

Bilinguals' referential choice under time pressure
Carla Contemori & Iva Ivanova (University of Texas at El Paso)
ccontemori@utep.edu

Even highly-proficient bilinguals may over-use pronominal forms in a non-null subject second language (L2) such as English (Contemori & Dussias, 2016) or a null subject L2 like Italian (e.g., Belletti, et al. 2007). Such residual indeterminacy in L2 referential choice could be partially due to an increased need for cognitive resources when computing interface structures between syntax and pragmatics such as referential expressions (e.g., Sorace, 2011). The present research tests this hypothesis by examining (written) pronoun production in nonbalanced Spanish-English bilinguals under time-pressure, a type of cognitive load. The hypothesis would be supported if bilinguals of lower proficiency (for whom L2 production is more effortful) produce disproportionately more pronouns under time pressure.

Fifty-two Spanish-English bilinguals participated in a written picture-description task in English (bilinguals' L2). Participants saw two pictures of one or two characters (with same or different gender) performing different actions. They first read a two-sentence description of the first picture (e.g., 2-characters/different-gender: *A girl was arguing with a boy. The boy got really annoyed. Subsequently...*), and then produced written descriptions of the second picture to continue the narrative. Participants completed two blocks, counterbalanced across-participants: one including time-pressure (15-seconds to complete the description) and one without time-pressure (30-seconds to complete the description). Participants' English proficiency was assessed with the Michigan English Language Institute College Entrance Test (MELICET) and ranged between 22 and 45 (out of 50; $Mean=37$, $SD=5.4$).

As expected, bilinguals produced most pronouns with only one referent and fewest pronouns with two referents of the same gender (all $ps<.001$). Bilinguals also produced more pronouns in the 15-seconds condition compared to the 30-seconds condition ($p=.02$), and bilinguals with lower English proficiency produced more pronouns than bilinguals with higher proficiency ($p<.04$). However, of most relevance, there was no evidence that proficiency level modulated the timing effect ($p=.9$). Finally, there was a marginal tendency to persist with the behavior established in the first block, despite the change in timing in the second block: Beginning under time pressure led to slightly more pronouns throughout, while beginning under no pressure led to slightly fewer pronouns throughout. We tentatively attribute this tendency to self-priming.

In sum, bilinguals of varying proficiency levels were sensitive to the demands of speeded production: They tended to be less explicit in their choice of referring expressions under time-pressure than under no pressure. The current study also shows a stronger effect of proficiency on overall referential choice than prior research (e.g., Contemori & Ivanova, 2020), evidencing an L2 developmental pattern. However, the fact that lower-proficiency bilinguals were not more strongly impacted by the time pressure than higher-proficiency bilinguals is inconsistent with the hypothesis that indeterminacy in L2 referential choice may be due to an increased need for cognitive resources. This result replicates and extends previous findings that bilinguals were not disproportionately affected by other forms of cognitive load (perspective taking in privileged ground or keeping verbal or visual information in working memory) relative to monolinguals (Contemori & Ivanova, 2020).

References

Belletti, A., Bennati, E., & Sorace, A. (2007). Theoretical and developmental issues in the syntax of subjects: Evidence from near-native Italian. *Natural Language and Linguistic Theory*, 25, 657 – 689.

Contemori, C. Dussias, G. (2016). Referential choice in a second language: evidence for a listener-oriented approach. *Language, Cognition and Neuroscience*, 31(10), 1257-1272.

Contemori C., Ivanova, I. (2020). Bilinguals' referential choice in cognitively demanding situations. *Bilingualism: Language and Cognition*, 24(1). 83-85.

Sorace, A. (2011). Pinning down the concept of 'interface' in bilingualism. *Linguistic Approaches to Bilingualism*, 1, 1–33.

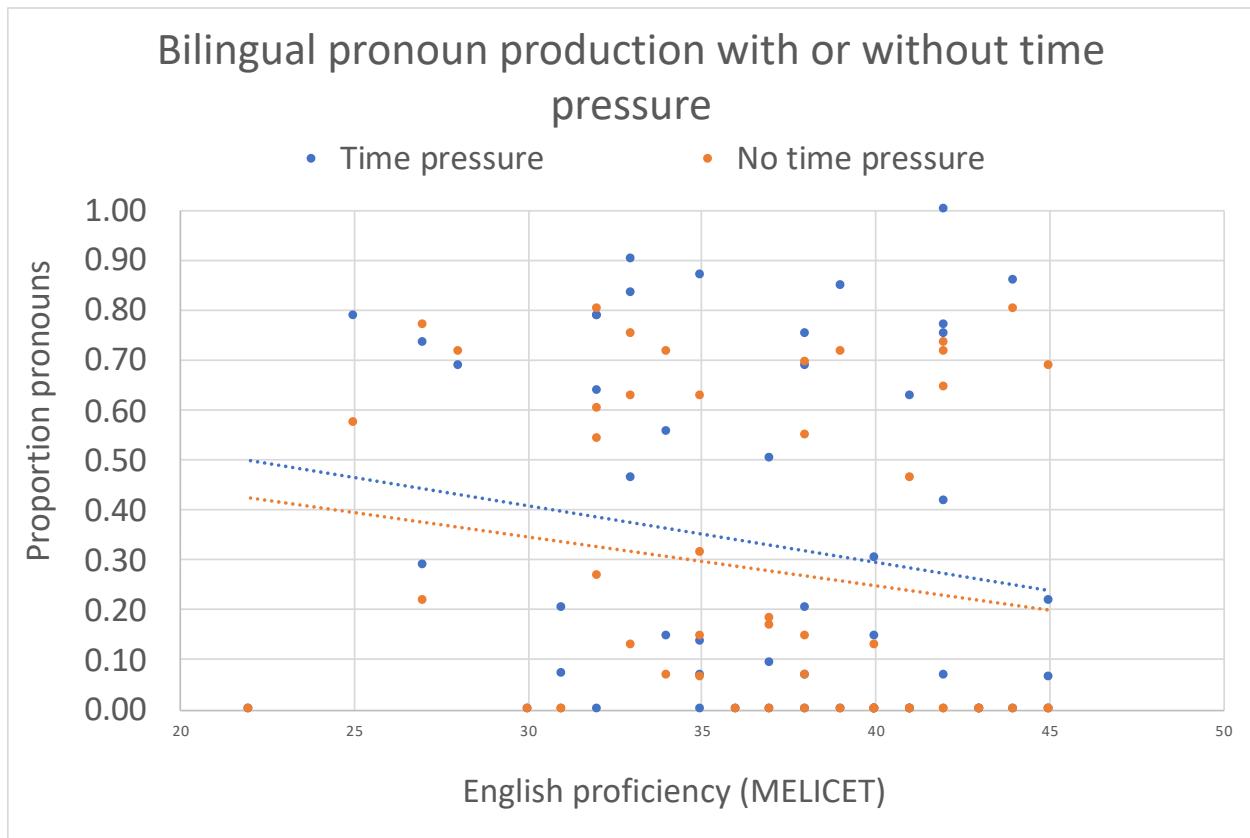


Figure 1. Bilingual pronoun production in English with or without time pressure as a function of English proficiency

Table 1

Average pronouns produced by the bilingual participants (out of the number of noun phrases and pronouns produced).

	15-seconds condition	30-seconds condition
1-character	0.42	0.39
2-characters different gender	0.38	0.34
2-characters same gender	0.11	0.03