Cross-linguistic activation of referential bias in Korean-English bilinguals

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Research Question: Does the strength of a verb’s referential bias in Korean affect Korean-English bilinguals’ reference choices in English?

Background

Cross-language interaction in bilinguals

• Lexical level
  (Dijkstra & van Heuven, 2002; Gollan et al., 1997)
• Syntactic level
  (Sanoudi & Thierry, 2015; Shin & Christianson, 2009)
• Crosslinguistic influence is enhanced when the other language is used immediately prior to the experimental task.
  (Canseco-Gonzalez et al., 2010; Elston-Güttler et al., 2005)

Implicit causality (IC)

• Some verbs allow for inferences about the causality of an event they denote (Garvey & Caramazza, 1974).

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Written sentence-completion task

(1) a. Tom surprised John (surprise: subject-biased)
b. Tom feared John (fear: object-biased)

   Tom-NOM John-ACC call-PAST-DECL
   ‘Tom called John.’ (subject-biased IC verb)
   Tom-NOM John-ACC be surprised-RESULT-do-PAST-DECL
   (SC verb)
   Tom-NOM John-ACC fear-PAST-DECL
   ‘Tom feared John.’ (object-biased IC verb)

Predictive: Bilinguals will show stronger subject-bias for English translation equivalents of Korean SC vs. IC verbs.

Participants

• NS: 34 Native speakers of English
• L2: 72 Korean learners of English in Korea
  – Mean age: 22.0 years (20–26); Onset of exposure to English: 9.1 years (5–12); Self-reported English proficiency (0–10): 6.1 (4–8) – 36 in Translation-first (T1), 36 in Translation-later (T2) group

Materials

• Step 1: Selected set of Korean IC (k = 20) and SC (k = 20) verbs
• Step 2: Korean verbs were translated into English by 4 bilingual speakers (2 L1-Korean/L2-English, 2 L1-English/L2-Korean)
  – Translation for each sentence was selected when 2 or more translators agreed on the same translation.
• Step 3: Selected a subset of English translation equivalents of Korean IC (k = 12) and SC (k = 12) verbs, attempting to keep their strength of subject-bias equal

Written sentence-completion task

(3) a. IC verbs (k = 12): Emily called Grace because
b. SC verbs (k = 12): John surprised Richard because

• 12 object-biased IC verbs & 12 declarator verbs added
• Two independent coders annotated continuations for intended reference of the grammatical subject.
• Items excluded: rater disagreement (NS: 1.7%, L2: 1.3%), missing data (NS: 0%, L2: 2.2%), ambiguous (NS: 0.1%, L2: 0.1%), subject referents other than the previous subject or object (NS: 12.2%, L2: 6.5%)

Written translation task

• L2 participants translated the same sentences as in the sentence-completion task (without connective or continuation) into Korean.
• Two independent coders annotated the responses for translation accuracy and presence of keyha in the translation.
• Items excluded: raters disagreement (1.4%), missing data (0.7%), inaccurate translation (9.7%)

• Translation-consistent items (presence/absence of keyha)
  % of intended SC items translated as IC (with keyha): 72.2% of SC items intended to be translated as IC (without keyha): 83.5% of IC

Method

Mixed-effects logistic regression (glmer)

Subref ~ Verb.type*Group + (1+Verb.type | participant) + (1 | item)

Results

Analysis 1: Overall results (88.6% of data included)

Effect of bilingualism?
Comparison 1 (NS vs. T2)

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<th>Effect of bilingualism?</th>
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Effect of translation priming?
Comparison 2 (T2 vs. T1)

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Figure 1. Mean percentage of subject reference; 95% CIs

Follow-up analysis: more subject reference for SC vs. IC verbs in the T1 (b = .70, p = .03) but not the T2 (b = .06, p = .87) group

Analysis 2: Translation-consistent items only (76.8% of data included)

Effect of bilingualism?
Comparison 1 (NS vs. T2)

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Effect of translation priming?
Comparison 2 (T2 vs. T1)

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Figure 2. Mean percentage of subject reference including only translation-consistent items; 95% CIs

Follow-up analysis: more subject reference for SC vs. IC verbs in the T1 (b = 1.52, p < .001) but not the NS (b = .21, p = .70) or the T2 (b = .65, p = .15) group.

Summary & Discussion

• The strength of a verb’s referential bias in Korean affects Korean-English bilinguals’ reference choices in English, but only when cross-language associations are primed through a preceding translation task.
• At what level of representation (e.g., lexical, syntactic, discourse) does this cross-linguistic interaction take place?

Reference


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