

The Effect of Instructed Second Language Learning on the Acoustic Properties of First Language Speech

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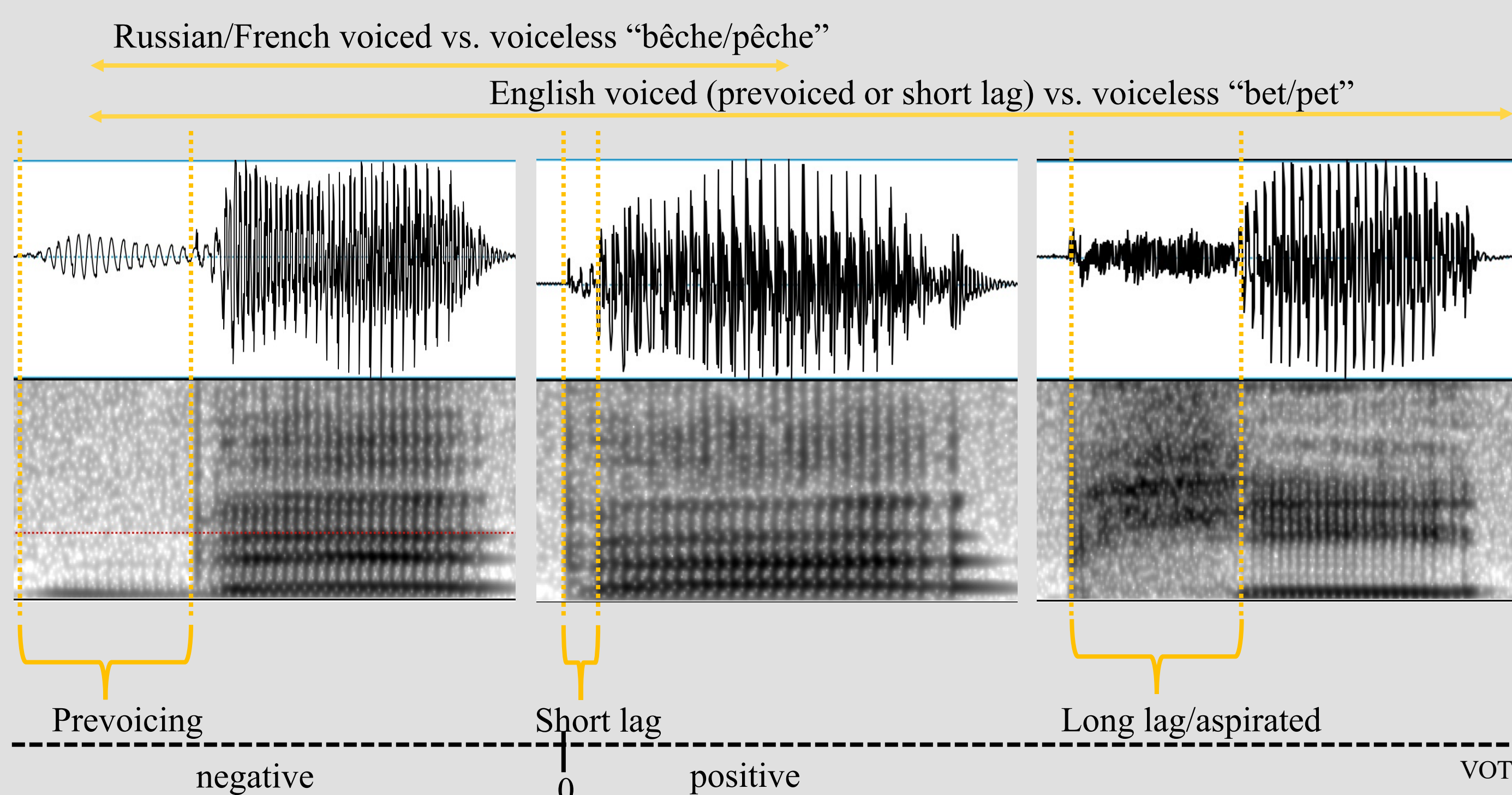


BACKGROUND

- ❖ L2 experience affects L1 speech in **long-term immigrants** (Flege, 1987) and **beginner learners** in immersion environment (Chang, 2013)
- ❖ Can traditional **instructed L2 learning** have such an effect?
- ❖ There is some evidence that it can (Herd et al., 2015; Huffman & Schuhmann, 2015; Nagle, 2019)
- ❖ The present study investigates the issue, comparing two populations: American learners of **Russian** and **French**

METHODS

- ❖ Focus: realization of voicing in L1 given the dissimilar phonetics of voicing in L2



- ❖ 20 learners of Russian (+18 control participants) and 23 learners of French (+30 control participants) performed a word reading task in L1 and L2
- ❖ Initial and final voicing assessed
- ❖ Measurements: VOT (initial stops, e.g. *cap-gap*); preceding vowel duration, closure duration, voicing during closure duration (final obstruents, e.g. *tap-tab*)

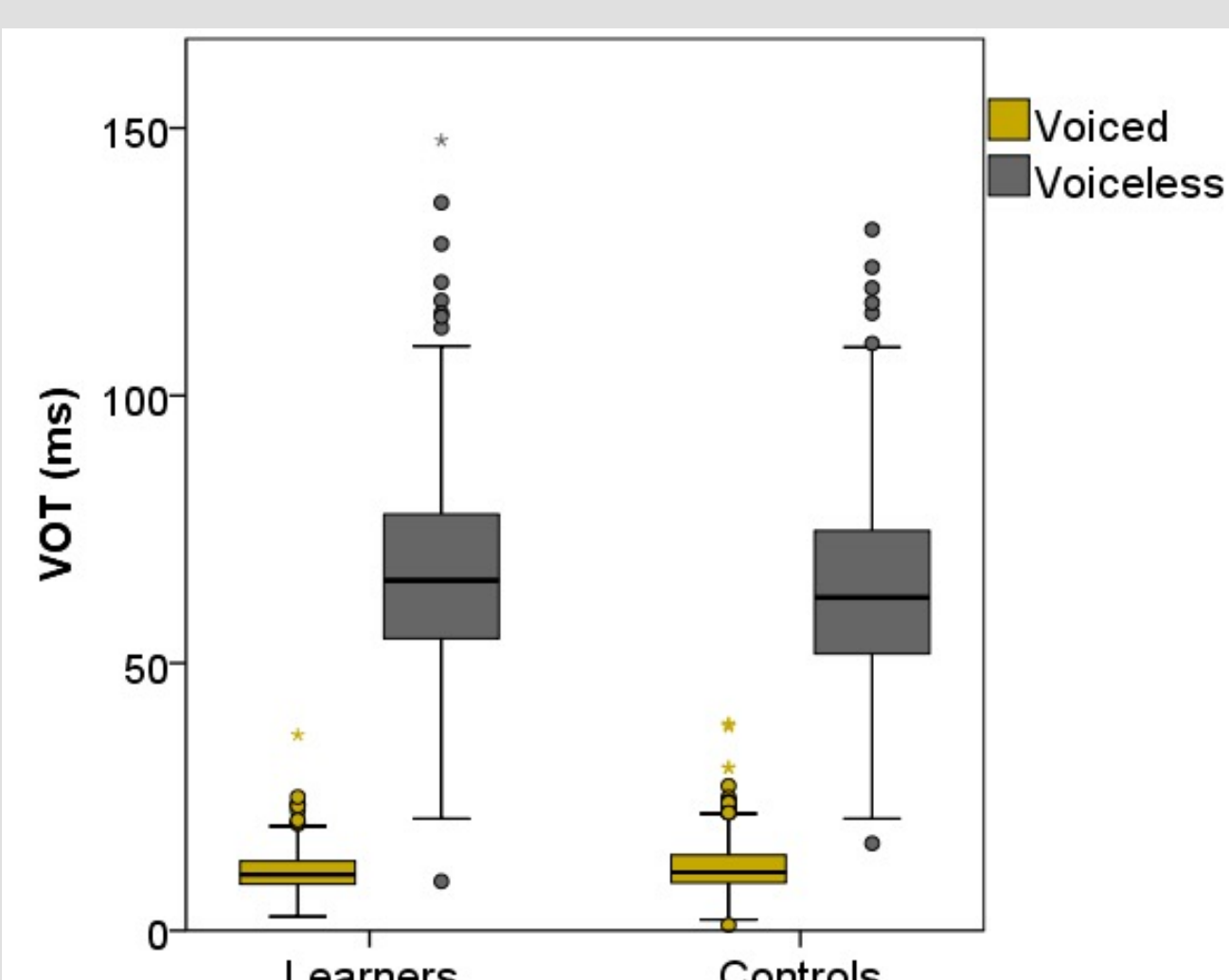
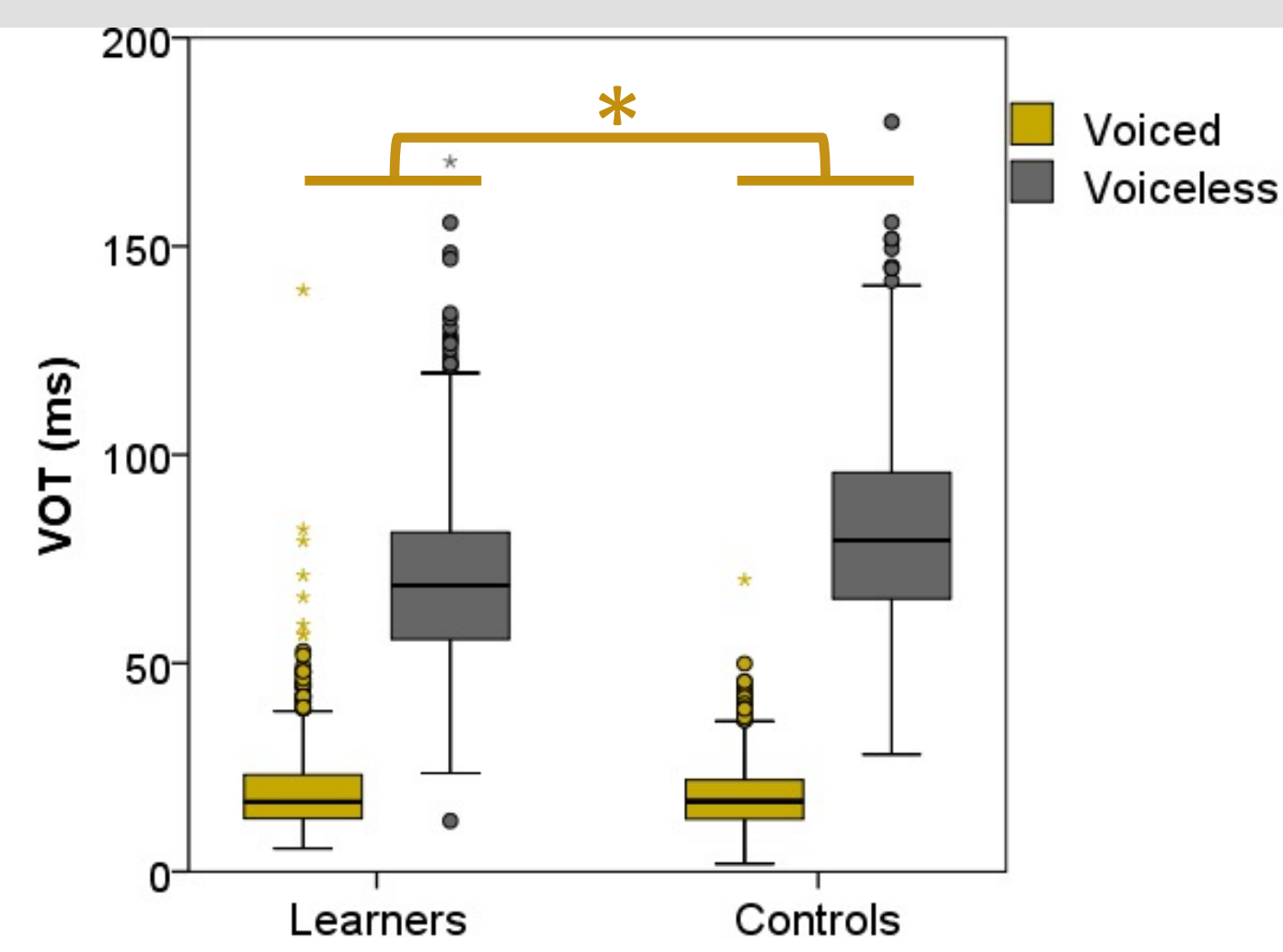
RESULTS • INITIAL POSITIVE VOT

LEARNERS OF RUSSIAN

LEARNERS OF FRENCH

- ❖ A significant *Group x Voicing* interaction
- ❖ A significant effect of *Group*
- ❖ Shorter voiceless VOT in learner than in controls → convergence with Russian

- ❖ No significant effects or interactions beyond the effect of *Voicing*



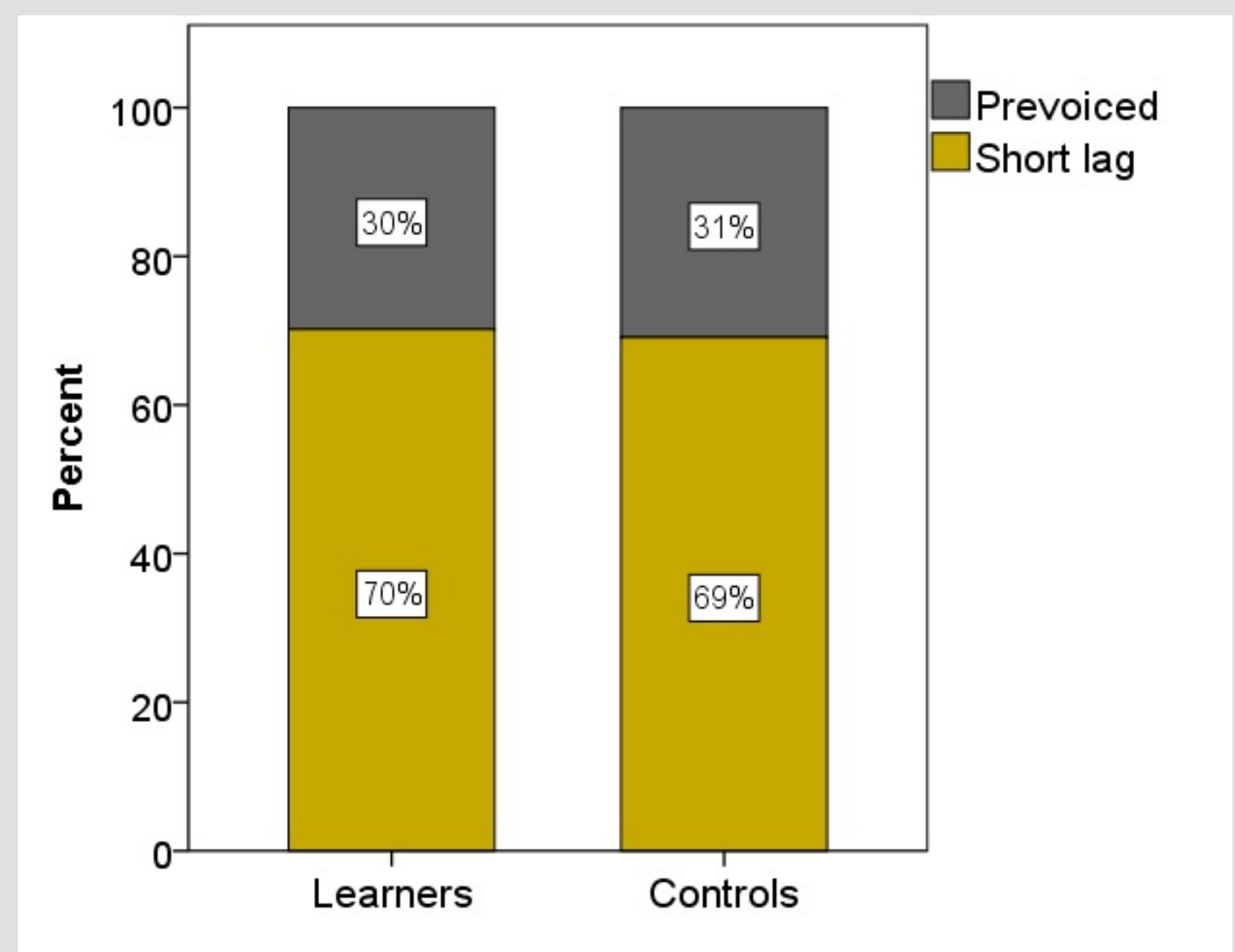
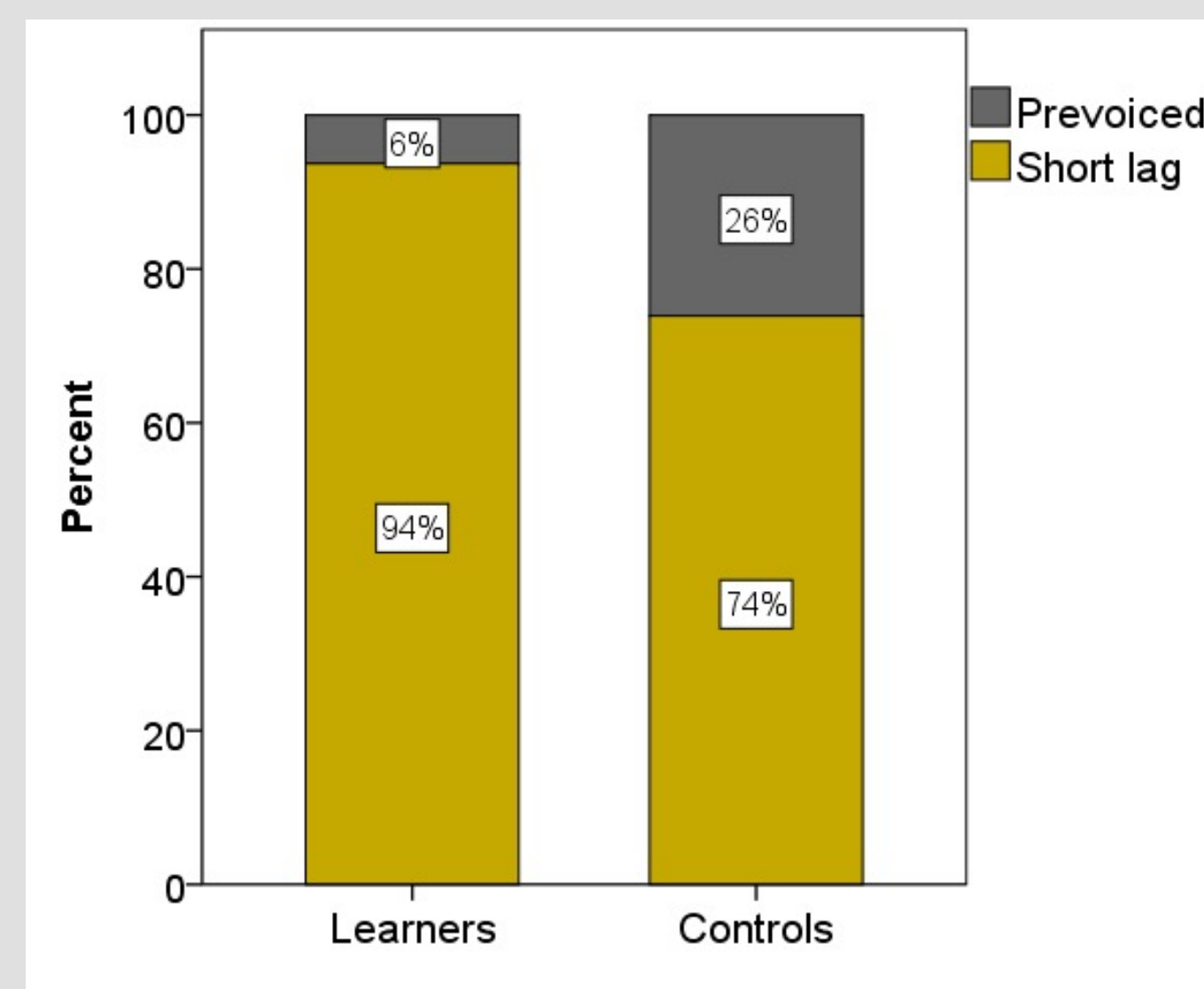
RESULTS • INITIAL NEGATIVE VOT

- ❖ No significant effects on duration of prevoicing
- ❖ A significant effect of *Group* on frequency of prevoicing
- ❖ Fewer prevoiced stops in learners than in controls → divergence with Russian
- ❖ No significant effects of *Group* on frequency of prevoicing or duration of prevoicing

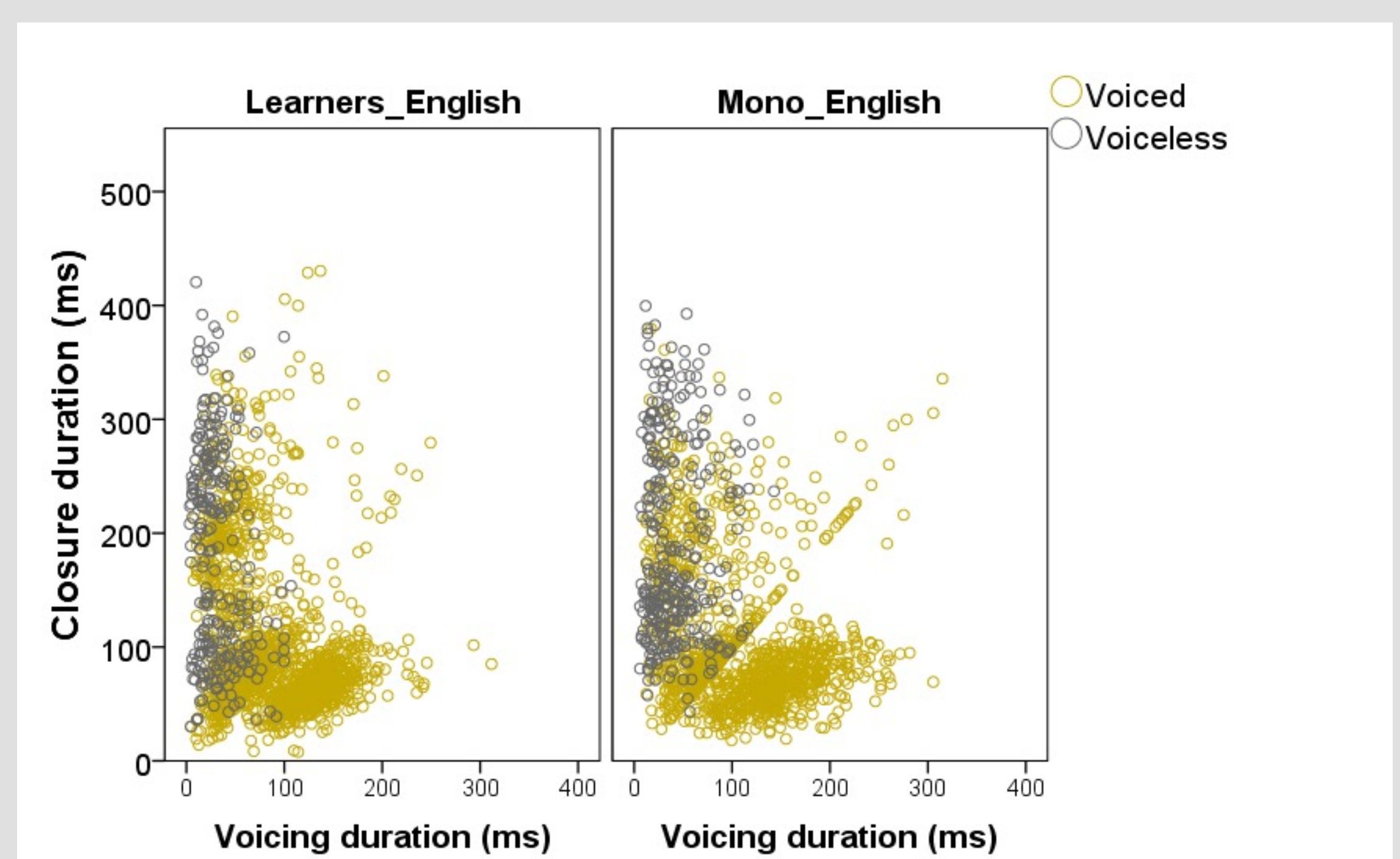
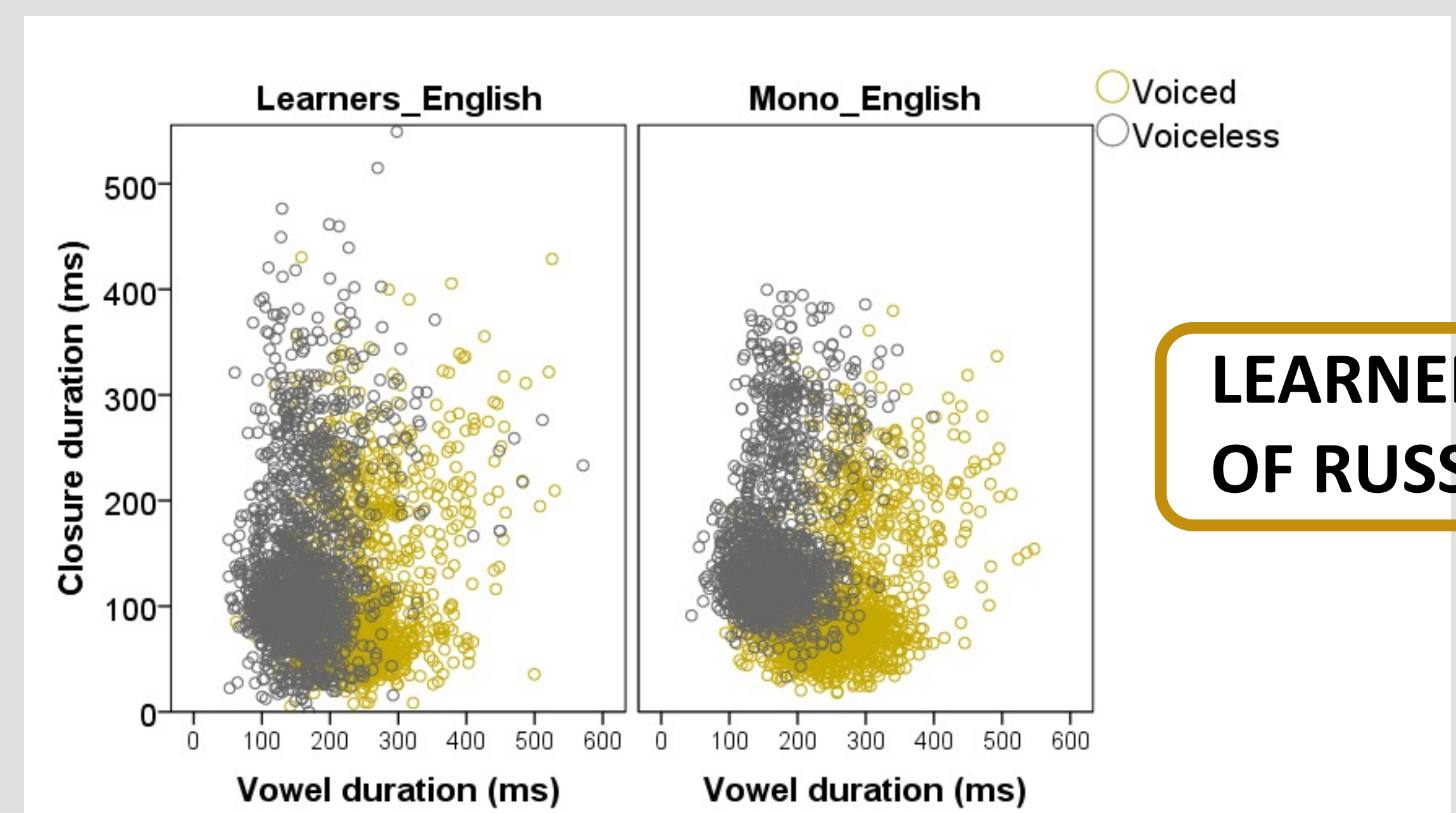
RESULTS • INITIAL NEGATIVE VOT

RUSSIAN

FRENCH



RESULTS • FINAL OBSTRUENTS



- ❖ A significant *Group x Voicing* interaction for *Vowel duration, Closure/Frication duration* and *Voicing duration*
- ❖ Learners of Russian produce less difference between final voiced and voiceless obstruents → influence of Russian final devoicing

CONCLUSIONS AND DISCUSSION

- ❖ Learners of Russian demonstrate clear effects of L2 on the acoustics of L1, mostly in the direction of convergence.
- ❖ Learners of French failed to demonstrate comparable effects. Why such marked difference between such similar population of learners?
- ❖ Hypothesis 1: Native language status of the instructor
 - ❖ All Russian but not French instructors were native speakers
 - ❖ Exposure to authentically native L2 is necessary to precipitate L1 drift
- ❖ Hypothesis 2: Learners' motivation, attitudes and cognitive characteristics
 - ❖ Russian is a complex language and a non-typical choice in college L2 learning
 - ❖ Learners are a self-selected group of highly-motivated, positively predisposed, and better prepared students