hard. The best predictors of participants' accuracy include age and relative exposure to L1 Yoruba vs. L2 English.

BACKGROUND

Lexical Tone in Yoruba

- Niger-Congo family (Nigeria, Benin Republic, Togo...)
- Three lexical tones: High, Mid and Low

Three Perception Tasks

- nonce words used in discrimination and identification
- item order randomized within task
- CIY or 9 syllables
- ≠ numbers of each possible Yoruba vowel in target syllables
- materials pre-tested: identification by naive native speaker
- 4-10 training trials before each task, with feedback

METHODS

Participants

CHILDREN (N=21)
- ages 8-15 (mean=11.6)
- exposed to L1 Yoruba since birth
- living in Alberta
- hear Yoruba spoken daily
- do not ever (ever) speak it

ADULTS (N=7) (~ controls)
- ages 42-47 (mean=42.8)
- native L1 Yoruba speakers
- also L2 fluent English speakers
- parents of experimental children
- speak Yoruba daily at home

Bkgd: On L1 tonal perception

- L1-specific tonal perception achieved btwn 6-8mos (see e.g. Harrison 2000; Mattock et al 2008; also Top, 1978)

This Study: On L1 (tonal) attrition

- Phonological attrition driven by language-external and internal factors (e.g. Bulis and Gerfen, 2004)
- Very few tonal attrition studies
- Yeh and Lin (2013); Yeh and Lu (2012): - tonal attrition vs. language contact in Hakka - causes tonal errors across all tasks
- tonal perception less attuned to production

RESULTS

RESEARCH QUESTIONS

- How does perceptual attrition affect Yoruba lexical tone among children? Which perceptual tasks are most affected?
- Does the relative 'strength' of Yoruba tones predict rates of attrition? Are HL and LH contours particularly much affected?
- Which external factors -- age, exposure and environment -- most strongly predict attested children's successful tonal perception? Do these factors vary in their effects across tasks?

ACCOMPLISHING THESE QUESTIONS

- Assessing Language Input and Environmental Factors: ALEQ (Paradis, 2011)

- Lexical Minimal Pairs

- AX Discrimination

- ADULTS: better than 70%; child: worse than 50%

- Disyllabic

- Monosyllabic (N=24)

- Discrimination

- Disyllabic (N=24)

- Discrimination

- Child: 90% correct

- Adult: 70% correct

- Syllable: same-tone items: best: H, L: H = L (mean: 55%)

- Different-tone items: best: H vs. L(71%), M vs. L(64%)

- Overall Accuracy

- Better than Chance Scores

- Lexical Predictors of Accuracy

- ALEQ Predictors of Accuracy

- linear mixed effect (lmer) models
- fixed effects: item and participant
- tests for collinearity of predictors

- CONCLUSIONS

- On the 'strength' of Yoruba tones in attrition -- H easiest? M hardest?

- On tonal perception and children's L1 attrition in a L2 non-tonal environment

- attriting children's tonal perception is greatly reduced (though tonal short term memory is not?)
- exposure to spoken L1 at home not sufficient to support tonal maintenance
- difficult tasks even for adults: are they also attested compared to monolingual Yoruba adults?

ACKNOWLEDGMENTS

- members of the University of Alberta Phonology Lab
- our anonymous reviewers
- all the families who contributed their time and data, especially Mrs. Akinlaja
- partial funding provided to the first author: University of Manitoba's USA Travel Grant and Boston University's Paula Maisuk Student Travel Award.

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