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Using temporal adverbs to prime word order among less-proficient L2 learners of German

Research shows that L2 speakers are susceptible to syntactic priming, namely the tendency to repeat structures that one has recently heard or produced (see Hartsuiker & Pickering, 2008, for a review), but that the strength of such effects are modulated by L2 proficiency (e.g., Bernolet et al., 2013). Ruf (2011) found that less-proficient American L2 learners of German only produce fronted locative phrases (e.g., *Auf dem Tisch steht eine Lampe* “On the table [there] is a lamp”) in L2 German in the presence of lexical repetition between prime and target sentences and even these effects decay quickly (see also Kim & McDonough, 2008). However, an analysis of free speech data from American L2 learners of German at a variety of proficiency levels reveals that L2 learners are significantly less likely to place locative adverbs in sentence-initial position in L2 German compared to L1 German speakers, although both speaker groups front temporal adverbs at comparable rates (Jackson, 2012). This raises the possibility that the lack of deeper priming effects among the less-proficient L2 learners in Ruf (2011) stems from the use of locative phrases—a type of adverbial phrase that is unlikely to appear sentence initially in English, and that even highly proficient L1 English- L2 German speakers are less likely to place in sentence-initial position in L2 German (Carroll, 2000).

To test this hypothesis, the present study used a computerized syntactic priming paradigm (Flett et al., 2013) in which 19 third and fourth semester L2 learners of German listened to prime sentences like (1) – (4) and were then prompted to describe pictures depicting sentences like (5).

- (1) Der Opa trinkt im Winter heiÙe Schokolade. (Prime: lexical repetition; non-fronted)
- (2) Der Opa trinkt am Morgen heiÙe Schokolade. (Prime: no lexical repetition; non-fronted)
- (3) Im Winter trinkt der Opa heiÙe Schokolade. (Prime: lexical repetition; fronted)
- (4) Am Morgen trinkt der Opa heiÙe Schokolade. (Prime: no lexical repetition; fronted)

- (5) Im Winter trÙgt der SchÙler eine Jacke. (Target sentence)

The overall percentage of sentences produced with fronted temporal adverbs ($M = 47.3\%$) was significantly higher than the rate of fronted locative phrases reported for less-proficient L2 learners in Ruf (2011) ($M = 15.8\%$). Further, the results of mixed-effects logistic regression models showed that there was significant priming in both lexical repetition and no lexical repetition conditions. There was also a significant gain in the percentage of sentences containing fronted temporal adverbs in a post-priming phase compared to a baseline phase prior to the priming task (16.9% vs. 44.2%). These latter two findings stand in stark contrast to the results with less-proficient L2 learners in Ruf (2011) and other priming studies involving less-proficient L2 learners (e.g., Kim & McDonough, 2008). These findings suggest that at lower proficiency levels, the presence or absence of robust priming effects may be modulated by the frequency of the target structure in L2 learners’ native language.