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### "Would you like RED or WHITE wine? - I would like red WINE"

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# NATIVE SPEAKER PERCEPTION OF (NON-)NATIVE INTONATION PATTERNS

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## Introduction

### GOAL OF OUR STUDY

To assess whether **prosodic transfer effects** found in L2 production, also affect **intelligibility** and **naturalness** in perception by L1 speakers.

### FOCUS AND INTONATION IN L1 DUTCH & SPANISH

Dutch	New or contrasting information is generally ACCENTED and given information is deaccented (Fasier, 2006; Swerts et al., 2002). Ex. De rode bezem en de [GROENE] <sub>F</sub> bezem 'The red broom and the GREEN broom'
Spanish	The ACCENT is usually placed at the end of the intonational phrase, irrespective of information status (Face, 2002; Hualde, 2005). Ex. El globo verde y el [guate] <sub>F</sub> VERDE 'The balloon green and the glove GREEN'

### RESEARCH QUESTIONS

RQ1 Does speech by Spanish learners of Dutch show **intonational transfer effects** from the L1, and do these diminish as the proficiency level of the learner increases?

→ **YES**, see Van Maastricht, Krahmer & Swerts (2014)

RQ2 Since L2 speakers make less adequate use of pitch accent distributions than L1 speakers do, do Dutch natives also have more difficulty **processing** the speech of Spanish learners of Dutch than the speech of Dutch L1 speakers?

RQ3 If so, does the **proficiency level** of the L2 speakers influence the **perception process**, as is the case in the production of pitch accents?

## Perception test I - Reaction Times

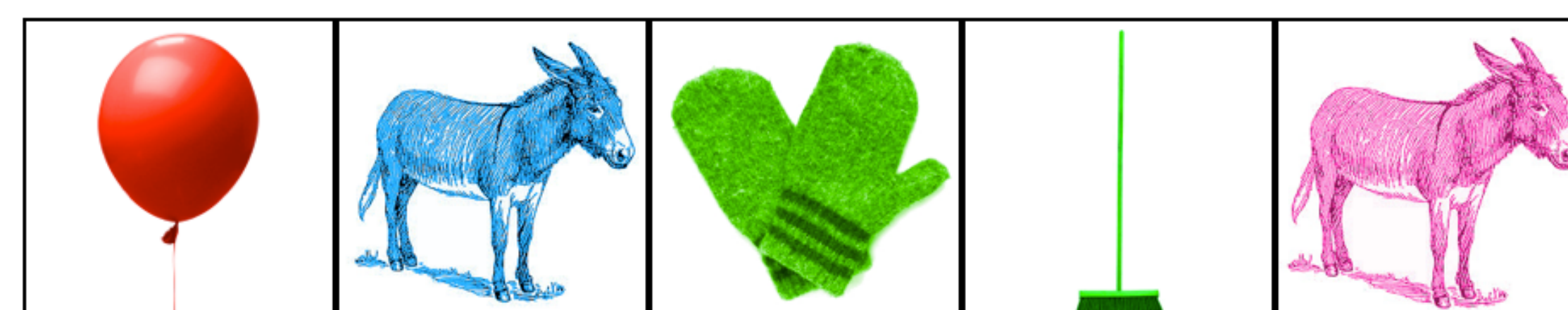
**PARTICIPANTS (N=41):** Dutch natives, who do not speak Spanish

**REACTION TIMES TASK:** 'Does the fourth utterance that you hear correspond to the fourth picture on the screen?'

**2 FOCUS CONDITIONS:** Focus on the noun or focus on the adjective.

**MEASURE:** Reaction time in ms., from the onset of the fourth utterance, and the appearance of the fourth picture.

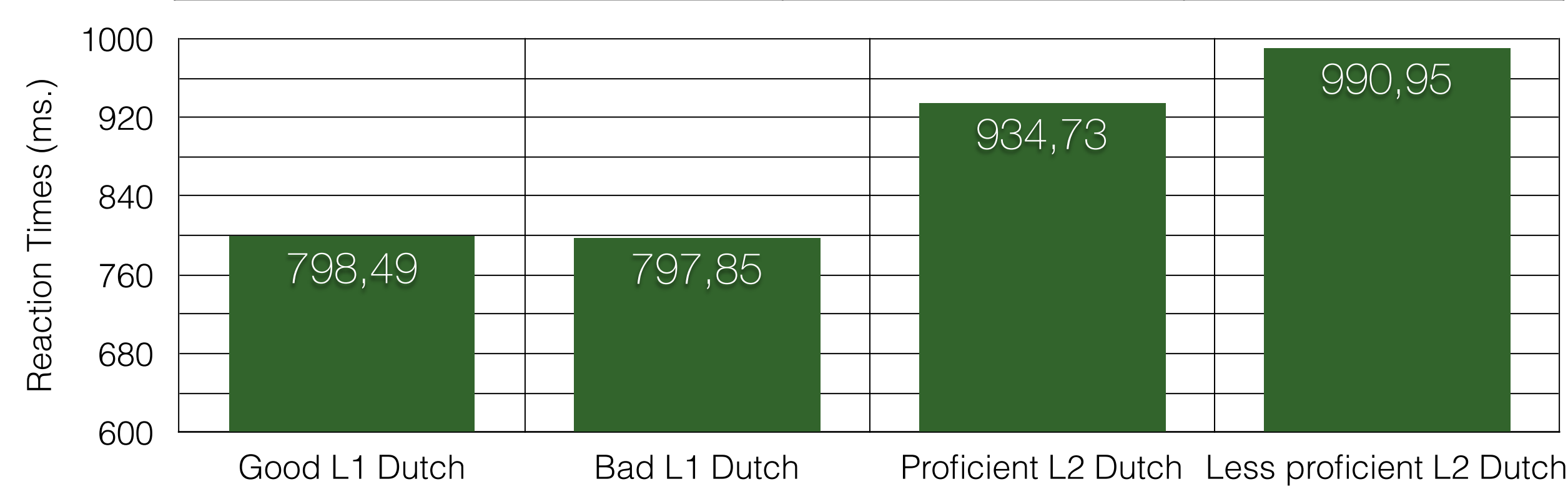
**STIMULI:**



**4 SPEAKER CONDITIONS:**

Speaker type	Correct accent placement?	Gender
L1 Dutch	✗	2 ♂ / 2 ♀
L1 Dutch	✓	2 ♂ / 2 ♀
Less proficient L2 Dutch (≤A2)	✗	2 ♂ / 2 ♀
Proficient L2 Dutch (≥B2)	✓	2 ♂ / 2 ♀

**RESULTS:**



$F(3,120)=850.21, p<0.001$

L2 speaker groups differ significantly from each other and both L1 groups at  $p \leq 0,001$

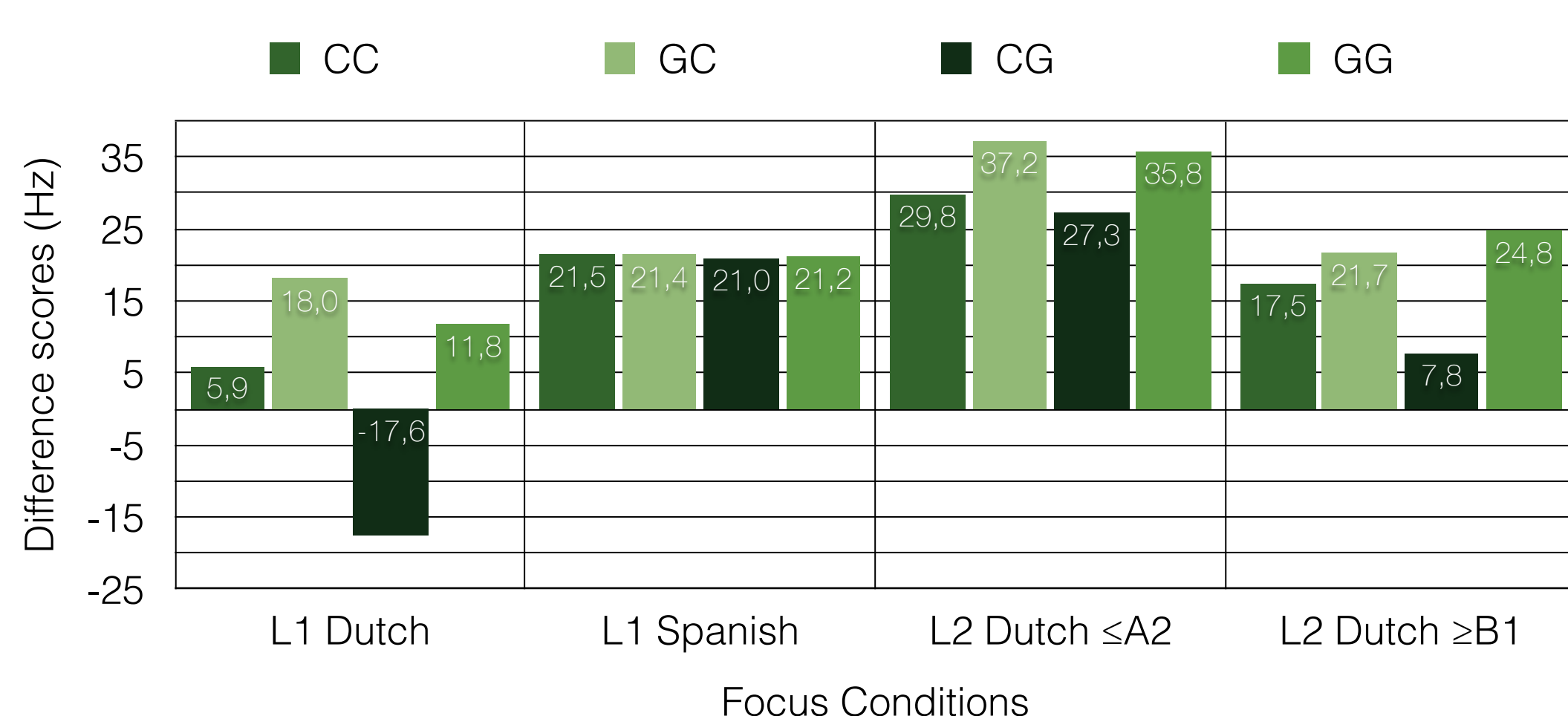
## Production<sup>1</sup> - A quick recap

**PARTICIPANTS (N=84):** 26 L1 Dutch, 19 L1 Spanish, 19 Less proficient L2 Dutch (≤A2), 20 Proficient L2 Dutch (≥B1)

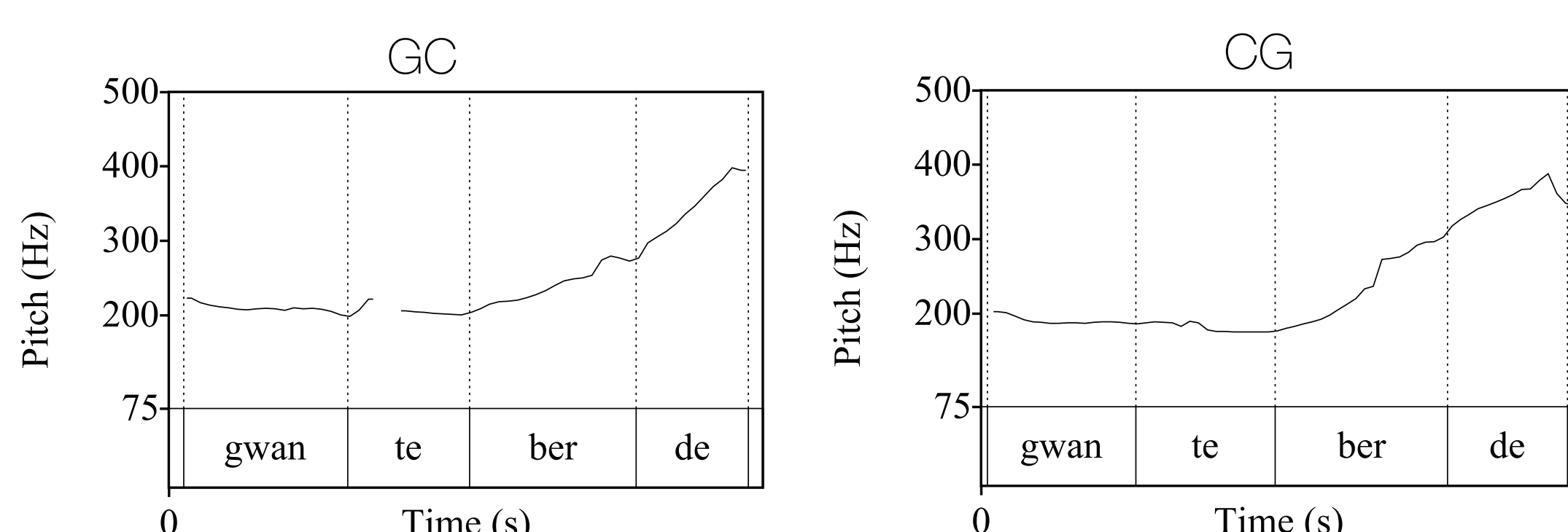
**SPEECH ELICITATION TASK:** 'Describe the **objects** and their **color**'

**4 FOCUS CONDITIONS:** Contrastive/Contrastive, Given/Contrastive, Contrastive/Given, Given/Given.

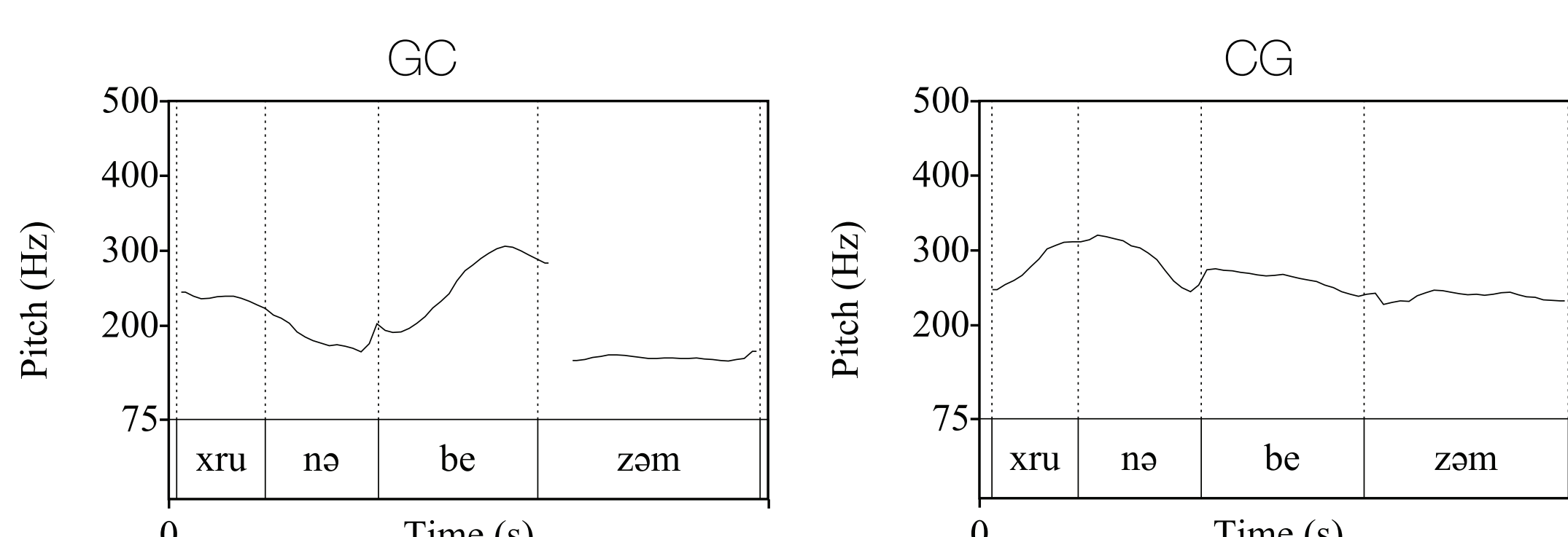
**MEASURE:** Difference score in Hertz ( $F_0$  stressed syllable word 2 -  $F_0$  stressed syllable word 1).



**SPANISH** = 'green GLOVE' in GC & CG



**DUTCH** = 'green BROOM' in GC & 'GREEN broom' in CG



<sup>1</sup> See Van Maastricht, Krahmer & Swerts (2014) for a more detailed discussion of this study.

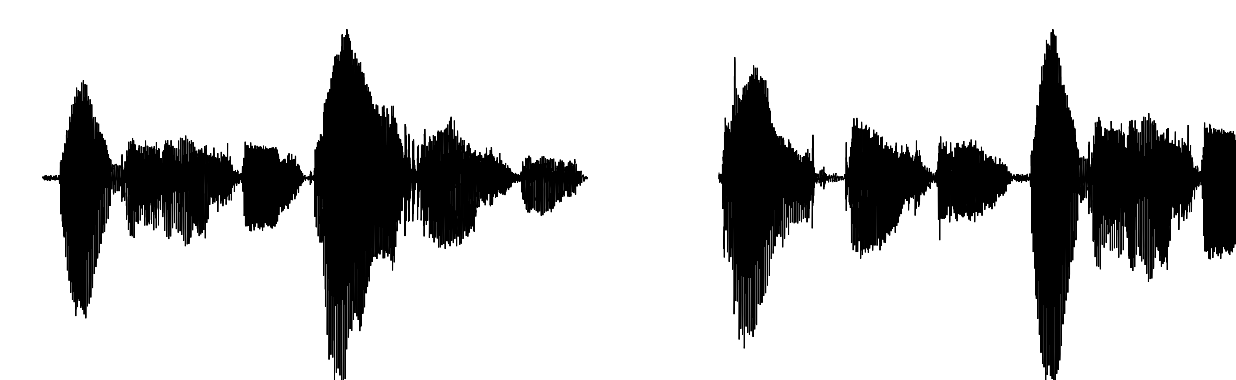
## Perception test II - Preference task

**PARTICIPANTS (N=24):** Dutch natives, who do not speak Spanish

**PREFERENCE TASK:** 'Which of the following two utterances sounds the most natural to you?'

**MEASURE:** Preference score (=Sum of the amount of times the ppt preferred the prosodically correct utterance over the prosodically incorrect utterance).

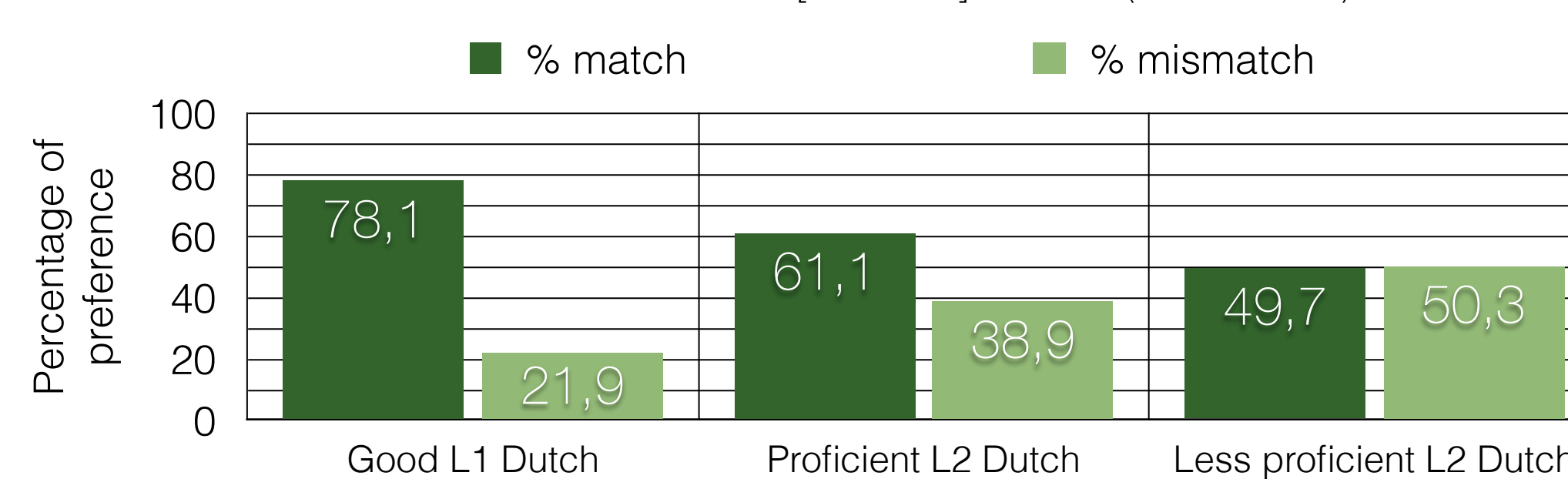
**STIMULI:**



Utterance A: "de rode ezel de [BLAUWE]<sub>F</sub> ezel" (match)

Utterance B: "de rode ezel de [blauwe]<sub>F</sub> EZEL" (mismatch)

**RESULTS:**



$F(2,46)=30,55, p<0.001$

Speaker groups differ significantly from each other at  $p \leq 0,01$

## Discussion & Conclusion

**RQ2** Yes, it is more difficult for Dutch natives to process the speech of L2 Dutch spoken by Spanish natives, than it is to process L1 Dutch.

**RQ3** Yes, similar to the transfer in the production of intonation, the proficiency level of the speaker influences the speed with which Dutch listeners perceive and process intonation.

**HOWEVER**, the design does not control for the effect of **segmental deviances** in the case of L2 speech.

When comparing the prosodically correct and incorrect L1 speech, no differences are found.

**Does this mean that pitch accent distribution doesn't influence the perception by natives?**

**NO**, because the preference task shows us that when controlling for segmental deviances, native listeners are sensitive to the perception of deviant pitch accent distributions and have preferences based on the **naturalness** of the prosodic pattern of an utterance.

**FURTHER WORK** will determine whether these "naturalness preferences" result in a difference in RT between less proficient and proficient L2 speakers, when segmental deviances are controlled for.