*Emotionality in a second language: It’s a matter of time* (Opitz & Degner, 2012): an adaptation

Eva María Corregidor Luna1

1 Department of Spanish and Portuguese. Rutgers University

Author note

Correspondence concerning this article should be addressed to Eva María Corregidor Luna, 15 Seminary Place, 5th Flr, Office 5187. E-mail: [eva.corregidor@rutgers.edu](mailto:eva.corregidor@rutgers.edu)

Abstract

One or two sentences providing a **basic introduction** to the field, comprehensible to a scientist in any discipline. Two to three sentences of **more detailed background**, comprehensible to scientists in related disciplines. One sentence clearly stating the **general problem** being addressed by this particular study. One sentence summarizing the main result (with the words “**here we show**” or their equivalent). Two or three sentences explaining what the **main result** reveals in direct comparison to what was thought to be the case previously, or how the main result adds to previous knowledge. One or two sentences to put the results into a more **general context**. Two or three sentences to provide a **broader perspective**, readily comprehensible to a scientist in any discipline.

*Keywords:* emotion words, second language, accuracy, latency

*Word count:* X

*Emotionality in a second language: It’s a matter of time* (Opitz & Degner, 2012): an adaptation

# Methods

We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study.

## Participants

Thirty-seven English–Spanish bilinguals (18 women), aged 25–35 years (M = XX, SD = XX), were recruited among the administrative personnel from Rutgers University to participate in the study. Two participants were excluded from the analysis because of excessive artifacts. All were right-handed, had normal or corrected-to-normal vision, and reported no history of neurological or language disorders.

Participants were late L2 learners and started to learn Spanish at age 12 as part of their education. By the time of the study, they were highly proficient in Spanish (add proficiency test), and reported a mean of self-rated frequency of weekly L2 use of 65%, mostly in work-related settings. All participants had spent at least one long stay (>6 months) in a L2 country.

## Materials

## Language History Questionnaire

The Language History questionnaire was used to obtain information about the bilingual profile, L2 acquisition, L2 use and L2 frequency. It contained 7 multiple-choice questions, 8 questions with numerical scales and 5 open questions (total of 20 questions).

## Lexical Monitoring Task

Stimuli were obtained from an English words database (Imbault et al., 2020) were words were rated by participants based on valence and arousal. From the database, the 50 words with the highest valence level were chosen to be the emotional words. Similarly, the 50 words with the lowest valance level were chosen to be the non-emotional words. All words were nouns and were matched in word length, frequency of use. For the pseudo-words, 15 words were created using Artificial Intelligence (AI).

The LMT is an adaptation of lexical decision task (Opitz & Degner, 2012). In the LMT, participants look at a monitor screen, see a word and decide whether it is a real word or not (Yes/No decision). The task was divided in five rounds, each with 23 trials (10 emotion words, 10 non-emotion words, 3 pseudo-words).

## Procedure

Participants were recruited among the administrative personnel from Rutgers University. Each participant signed the consent form and completed the Language History Questionnaire online and independently 7-10 days before coming to the lab facilities to complete the LDT. The experiment was conducted in the BLiNK lab at Rutgers University. The lab and equipment setup were started thirty minutes before the participant arrives. Temperature and humidity were recorded. To confirm that all the systems were working correctly, computers were turned on, and some tests were performed (timing tests, gains, and zero measurements).

Once the participant was greeted in the lab, there was a tour of the facilities and they were taken to the recording room. There, the circumference of the participant’s head was measured, and their vertex placement was marked. After this, the correct net size was chosen and placed into the participants’ head. Before starting the EEG recording, impedances were be measured, repositioning those electrodes exceeding 40kΩ. When it was not possible to detect the signal from problematic electrodes, they were noted in the lab notebook. Response collection was completed with a stimulus box with three colors, match with the three word types.

Before recording the data, the participant was shown their brain data waves and received instructions to demonstrate the most common artifacts on EEG recording (eye blinks, teeth clenching, jaw movements, etc.) that needed to be avoided while the completion of the tasks. After that, there was verbal instructions for the LDT. The participant completed two practice trials with verbal feedback and then be left alone in the EEG recording room to start the data collection.

Stimuli were presented in black (16 Arial) font and centered in a white background in a 17in PC monitor. A fixation cross appeared for 1000ms at the beginning of the task and in between rounds. After that, each word was presented in the screen and disappeared after the participant made the decision. Once the participant pressed the decision button, the next word appeared. If no decision was made, the word was presented for a maximum duration of 1000ms. Once the participant completed the task, there was a debrief explanation of the experiment.

## Data analysis

We used R (Version 4.4.1; R Core Team, 2024) and the R-packages *papaja* (Version 0.1.3; Aust & Barth, 2024) and *tinylabels* (Version 0.2.5; Barth, 2025) for all our analyses.

# Results

# Discussion

# References

Aust, F., & Barth, M. (2024). *papaja: Prepare reproducible APA journal articles with R Markdown*. <https://doi.org/10.32614/CRAN.package.papaja>

Barth, M. (2025). *tinylabels: Lightweight variable labels*. <https://doi.org/10.32614/CRAN.package.tinylabels>

R Core Team. (2024). *R: A language and environment for statistical computing*. Vienna, Austria: R Foundation for Statistical Computing. Retrieved from <https://www.R-project.org/>