

Bilinguals process l(exical)-selection violations differently in code-switching

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INTRODUCTION: Much work has shown that when linguistic properties overlap across two languages [1] or are underspecified in one language [2,3], bilinguals process them in a largely language non-selective manner [4]. However, less is known about how bilinguals navigate conflicting grammatical requirements across their languages (cf. [5,6]). To address this, we provide evidence from l(exical)-selection in Indonesian-English bilinguals. L-selection is a syntactic dependency in which a predicate selects a specific preposition (Ex. 1) [7,8]. As translation-equivalent predicates in Indonesian and English select for different prepositions, we investigate whether bilinguals process such conflicts language-selectively, non-selectively by transferring one language's requirements to the other, or non-selectively by allowing free variation. **METHODS:** Indonesian-English bilinguals were recruited to complete two acceptability judgment tasks ($n=36$, $n=40$) in which they read and rated sentences on a 7pt Likert scale. Expt 1 only distinguished between unilingual (UNI) and code-switched (CS) utterances. Expt 2 separated each language factor into different blocks, to minimize intersentential code-switching effects for the unilingual conditions. Stimuli either met the l-selection requirement of the predicate's language (MATCH), the other language (MISMATCH), or neither (INCONGRUENT) (Tab. 1-2). Separate linear mixed-effects models were run for UNI and CS utterances. Expt 2 results were analyzed according to block type to maintain the 2x3 design. **RESULTS:** Across both experiments, ratings for unilingual sentences in the MATCH condition were significantly higher than MISMATCH (Expt 1: $p<.0001$, Expt. 2: $p<.001$) or INCONGRUENT conditions (Expt 1: $p<.0001$, Expt. 2: $p<.0001$). For code-switched sentences, participants rated MATCH condition stimuli significantly higher than INCONGRUENT condition stimuli (Expt 1: $p<.001$, Expt. 2: $p<.0001$), but there was no difference between the MATCH and MISMATCH ratings (Expt 1: $p<.0001$, Expt. 2: $p=.713$). There was no effect of language in any block across the two experiments. **DISCUSSION:** When presented with conflicting l-selection requirements, bilinguals respond more language-selectively to unilingual sentences but non-selectively in the code-switched sentences, seemingly allowing free variation [as predicted by 2]. Were this to be dictated by the core syntax, we would expect language-selective behavior to hold for code-switched utterances. Assuming bilinguals build and interpret unilingual and code-switched utterances with a single computational system [9,10], we propose that stricter enforcement of language-specific requirements must be imposed as part of the performance system and not as part of the predicates' grammatical representations.

Examples

(1) She depends {✓on/*from} her paycheck.

References

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- [9] Phillips, Sarah F. & Liina Pytkänen. Composition within and between Languages in the Bilingual Mind: MEG Evidence from Korean/English Bilinguals, 2021.
- [10] Thierry, Guillaume & Eirini Sanoudaki. Activation syntaxique non-sélective à la langue chez le bilingue précoce, 2012.

Figures

Figure 1: UNI block Expt 1

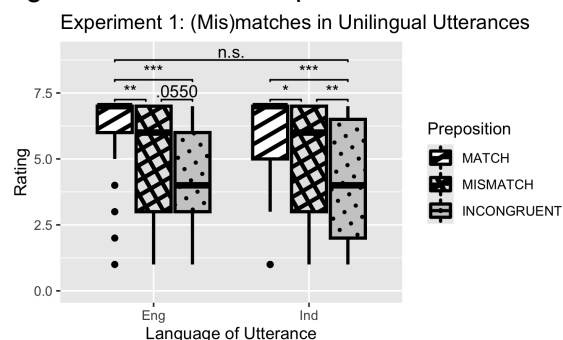


Figure 2: CS block Expt 1

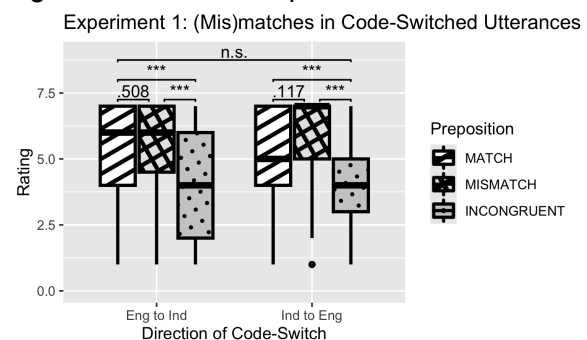


Figure 3: UNI block Expt 2

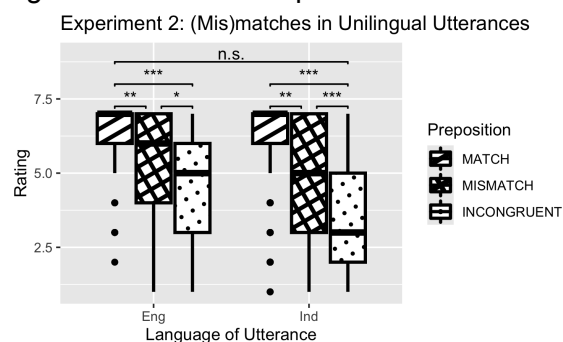
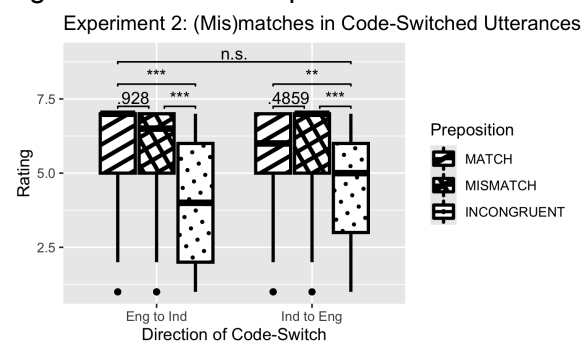


Figure 4: CS block Expt 2



Example Stimuli

UNILINGUAL Block Stimuli Examples

		L-selection status of preposition		
		MATCH	MISMATCH	INCONGRUENT
Language of predicate	English	I want to atone for my sins.	I want to atone from my sins.	I want to atone at my sins.
	Indonesian	<i>Aku mau bertobat dari dosaku.</i> (‘I want to atone from my sins.’)	<i>Aku mau bertobat untuk dosaku.</i> (‘I want to atone for my sins.’)	<i>Aku mau bertobat di dosaku.</i> (‘I want to atone at my sins.’)

Table 1

CS Block Stimuli Examples

		L-selection status of preposition		
		MATCH	MISMATCH	INCONGRUENT
Direction of code- switch	English-Indonesian	She wants to atone untuk yang terjadi. (‘She wants to atone for what happened.’)	She wants to atone dari yang terjadi. (‘She wants to atone from what happened.’)	She wants to atone di yang terjadi. (‘She wants to atone at what happened.’)
	Indonesian-English	<i>Dia mau terobat from what happened.</i> (‘She wants to atone from what happened.’)	<i>Dia mau terobat for what happened.</i> (‘She wants to atone for what happened.’)	<i>Dia mau bertobat at what happened.</i> (‘She wants to atone at what happened.’)

Table 2