

The origin of the articulatory effect on speech perception

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INTRODUCTION

The execution of speech-related lip movements influences the perception of lip-related speech sounds¹. Why?

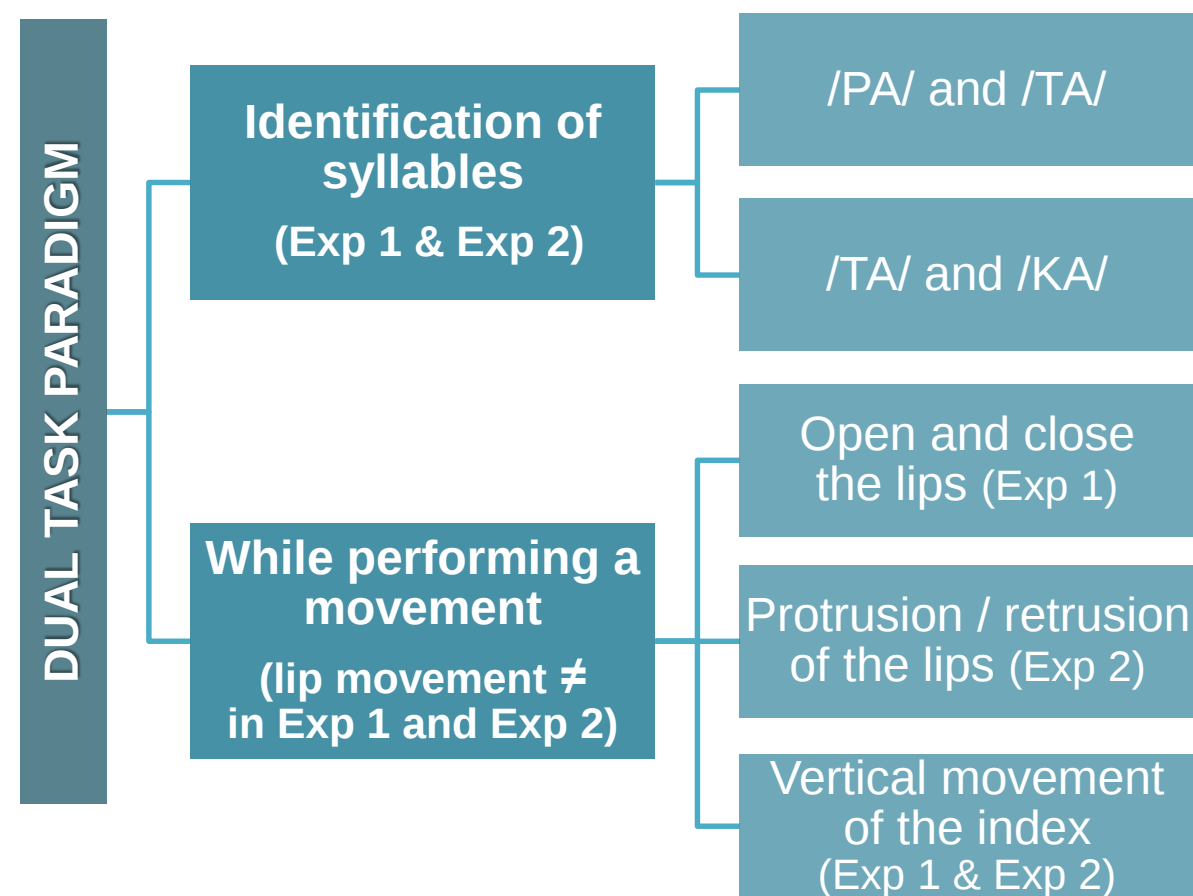
Motor theory of speech perception (MTSP): because articulatory resources are depleted.²

Phonological interpretation (PI): because this activates phonological representations.³

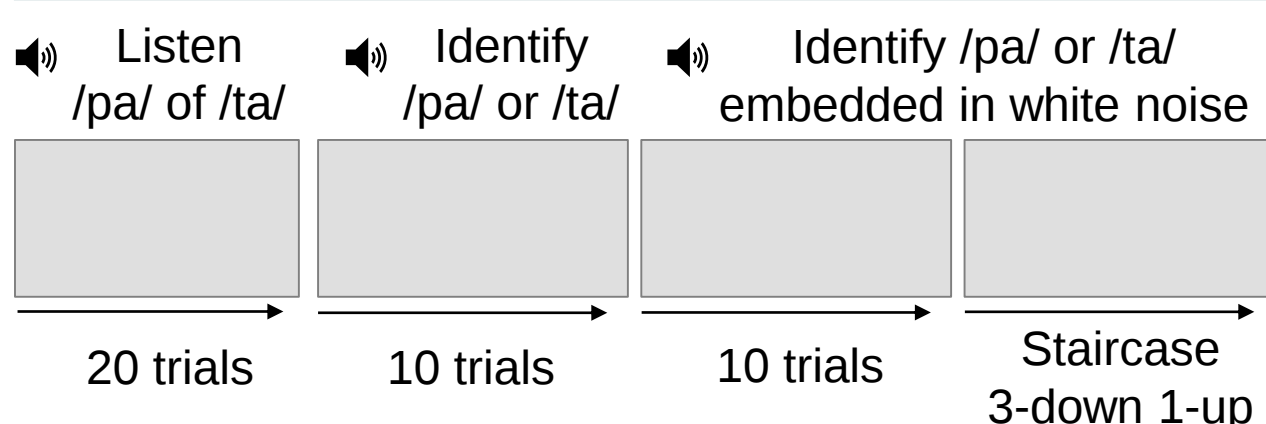
METHOD

PROCEDURE

- Exp 1: 23 participants
- Exp 2: 25 participants



IDENTIFICATION TASK



- White noise (constant level of 55 dB)
- Staircase: the volume of the syllables decreases to obtain the participants' identification thresholds (IT).

PREDICTIONS

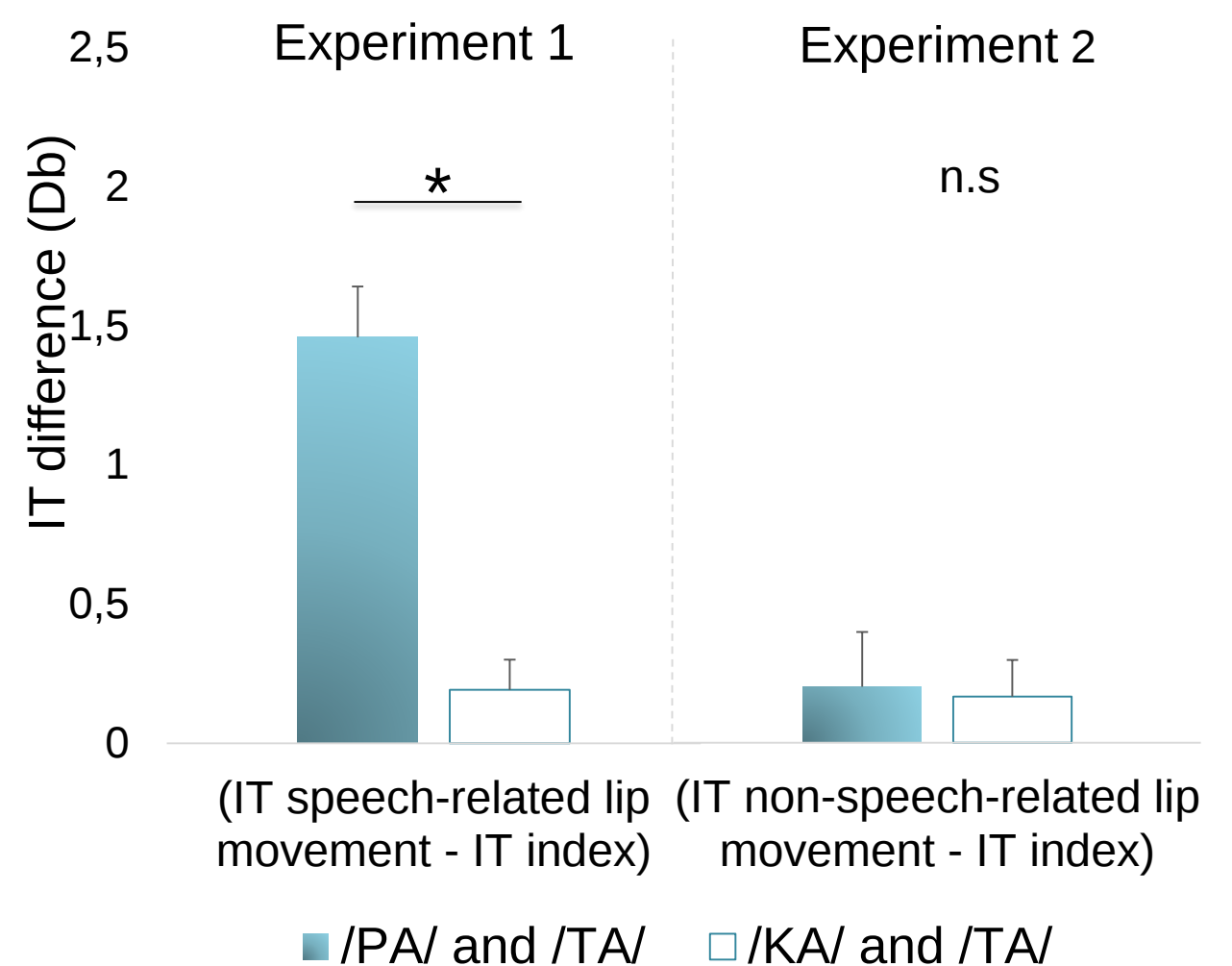
We should see an interaction effect between the lip movement and the pair of syllables /PA/ and /TA/.

If the MTSP is true: we should observe this interaction in both experiments.

If the PI is true: we should observe this interaction in Experiment 1 only.

RESULTS

- All the statistical analysis were performed on the identification threshold (IT).



- Paired *t*-test: significant difference in Exp 1 only.
- Bayesian paired *t*-test (with *Cauchy scale* at .707):

H1: IT lip minus IT finger movements is larger for /PA/ and /TA/ than /TA/ and /KA/.

	EXP 1	EXP 2
BF10	44.376	0.142

DISCUSSION

Our results suggest that the influence of speech-related lip movements on speech perception is a by-product of the activation of phonological representations.³

These findings invite a reinterpretation of previous results claimed to support the MTSP.

REFERENCES

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