



Role of Implicit Prosody in Syntactic Disambiguation During Silent Reading in Spanish



Karen Iglesias

Nerea Delgado Fernandez, Dr. Muntendam

Introduction

- The study of the role of implicit prosody in syntactic disambiguation during silent reading continues to marvel sentence processing researchers.
- “Following the Implicit Prosody Hypothesis (Fodor, 2002), recent studies have underscored the facilitative effect of implicit prosody in a number of ambiguous syntactic constructions: garden-path sentences (Drury et al., 2016), relative clause attachment (Jun, 2003) or PP-attachment (Webman-Shafran, 2018), to name a few.”
- This study however aims to explore some of the understudied topics within this field. In particular, the role of implicit prosody in Spanish using adjective attachment as the target structure, as well as expanding our understanding of how potential intervening factors such as proficiency and linguistic background may modulate the development of prosody in Spanish.

Procedure

- Participants will complete the DELE.
- This will be followed by a vocabulary translation task of the words utilized in the experiment.
- Participants will then be randomly assigned to either the word-by-word or the phrase-by-phrase paradigms and will only see sentences presented in the assigned mode. They will complete several practice trials first.
- Subjects will then read the sentences at their own pace according to the segmentation paradigm assigned and will then respond to a comprehension probe.
- Finally, participants will complete a language history questionnaire.

Example Sentences

Condition 1

- Es una emisora de música popular que además se escucha de fiesta.

Translations

- ‘It is a popular radio station of music that is also heard at parties.’
- ‘It is a radio station of popular music that is also heard at parties.’

Condition 2

- Es un chico de principios fuertes que además estudia medicina.

Translation

- ‘He is a guy of strong principles that also studies medicine’.

Condition 3

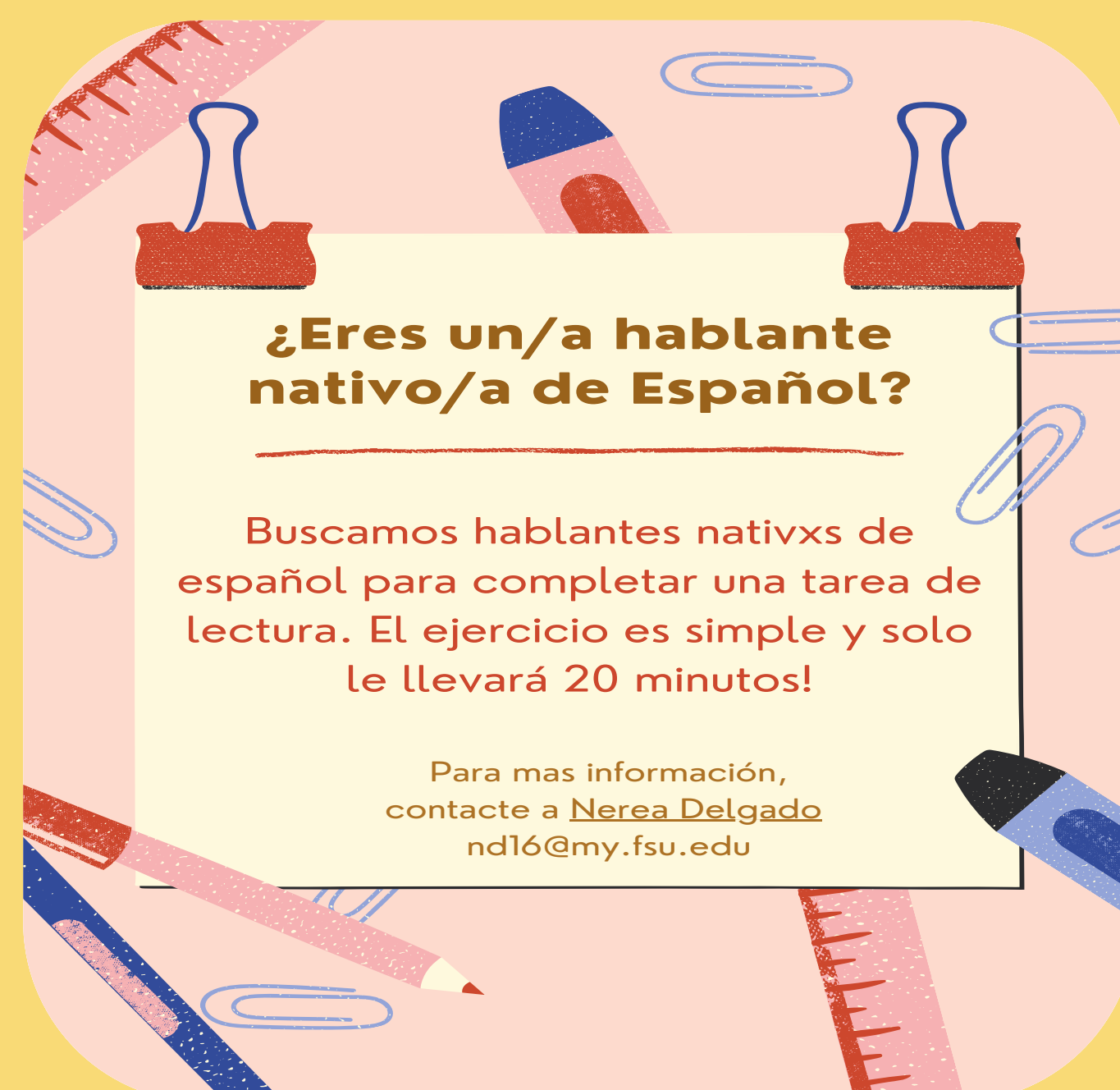
- Es un escritor de cuentos bilingüe que además trabaja en televisión.

Translation

- ‘He is a bilingual writer of stories that also works in television.’

Contribution to Experiment

While participating in this research project, I created recruitment flyers, made an Excel norming data spreadsheet, as well as checked for word frequency.



Norming Data Spreadsheet

Speaker #	Origin	Age	Sex	Education	Languages other than Spanish
1	Burgos, España	29	Female	Masters	English
2	Salamanca, España	22	Male	Masters	English and Italian
3	España	31	Female	Masters	English
4	Salamanca, España	29	Male	Masters	English and some French
5	Extremadura, España	37	Male	Doctorate	N/A
6	Burgos, España	23	Male	Masters	English
7	Cáceres, España	33	Male	Masters	English and German
8	Burgos, España	29	Female	Bachelors	English
9	Burgos, España	29	Female	Bachelors	English
10	Extremadura, España	29	Male	Masters	English and French
11	Burgos, España	29	Female	Masters	English
12	Burgos, España	29	Female	Masters	N/A
13	Santa Inés (Burgos), España	29	Female	Bachelors	N/A
14	Burgos, España	29	Female	Bachelors	French
15	Burgos, España	26	Male	Bachelors	English
16	España	29	Female	Masters	English and German
17	Salamanca, España	29	Female	Bachelors	English and French
18	Burgos, España	35	Male	Formación profesional - Ciclo Superior	English
19	España	29	Male	Masters	N/A
20	Lerma, España	50	Female	Other	N/A
21	Burgos, España	55	Male	Other	N/A
22	Burgos, España	44	Male	Bachelors	N/A
23	Lerma, España	53	Female	Other	N/A
24	Barakaldo, España	30	Male	Bachelors	N/A

Sentence 2	Sentence 3	Sentence 4	Sentence 5	Sentence 6	Sentence 7
La madera	El teatro	El derecho	La comida	La plata	El carbón
La mesa	El teatro	El derecho	La comida	La plata	El almacén
La madera	El teatro	El derecho	La comida	La plata	El carbón
La madera	El festival	El derecho	La marca y/o la comida	La plata y/o la bandeja	El carbón y/o el almacén
La madera y/o la mesa	El teatro	El derecho	La comida	La plata	El carbón
La madera	El teatro	El derecho	La comida	La plata	El carbón
La madera	El festival	El derecho	La marca	La bandeja	El almacén
La madera	El teatro	El derecho	La comida	La bandeja	El carbón
La madera	El teatro	El derecho	La comida	La plata	El carbón
La madera y/o la mesa	El teatro	El derecho	La comida	La plata y/o la bandeja	El carbón
La madera	El festival	El derecho	La marca y/o la comida	La plata y/o la bandeja	El carbón y/o el almacén
La madera	El teatro	El derecho	La marca y/o la comida	La plata	El carbón y/o el almacén
La madera	El teatro	El derecho	La comida	La plata	El carbón
La mesa	El festival	El profesor	La marca	La bandeja	El almacén
La mesa	El festival	El derecho	La marca	La plata	El almacén
La madera	El teatro	El derecho	La comida	La bandeja	El almacén
La madera y/o la mesa	El festival	El derecho	La marca y/o la comida	La plata y/o la bandeja	El carbón y/o el almacén
La madera	El teatro	El derecho	La comida	La plata	El carbón
La madera	El teatro	El derecho	La comida	La plata	El carbón
La madera	El teatro	El derecho	La comida	La plata y/o la bandeja	El carbón
La madera	El teatro	El derecho	La comida	La plata	El carbón
La madera	El festival	El derecho	La marca	La plata	El carbón

Preliminary Results

Since the study is still in the early stages of development no significant results have been gathered. However, thanks to our norming data we have been able to better form our experiment materials. At the conclusion of this study, we expect to answer the following questions: “Does implicit prosody aid the processing of ambiguous sentences in Spanish as mediated by text segmentation?” and “Does proficiency determine the extent to which subjects benefit from prosodic cues?”

Conclusions

At the time of presentation, the study is still ongoing therefore has not drawn any significant conclusions.

Acknowledgements

A special thank you to my research mentor Nerea Delgado Fernandez for guiding me and allowing me to be a part of the research team. I would also like to extend a thank you to the staff of the Undergraduate Research Opportunity Program (UROOP) and the CRE.

References

- Delgado-Fernandez, N. (2019). The role of implicit prosody in disambiguating adjective attachment in L1 and L2 Spanish. 1-19.
- Drury, J., Baum, S., Valeriote, H., and Steinhauer, K. (2016). Punctuation and implicit prosody in silent reading: an ERP study investigating English garden-path sentences. *Frontiers in Psychology*, 7(1375), 1-12.
- Fodor, J.D. (2002). Prosodic disambiguation in silent reading. *Proceedings of NELS* 32, 112-132.
- Jun, S.-A. (2003). Prosodic phrasing and attachment preferences. *Journal of Psycholinguistic Research*, 32(2), 219–249.
- Webman-Shafran, R. (2018). Implicit prosody and parsing in silent reading. *Journal of Research in Reading*, 41(3), 546-563.