

Syntactic Priming of Dutch Passives in French-Dutch Bilinguals: L2 Proficiency Modulates Syntactic Priming Effects

Edwige Sijyeniyo^{a,*}, Robert J. Hartsuiker^b & Sarah Bernolet^a

*Edwige.Sijyeniyo@uantwerpen.be

^a University of Antwerp, ^b Ghent University, Belgium

Studies investigating cross-linguistic syntactic priming (i.e., the tendency to repeat a recently processed syntactic structure) suggest that proficient bilinguals have shared memory representations for similar structures between languages (Hartsuiker & Bernolet, 2017). But what happens if the L2 has syntactic alternatives of which only *one* structure is similar between the L1 and L2? Do L2 speakers show priming for the dissimilar structure? Also, what is the role of L2 exposure, which is expected to be reflected in L2 proficiency, in developing representations for dissimilar syntactic structures?

Present study. We investigated this in two forms of the Dutch passive that only differ in the order of the past participle and the prepositional phrase: the PP-final passive (the most frequent alternative) "*De man wordt gekust door de vrouw*" and the PP-medial passive (the least frequent alternative) "*De man wordt door de vrouw gekust*" - ["*De man is being kissed by the woman*"] in a syntactic priming experiment. We tested a group of L1 Dutch speakers ($n = 48$), 48 L2 Dutch speakers from Brussels and 48 from Louvain-la-Neuve (after excluding participants who did not meet criteria or produced only "other" responses, 36 and 43 participants remained respectively). During the task, participants heard a prime sentence in either a PP-final, PP-medial, or a baseline condition (i.e., noun phrase) and were asked to describe a target picture. We elicited passive responses by instructing participants to always start their sentence production with the patient, which was framed with the color red. We administered the LexTALE language test (Lemhöfer & Broersma, 2012) to measure all participants' Dutch proficiency.

Hypotheses. Because French and Dutch *only* share the PP-final passive, we expect priming for this structure in both groups of French-Dutch bilinguals. However, we anticipate that bilinguals in Brussels might *also* show PP-medial priming due to more L2 exposure and presumably a higher L2 proficiency than bilinguals in Louvain-la-Neuve.

Results. We analyzed production preferences and priming effects using a glmer model (R package, lme4, Bates et al., 2015). The Dutch group showed a production preference for the PP-final passive and only significant priming for the PP-medial passive ($p < 0.0001$). This is in line with the inverse preference effect, which states that the least frequent structure shows stronger priming than the most frequent structure as a result of syntactic surprisal (Jaeger & Snider, 2008). Priming effects were observed when participants were more likely to produce a PP-medial passive after a PP-medial prime than after a baseline condition (Figure 1). Interestingly, we found a marginally significant interaction between PP-medial priming and Dutch proficiency ($p = 0.08$): the 7.9% priming effect was probably driven by the higher-proficiency L1 Dutch speakers. The L2 speakers showed a production preference for the PP-medial instead of the PP-final passive and significant priming for *both* structures ($p < 0.001$). The unexpected production bias towards the PP-medial is probably due to explicit teaching of this alternative in class to avoid language interference in other Dutch structures. We also found a significant interaction between PP-medial priming and L2 proficiency ($p < 0.05$): more proficient L2 speakers showed stronger priming for the PP-medial passive (Figure 2). This result suggests that the observed PP-medial priming effect of 5% was largely driven by the higher-proficiency L2 speakers. In contrast, participants with lower L2 proficiency showed stronger PP-final priming but this interaction was only marginally significant ($p = 0.09$). None of the effects interacted with differences between bilinguals in Brussels vs. Louvain-la-Neuve.

Conclusion. We suggest that learning Dutch in a bilingual environment (e.g., Brussels) may not automatically lead to a higher L2 proficiency, which could induce the formation of syntactic representations of dissimilar structures between languages (e.g., the PP-medial passive). However, individual differences in L2 proficiency appear to be an important predictor that modulates the priming of dissimilar syntactic structures across languages.

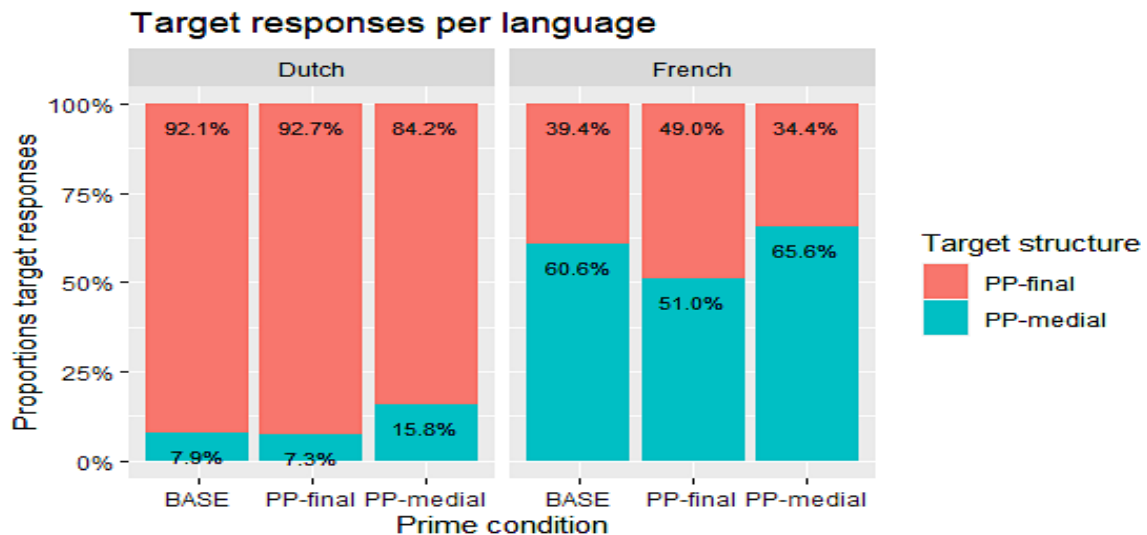


Figure 1. From the first bar plot, it is clear that the Dutch group had a production preference for the PP-final passive, but there was only a significant priming effect of 7.9% ($15.8 - 7.9 = 7.9$) for the PP-medial passive. In contrast, the French-Dutch bilinguals (right bar plot) showed a production preference for the PP-medial passive and significant priming for both structures compared to the baseline condition (PP-medial: 5%; PP-final: 9.6%).

Interaction Prime Condition*Dutch Proficiency

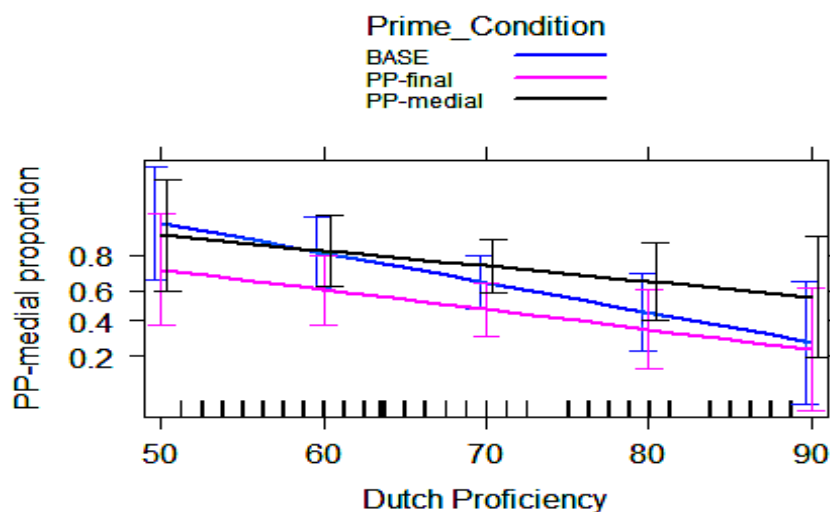


Figure 2. The significant interaction between PP-medial priming and L2 proficiency in the French-Dutch bilinguals: PP-medial priming was significantly stronger for higher-proficiency L2 speakers than for lower-proficiency L2 speakers in a PP-medial prime condition vs. a baseline condition, whereas lower-proficiency L2 speakers showed stronger PP-final priming.

References

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Supplementary notes on passive structures in Dutch and in French.

In Dutch, there are three ways of constructing a passive structure. Next to the two different versions mentioned in this abstract, the by-phrase can also be placed at the start of a sentence “*Door de vrouw wordt de man gekust*” [“*By the woman the man is being kissed*”]. We denote this structure as the PP-initial passive. Here, more emphasis is placed on the agent than in the PP-final and the PP-medial passive, though it is not the subject of the sentence. We did not include this variation of the Dutch passive because its usage is very low (see Cornelis, 1997).

French only has the PP-final passive structure. A translation of the example sentence is: *L'homme est embrassé par la femme*. Here, the by-phrase is placed at the end of the sentence, similar to the PP-final passive in Dutch.

Our data showed that French-Dutch bilinguals had a production bias towards the PP-medial passive instead of the PP-final passive, even though the former does not occur in their L1. We expected PP-medial priming only for participants in Brussels, because this is a bilingual (French and Dutch) speaking city, whereas Louvain-la-Neuve is a French speaking city. However, the PP-medial is explicitly taught in class throughout Wallonia (the French speaking south of Belgium) because of the following reasons:

- Many Dutch grammatical structures end with the past participle such as in the PP-medial passive. For example, “*Ik ben gisteren naar huis gefiets*” [“*I biked home yesterday*”]
- Moreover, in French, the past participle almost always follows the main verb, which could lead to mistakes such as “**Gisteren, ik ben gefietst naar huis*” (In French, the literal translation of the aforementioned sentence is grammatically correct: *Hier, je suis rentré chez moi à vélo - Yesterday, I biked home*). This is another reason to instruct participants to always place the past participle at the end of a sentence during the production of Dutch sentences.
- In this way, language teachers are consistent in their teaching method in which they explicitly instruct students to put the past participle at the end of a sentence (regardless of the syntactic structure)

Thus, teaching the PP-medial passive, the dissimilar syntactic structure between French and Dutch, is implemented for didactic but also strategic reasons.