

Sabine Gosselke Berthelsen

Conclusion

- Second language (L2) learners do not spontaneously use **unfamiliar / rare** prosodic features as morphosyntax predictors
- Even highly proficient L2 learners do not show slowed processing (RTs) after a prediction mismatch for cross-linguistically rare predictive cues (Danish laryngealisation)
- However, rather than predicting morphological structure, they can use the prosodic cue to make grammatical decisions

Background

Prosody-morphology interaction

Prosody on the word stem can change during word formation:

e.g., Spanish stress:
tomo 'I take' vs *tomé* 'I took'

→ The prosody on the word stem becomes a predictor for possible endings.

In Danish, laryngealisation of the word stem changes.

Previous research

Evidence for morphology prediction from response times, eye-tracking, and ERPs:

Native speakers

- use prosody to predict morphology

Second language learners

- *no* morphology prediction for low proficiency learners

- *some* morphology prediction for high(er) proficiency learners

	Word stem	Correct ending	Incorrect ending
laryngealised	bold /pɔlt/ 'ball'	-en '-DEF'	?-e '-PL'
non-laryng.	bold /pɔlt/ 'ball-'	-e '-PL'	?-en '-DEF'

Table 1: Interaction between prosody (laryngealisation, so-called *stød*) and morphology in Danish. *Stød* can occur on a long sonorant rhyme but is conditioned by morphology.

Present study

Online response time study: Gorilla Experiment Builder

Participants:

40 Danish L1s and 40 German-L1 learners of L2-Danish:
10 beginner / 10 lower interm. / 10 (9) upper interm. / 10 advanced

Mismatch paradigm: Prosody as (un)successful suffix predictor (Table 1)

Stimuli:

- Recordings of 13 target nouns (X); Cross-splicing for mismatches

Det var vist X Brit sagde. 'It must have been X Brit said.'

Task: Listen and respond:

Data: Response times (RTs)

Pre-processing:

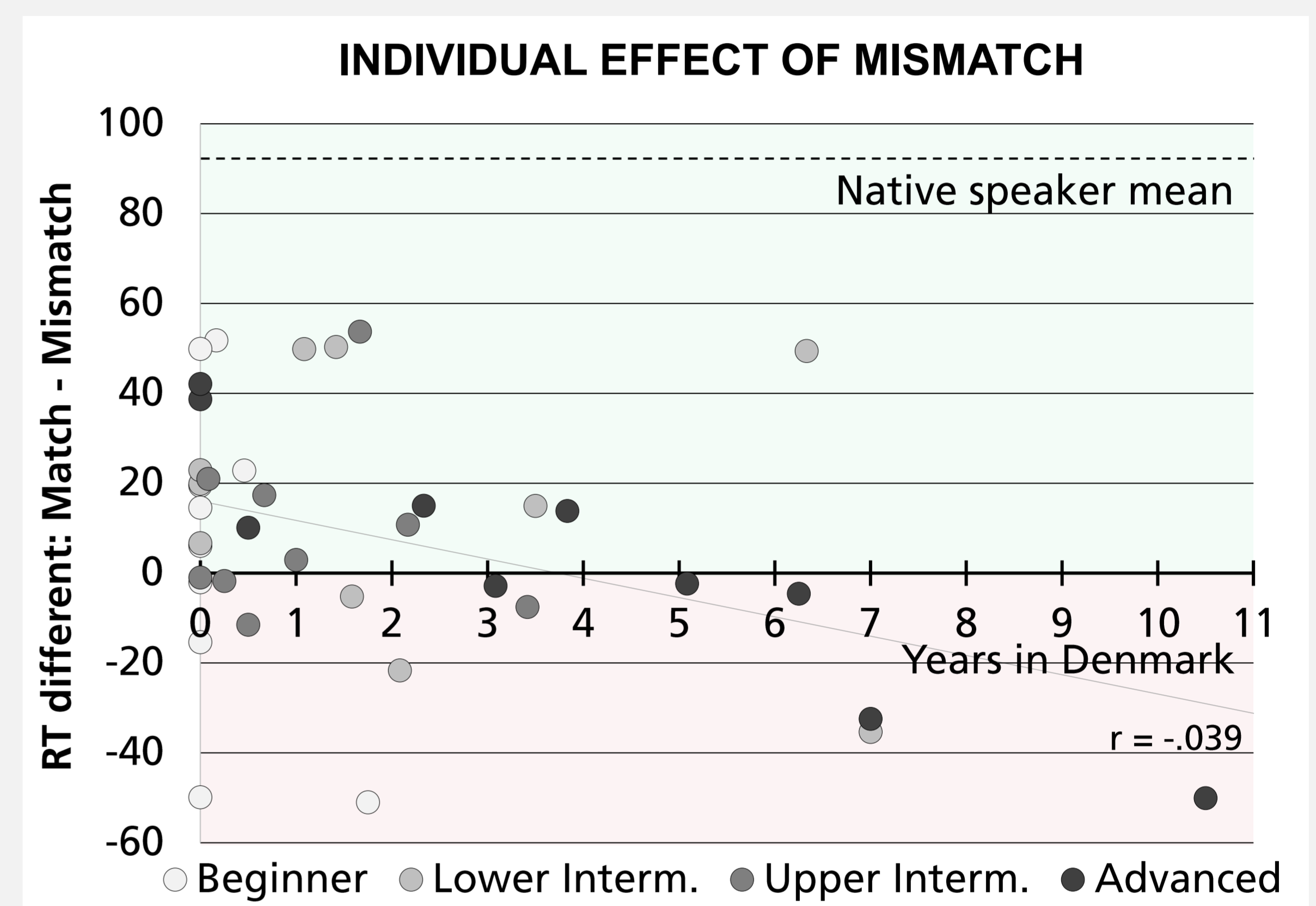
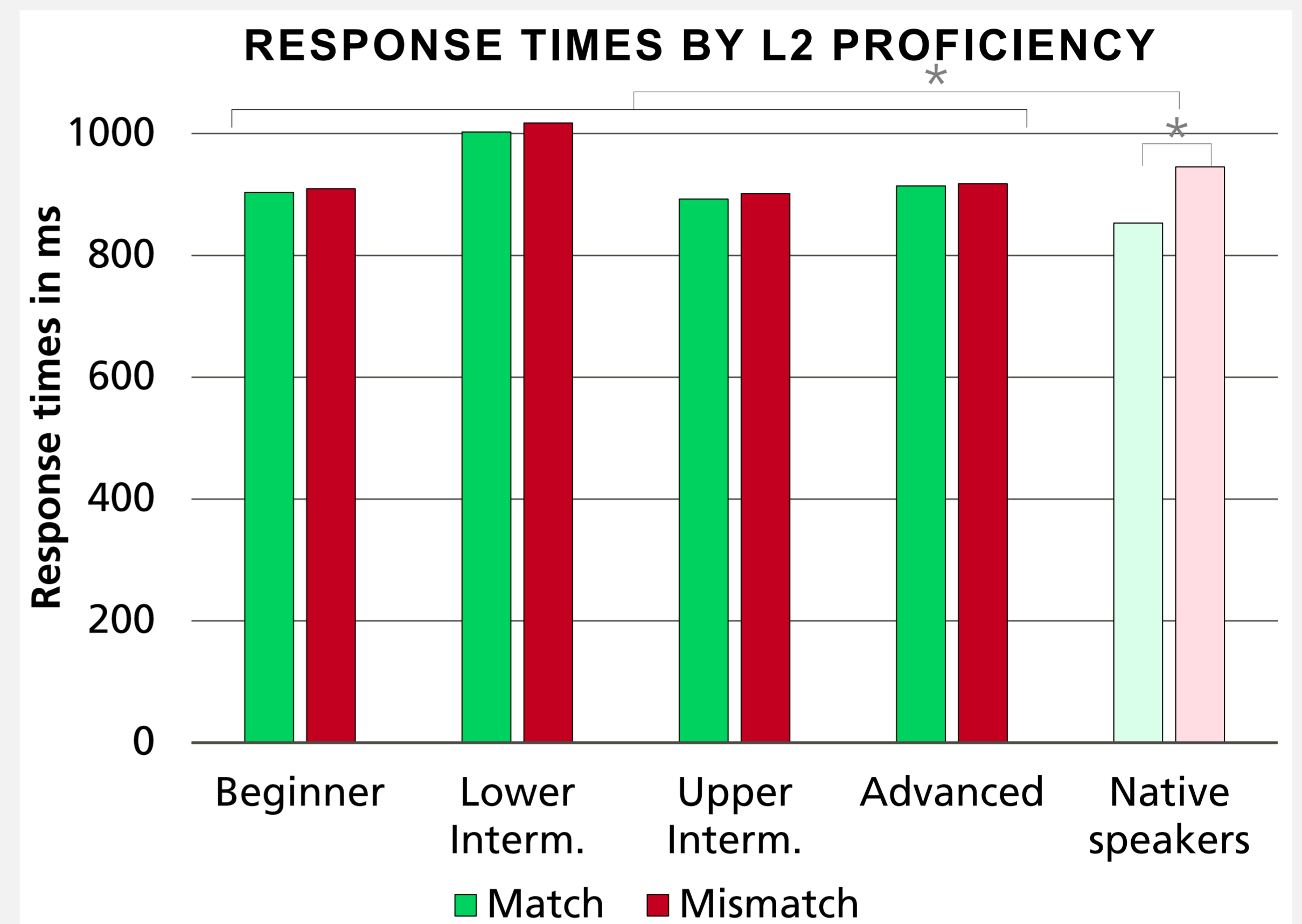
- 1) timed out responses (3000 ms after word onset; N = 123/9600)
- 2) premature responses (>200 ms after rhyme onset; N = 79/9600)
- 3) logarithmic transformation

Analysis:

RTs - LMMs: Match * Native Language // Level of Danish with random slopes and intercepts for Number, Noun Class, Participant, and random intercepts for Item and Trial Number

Optimal model selection: MuMIn::dredge

ACC - GLMMs: Match * Noun Class with random intercepts for Number, Participant, and Item



Results

Optimal model RTs L1 & L2

Match * Native Language (NL): AICc = -26852; w = 1.00

Intercept 2.96 (SE = 0.014) t = 217.3, p < .001 ***
Match 0.02 (SE = 0.004) t = 5.7, p = .093
NL 0.02 (SE = 0.016) t = 1.0, p = .309
Match * NL -0.04 (SE = 0.004) t = -10.7, p < .001 ***

Optimal model RTs L2

Intercept only: AICc = -12005, w = 0.99

Intercept 2.97 (SE = 0.021) t = 144.1, p < .001 ***

Optimal model ACC L2

Match * Noun Class (NC) AICc = 8803, w = 1.00

Intercept 1.33 (SE = 0.164) z = 8.1, p < .001 ***
Match -0.20 (SE = 0.054) z = -3.7, p < .001 ***
NC -1.00 (SE = 0.117) z = -8.5, p < .001 ***
Match * NC -0.44 (SE = 0.109) z = -4.1, p < .001 ***

