

SHARED HIERARCHICAL REPRESENTATIONS IN BILINGUALS: EVIDENCE FROM STRUCTURAL PRIMING IN CHINESE-ENGLISH SENTENCE COMPREHENSION

Hang Wei (Xi'an Jiaotong University), Maggie Hsu (University of Michigan), & Julie Boland (University of Michigan)
weihang2010@126.com

Evidence from cross-linguistic structural priming suggests that syntactic representations are shared between the bilingual's two languages (Hartsuiker et al., 2004, 2016). It remains unclear, however, whether bilingual representations are shared at the hierarchical structure or at surface constituent structure. Current evidence comes mainly from priming in production.

The present study investigated cross-linguistic comprehension priming of relative clause and dative constructions in Chinese-English late bilinguals. In two word-by-word, self-paced reading experiments, participants read target sentences consisting of English double-object (DO) or relative clause construction (RC), with DOs having the same hierarchical structure and surface word order (SVO) in English and Chinese, while RCs having the same hierarchical but different surface word orders (English: S-RC-V; Chinese: RC-S-V). Each RC target (1a) was preceded by either a Chinese RC (1b) or a main clause (MC, 1c) prime, and each DO target (2a) was preceded by either a Chinese DO (2b) or a prepositional-object (PO, 2c) prime.

1(a) RC target	<i>The speaker selected by the <u>group</u> would be perfect for the program.</i>
1(b) RC prime	那个被组委会选中的学生成绩优秀。 the BEI (passive) committee select DE (relativizer) student perform well
1(c) MC prime	<i>The student selected by the committee had excellent performance.</i> 组委会选中了那个成绩优秀的学生。 committee select LE (perfective) the performance excellent DE student
2(a) DO target	<i>The freshman showed <u>his parents</u> his grades.</i>
2(b) DO prime	那位司机出示给门卫一张名片。 the driver showed guard one-classifier visiting card
2(c) PO prime	<i>The driver showed the guard a visiting card.</i> 那位司机出示了一张名片给门卫。 the driver showed one-classifier visiting card to guard
	<i>The driver showed a visiting card to the guard.</i>

Each experiment contained 28 RC prime-target pairs and 28 dative pairs. In Exp. 1, the head verbs in each prime-target pair were translation equivalents (e.g., *selected* vs. *xuǎnzhòng*; *showed* vs. *chūshi*); in Exp. 2, prime and target used unrelated verbs. Eighty late C-E bilinguals participated in the study, with 40 in each experiment. On the basis of prior research (Hsieh, 2017; Tooley & Bock, 2014), we expected to observe faster RTs on the critical (underlined in 1a and 2a) and/or spillover region (one word following the critical region) of the targets when they were preceded by primes of the same structure relative to primes of the alternate structure.

The results of Exp.1 showed that for RC targets, significant priming occurred in the critical ($b = -0.033$, $SE = 0.013$, $t = -2.463$, $p = .014$) and spillover region ($b = -0.049$, $SE = 0.019$, $t = -2.572$, $p = .01$), and for DO targets, significant priming occurred in the spillover region ($b = -0.044$, $SE = 0.015$, $t = -2.989$, $p = .003$). The results of Exp.2 showed that no priming occurred when prime and target used unrelated verbs. Our findings suggest that bilingual syntactic information is shared at the hierarchical structure rather than surface constituent structure (given that Chinese and English RCs share the same hierarchical structure but have different constituent order), and that lexico-semantic information plays a vital role in constructing bilingual syntactic representations.