

Shared argument structure among bilinguals: Evidence from sentence reading and recall

Ricardo de Souza (Universidade Federal de Minas Gerais), Eva M. Fernández (Queens College & Graduate Center, City University of New York), & Mara Guimaraes (Universidade Federal de Minas Gerais)

ricsouza.ufmg@gmail.com

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This study contributes to investigations of whether language-specific syntactic structures are shared by bilinguals while processing sentences in one of their languages (Hartsuiker, Pickering, & Veltkamp, 2004). We report a case in which bilingualism influences L1 performance, focusing on an argument structure pattern that differs between Brazilian Portuguese (BP) and English: the induced action alternation of English manner-of-motion verbs. This is a causative construction applying to a particular sub-set of motion verbs (Levin, 1993), licensing sentences such as (1)—ungrammatical in BP (1') and Spanish (Montrul, 2001; Souza, 2011).

(1) The French captain marched his soldiers to the capital.

(1') *O capitão francês marchou seus soldados até a capital.

The task performed by bilinguals in L1 was a combination sentence-recall/sentence-matching procedure. Whole sentences were presented for silent reading, arranged on a single line, center-screen. A button press extinguished the sentence and prompted participants to recall orally the sentence just read. A second button press immediately revealed a new sentence on which a matching judgment was made. Materials included sentences with causative-like structure (NP-V-NP-PP) instantiating the induced action construction with manner-of-motion verbs (1), transitive change-of-state verbs like (2), and intransitive verbs (pseudocausatives) like (3).

(2) The young actresses dried their dresses at the theater.

(3) *The sad poet appeared his book after years.

Participants were BP-English bilinguals residing in the United States, with low (N=11) or high (N=12) English proficiency (assessed by a vocabulary size test). Two additional groups contributed baseline data: American English monolinguals (N=13) performing the same task with translation-equivalent materials in English; and BP monolinguals (N=10) performing a slightly different task (self-paced reading) with identical materials in BP.

Measures of total reading time (for first presentation of the sentences) and recall accuracy (omission of substantive words in the oral recall) were taken, and analyses of variance compared them across the three sentence types. For the English low-proficiency group, change-of-state materials (2) were read significantly faster ($p < .001$) and were recalled more accurately ($p < .005$) than both manner-of-motion (1) and pseudocausative (3) materials, which in turn did not differ from each other on either measure ($p > .5$). For the English high-proficiency group, reading times for the three sentence types differed reliably ($p < .001$): manner-of-motion (1) was fastest, followed by change-of-state (2), followed by pseudocausatives (3). Recall was equally accurate with change-of-state (2) and manner-of-motion materials (1) ($p > .5$), both reliably more accurate than with pseudocausatives (3) ($p < .003$). As expected, American English monolinguals showed no reliable difference in reading times or recall accuracy for manner-of-motion (1) and change-of-state (2) materials, which were both read significantly faster than pseudocausatives (3). BP monolinguals' time reading the second NP in manner-of-motion (1) and pseudocausative (3) materials did not differ ($p > .5$), whereas in both sentence types it was reliably higher than in change-of-state materials ($p < .001$).

High proficiency bilinguals departed from the grammatical restrictions of their L1 when performing our task, adjusting their performance based on their L2 grammar, suggesting that language-specific syntactic structures may be shared when bilinguals process sentences.

References

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