Perception of consonant length is universal: Evidence from American and Russian listeners
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**BACKGROUND**

Russian geminates
- Post-stress
- Intervocalic
- Word-initial geminates

have an earlier perceptual boundary than
- Non-stress adjacent
- Preconsonantal
- Word-final geminates

**Hypothesis**

Earlier perceptual boundary provides articulatory and perceptual advantage for
geminate production and discrimination:
- Smaller articulatory effort needed to reach the geminate status
- Less danger of perceptually driven neutralization

May explain a cross-linguistic preference for these types of geminates

**Research question**

Do relative positions of perceptual boundaries for these types of geminates show the same asymmetries across languages?
In particular in English – a language without phonemic consonant length.

**RESULTS**

**Russian listeners**

- Significant effect of Stress
  - Post-stress < Non-adjacent < Pre-stress

- Significant effect of Position
  - Initial < Final

**American listeners**

- Significant effect of Stress
  - Post-stress < Pre-stress < Non-adjacent

- Significant effect of Position
  - Initial < Final

**METHODS**

**Stimuli**
- Non-words recorded by a native speaker of Russian
- Range of durations: 50 - 410ms in 20ms steps (19 variations of each item)
- 437 stimuli

**Procedure**
- Randomized stimuli
- 10-item practice trial
- 2 blocks, 5 min optional break
- 2.5 sec ISI
- Task: identify long or short consonant

**Participants**
- 24 Russian listeners
- 31 American listeners

**CONCLUSIONS**

Patterns of responses are very similar for both Russian and American listeners:
Earlier perceptual boundary for post-stress, intervocalic, and word-initial geminates.

Perception of the contrast between geminates and singletons has a linguistically universal basis.

Observed shift in perceptual boundary is responsible for cross-linguistic dominance of intervocalic and post-stress geminates.