

Bianca Godinez<sup>1</sup>, Megan Walsh<sup>2</sup>, Sarah Garcia<sup>2</sup>, Araceli Carmona<sup>1</sup>, & Nancy Hall<sup>1</sup>  
 1= Dept. of Linguistics; 2 = Dept. of Speech Language Pathology

## What is American /r/-dissimilation?

Americans tend to drop an /r/ in words containing two /r/s

su(r)prise be(r)serk cate(r)pillar pa(r)ticular

## What causes dissimilation?

### Traditional views

Repeated articulations are difficult to produce

Repeated articulations are difficult to mentally serialize

### Perceptual hypercorrection theory

Ohala 1993: Listeners perceptually hypercorrect for coarticulation

Sounds like /r/ coarticulate over several syllables (Heid & Hawkins 2000), creating ambiguity as to how many /r/s are present

## What is our goal?

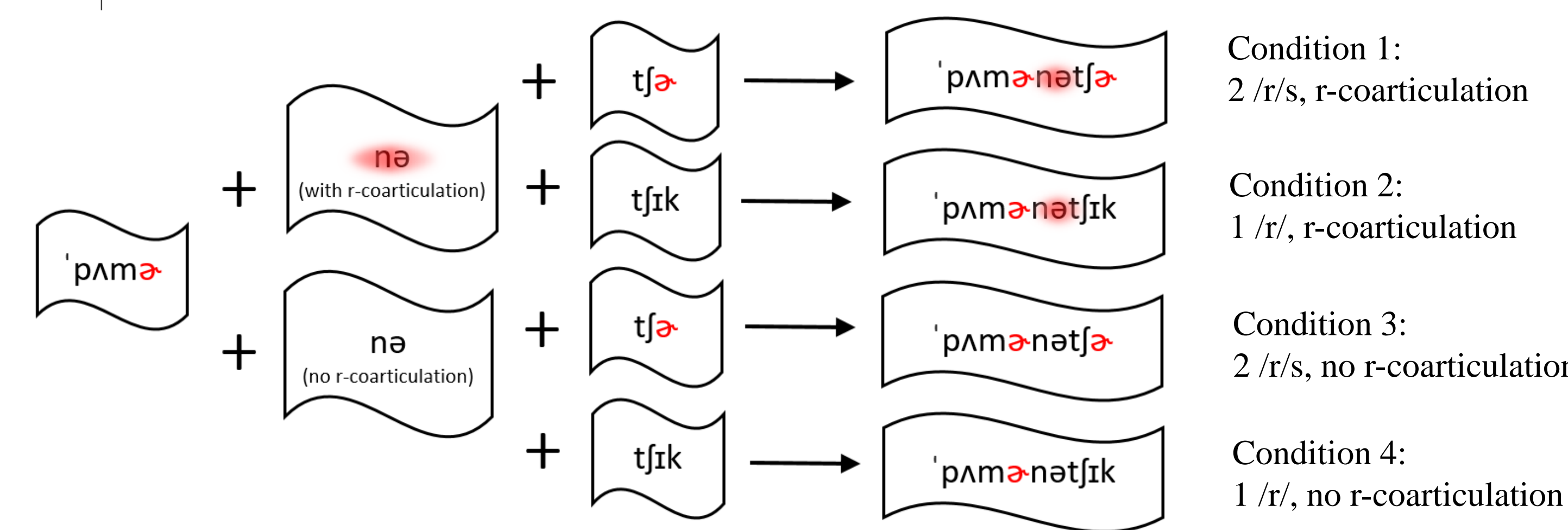
We test whether American /r/-dropping can be produced in a perceptual task, through manipulating presence / absence of a later 'trigger /r/' and intervening /r/-coarticulation

Prediction: /r/-coarticulation and presence of a later /r/ will both contribute to perceptual masking of earlier /r/

## Stimuli

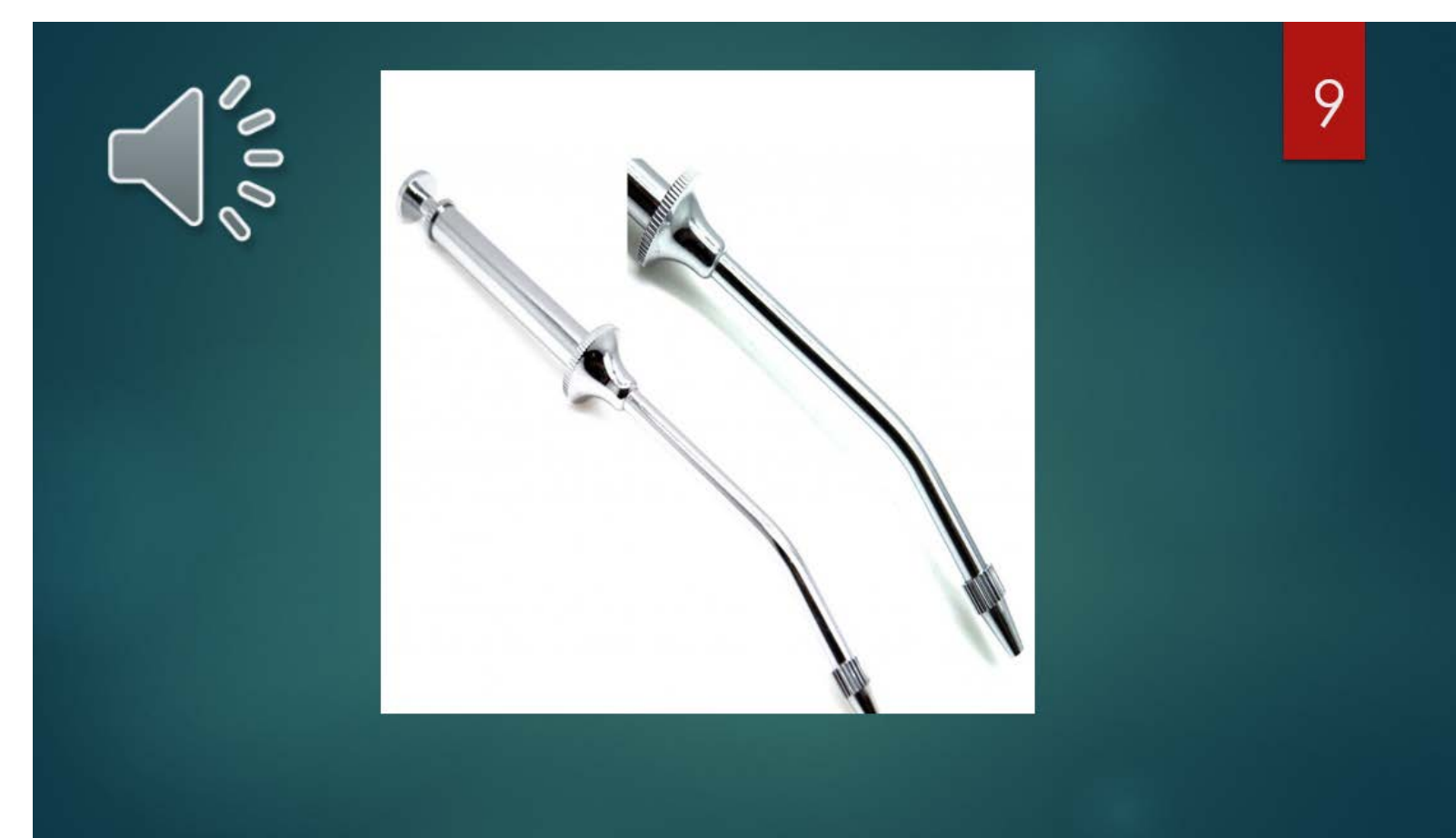
34 sets of 4 nonce words, spliced from multiple natural productions  
 Red shading = presence of r-coarticulation  
 Question: does later r, and/or r-coarticulation, affect perception of first r?

Target /r/ Middle Trigger /r/ or Control (no /r/)



## Participants and procedure

60 English speakers typed nonce words (4 conditions above counterbalanced across 4 lists), heard in frame sentences accompanied with pictures.



Audio: Pass me the ['pʌmənɪtʃə]

### Typed responses

- pubnisher
- pubernicher
- Pummernicher
- Pumerniture
- pummernetur
- pummernitscher
- pummernitcher
- puminacher
- pominerture
- parmeniture
- pumernitcher
- pumernitcher
- puniniture
- pummernicher
- Pumernicher

Responses coded for dropping of target /r/

## Predictions and findings

We predicted that a later /r/ should perceptually mask an earlier /r/, especially when there is /r/-coarticulation on intervening segments.

Target /r/ did drop more before trigger /r/, but only when intervening /r/-coarticulation was absent (contra prediction).

|                         | Condition                   | # Target /r/ drops |
|-------------------------|-----------------------------|--------------------|
| most dropping predicted | 2 /r/s, r-coarticulation    | 8                  |
|                         | 1 /r/, r-coarticulation     | 8                  |
| most dropping found     | 2 /r/s, no r-coarticulation | 20                 |
|                         | 1 /r/, no r-coarticulation  | 6                  |

## Discussion

- Results are compatible with the perceptual hypercorrection theory: listeners were more likely to miss an /r/ when another /r/ was present.
- Results support the importance of /r/-coarticulation on neighboring syllables for perception of American /r/.
- However, presence of /r/-coarticulation does not affect dissimilation in the way we expected. Perhaps what's important is that listeners *expect* it to be present: when actual coarticulation is weak, listeners are more likely to interpret the first /r/ as the expected coarticulation.

## References

- Heid, S., & Hawkins, S. (2000). An acoustical study of long-domain/r/and/l/coarticulation. In *Proceedings of the 5th seminar on speech production: Models and data* (pp. 77-80). Kloster Seeon Germany.
- Ohala, J. J. (1993). The phonetics of sound change. In C. Jones (ed.), *Historical Linguistics: Problems and Perspectives*. London: Longman Academic, 237-278.

## Acknowledgements

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