

Thematic Roles and Implicit Causality Verb Biases in the English of Deaf Signers of American Sign Language

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Across languages, thematic structure of verbs predicts their implicit causality (IC) bias, i.e. their likelihood of eliciting re-mention of either the first or the second mentioned referent in the preceding clause. Specifically, stimulus-experiencer (SE) verbs, such as '*annoy*' (1) are biased towards re-mentions of the first mentioned referent, NP1, and experiencer-stimulus (ES) verbs, such as '*love*' (2) are biased towards re-mentions of the second mentioned referent, NP2 (Rudolph & Försterling, 1997; Ferstl et al., 2011, Hartshorne & Snedeker, 2012). Despite such cross-linguistic similarity, however, languages differ in the strength of biases for similar verbs as well as in their preference for using SE vs. ES structure, in general as well as for individual verbs (Hartshorne et al., 2010). Previous work on bilinguals has suggested that the strength of IC biases in the L1 can affect how translation equivalents are processed in writing the L2 (Kim & Grüter, 2018). Unknown is whether and how strongly such effects can be observed in situations where the first and second language do not share a modality.

In sign languages, some scholars have assumed that SE verbs are not permitted (Kegl, 1990; Meir et al, 2007; Oomen 2017), and that verbs with SE structure in other languages are either used as one-place predicates (Edge & Herrmann, 1977) or are interpreted as ES verbs (Winston, 2013). A recent experimental study examined IC biases and thematic roles in ASL (Author, under review) and found that SE verbs, although infrequent, do in fact exist in ASL. Nevertheless, while many potential SE verbs are acceptable as ASL transitives they vary in whether signers interpret them as SE or ES verbs. For example, '*INSPIRE*' (Figure 1) is an SE verb in English as well as ASL, while '*ANNOY*' (Figure 2) is an SE verb in English but an ES verb in ASL (i.e. in transitive sentences it is interpreted as 'was annoyed by'). As SE verbs tend to be strongly NP1-biased, their low frequency in ASL is likely to impact the overall strength of NP1 bias in ASL. The present study asks whether native signers of American Sign Language experience transfer of thematic roles and IC biases between ASL and English. There is no written form of ASL, Deaf signers read and write in English, their L2, which may increase the use of ASL structures in their written language.

To test this question, we are currently conducting sentence completion study. We ask monolingual English speakers and Deaf ASL signers with varying English proficiency to complete sentences in English. We created 176 sentence fragments with IC verbs and ambiguous pronouns ('NP V NP because she...') and distributed them across two lists. The planned sample sizes are 60 monolingual English speakers and 30 Deaf ASL signers. We are in the process of collecting responses, with data from fourteen English speakers obtained thus far. Responses will be coded for pronominal reference (whether the subject or object from the fragment is interpreted as the referent of the ambiguous pronoun) and for verb thematic roles (whether the verb was interpreted as having ES or SE structure). We will calculate a bias score for each verb and compare thematic roles and bias scores between groups to see whether differences exist between first and second language users and conduct individual differences analyses to detect any correlations between results in English and Deaf signers' responses to a language history questionnaire asking extensive questions about their daily English use, proficiency and contexts of language use. Finally, we will use ASL data from an existing norming study (Author, under review) to assess whether Deaf signers' biases in English SE verbs are affected by biases of translation equivalents in ASL. The results of this study will expand the current understanding of bilingual transfer effects in discourse structure in general, and specifically of how language structure transfers across modalities. Given the overall low reading proficiency in English and the low ultimate educational attainment among Deaf individuals, a better understanding of cross-modal bilingual transfer is crucial to improving outcomes.

- 1) Lisa annoyed Mary because she never did the dishes (she=Lisa)
- 2) Lisa loved Mary because she was kind-hearted and generous (she=Mary)

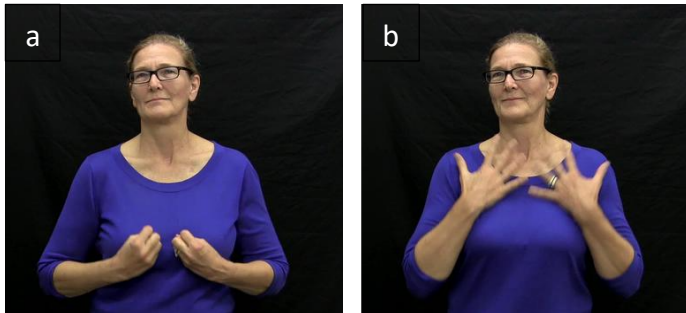


Figure 1. The beginning (a) and end (b) of the ASL verb 'INSPIRE'.



Figure 2. The ASL verb 'ANNOY'.

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