# The production of /d/ by Spanish native speakers and English-speaking learners: A sociophonetic approach.

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## Introduction

This pilot study is a preliminary contrastive analysis between Spanish native speakers and English-speaking Spanish learners regarding the production of /d/ either as complete deletion [Ø] (e.g., *bailado*, [bai.ˈla.o], 'danced') or as [ð] (e.g., *bailado*, [bai.ˈla.ðo], 'danced')

## Research Questions

1. Do NS produce more complete deletion [Ø] than NNS?
2. If NNS participants do not produce a complete deletion [Ø], how do their [ð] productions differ acoustically from those of NS?
3. Which demographic variables, between sex and age, have the greatest effect on both groups?

## Previous Studies

- Navarro (1982) confirms the [Ø] in Cuban Spanish past participle
- Radu (2014) finds that [Ø] appears at a lower rate in Colombian Spanish
- Solon, Linford, and Geeslin (2018) show that NS produce [Ø] at a rate of 44.5%, while NNS produce [Ø] at a rate of 18%
- Rogers and Alvord (2014) results suggest that, regardless of their language knowledge level, NNS hardly show the same parameters as NS
- Molina Martos (2001) and Gómez Molina et al. (2012) find that < 35y.o. men produced more [Ø] than females

## Hypotheses

H1. Based on Navarro (1982), Radu (2014), and Solon, Linford, and Geeslin (2018), it is predicted that NS will produce more [Ø] than NNS

H2. Based on Rogers and Alvord (2014), it is predicted that NNS [ð] productions will be longer

H3. Based on Molina Martos (2001) and Gómez Molina et al. (2012), it is predicted that male speakers and young speakers will produce more complete deletions

## Participants

| Group | Age mean | # | Sex |
|---|---|---|---|
| NS | 26.3 | 7 | 4♀ & 3♂ |
| NNS | 24 | 6 | 3♀ & 3♂ |

## Tasks

1. Background questionnaire
*Social and demographic information*
2. Bilingual Language Profile
*Language dominance*
2. Preference Forced Choice (T3)
*19 sentences, 1 question, 3 possible answers*
2. Reading (T4)
*19 sentences*

## Stimuli

The stimuli were 20 *-ar* verbs, conjugated as past participles (e.g., bailado [bai. la.ðo], 'danced')

## Procedure

- A total of 780 tokens were collected
- 17 tokens were excluded
- Step -up/step-down multivariable analyses with Goldvarb
- PRAAT analyses

## General results

| Group | % of [Ø] | % of [ð] | % of [ð] |
|---|---|---|---|
| NS | 35% | 65% | 0% |
| NNS | 13% | 46% | 41% |

H1 predicted that NS would produce more [Ø] than NNS. This hypothesis has been confirmed. NNS produced a third allophone. Results align with previous studies.

## Results – duration

| Group | [ð] mean duration |
|---|---|
| NS | 327.42ms |
| NNS | 456.34ms |

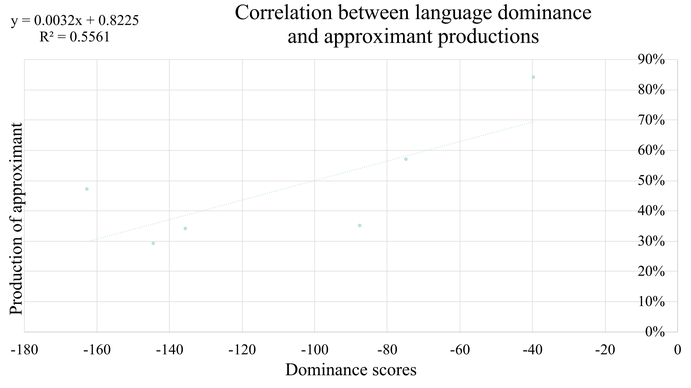
H2 predicted that NNS' [ð] would be longer. This hypothesis is confirmed.
Results align with previous studies.

## Results – social factors [Ø]

| Group | Sex | Age |
|---|---|---|
| NS | ♂ FW .64 | 26-35 FW .67 |
| NNS | Not significant | Not significant |

H3 predicted that male and young participants would produced more [Ø]. This hypothsis is partially confirmed. Sex and age are found to be significant only among NS.
Results somehow align with previous studies.

## Results – correlation




The standardized correlation coefficient 0.74 indicates a strong positive correlation between language dominance and production of approximant. Results seem to suggest that the more Spanish dominant a NNS participant is, the more native-like their [ð] productions are.

## Acknowledgments

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