

The production preferences and priming effects of Dutch passives in Arabic-Dutch and Turkish-Dutch heritage speakers

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Introduction. Research using cross-linguistic syntactic priming (i.e., the tendency to repeat a recently processed syntactic structure) suggests that proficient bilinguals have shared memory representations for syntactic structures whenever these structures are similar enough across languages. This does not only predict equally strong priming within and between languages, but also similar production preferences for both languages (i.e. how often bilinguals choose to use one syntactic alternative over the other (Hartsuiker & Bernolet, 2017). Reaction time data by Runnqvist et al. (2013) indeed suggest that production preferences are accumulated across languages. But what happens if only one out of multiple syntactic alternatives is shared between languages? Are the non-shared syntactic structures still produced or are they overruled by alternatives that are shared between languages and are, consequently, more frequent?

Current study. We investigated this by comparing production preferences (see Figure 1) and priming effects (see Figure 2-4) in Dutch transitives between Flemish speakers with Dutch as their only L1 ($n = 48$) and two groups of simultaneous bilinguals who have Dutch as a second L1 (Arabic-Dutch, $n = 48$ and Turkish-Dutch, $n = 48$). All participants acquired Dutch before the age of 5 and speak Dutch at a native level. Dutch has at least two different forms of the passive (*Het broodje wordt door de jongen gegeten* – PP-medial passive (PMP) or *Het broodje wordt gegeten door de jongen* – PP-final passive (PFP), [*The sandwich is being eaten by the boy*]), while Turkish has a strong preference for the PMP structure, and Arabic only has short passives (SP) without a by-phrase. Turkish-Dutch bilinguals might thus show a bias for PMPs in Dutch, whereas Arabic-Dutch bilinguals might produce more SPs. During the syntactic priming experiment (36 critical items), participants heard a prime sentence (PMP, PFP or a noun phrase (baseline condition)) and were then asked to describe a picture in a sentence that started with the patient (i.e., a passive sentence). In a pre-experimental baseline test, participants had to describe pictures without hearing a prime sentence and without being forced to start with the patient.

Results and discussion. We analyzed the priming effects using a generalized linear mixed model. For the Dutch group, we observed a significant priming effect only for the PMP structure ($p < 0.001$), the least frequent passive structure in Dutch (inverse preference effect). The Arabic-Dutch speakers showed a significant priming effect for both the PMP structure ($p = 0.01028$) and the PFP structure ($p = 0.00668$) and, as expected, produced more short passives than the Dutch group under influence of their L1.

The Turkish-Dutch showed significant priming for the PMP structure ($p < 0.001$) but not for the PFP structure ($p = 0.367$). However, they did produce fewer PMPs and more SPs than the Dutch group. This unexpected result (Turkish only has the PMP structure) may be due to inhibitory control and/or a compensatory mechanism. An alternative explanation may be that the Turkish PMP passive might be not shared with the Dutch PMP, meaning that they have two separate representations for the PMP passive: one for the Dutch PMP and one for the Turkish one. This could be due to a different word order within the by-phrase (Turkish has postpositions rather than prepositions). This is supported by the increased production of SPs: The SP structure may be the only passive structure that is shared between Dutch and Turkish and may therefore get stronger activation due to passive priming.

Conclusion. The results suggest that production preferences for the Dutch passive are affected by the other L1. However, the exact mechanisms are not yet clear. The data from the Arabic group show that the alternative shared between the L1s is produced more in Dutch. The data from the Turkish group suggest that other factors, such as inhibitory control or syntactic differences within constituents, may shift production preferences to non-shared alternatives.

Figure 1. Production preferences pre-experimental baseline test (produced utterances in % on 12 items).

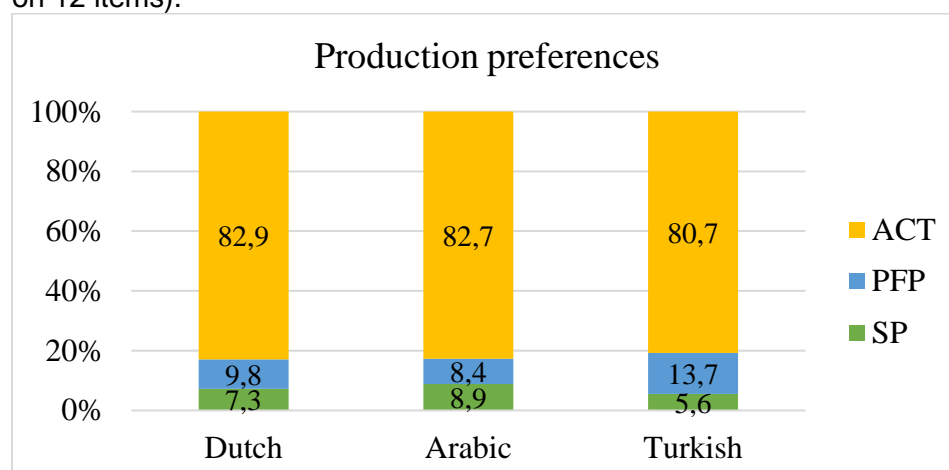
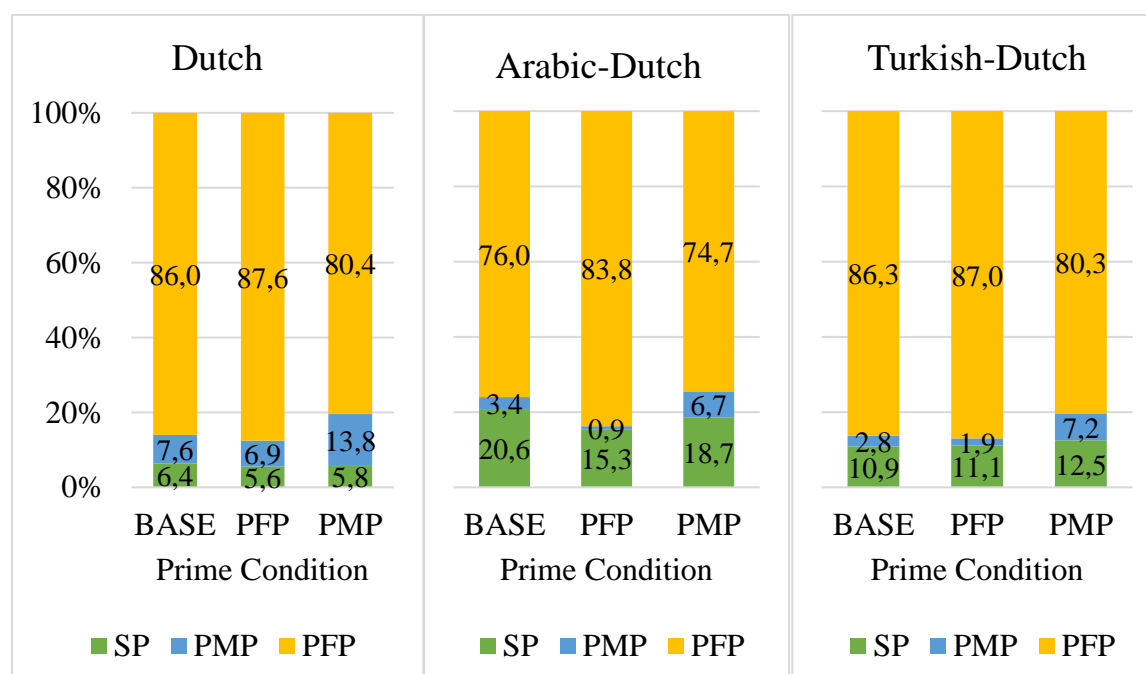


Figure 2-4. Priming effects per language group (produced utterances in % on 36 items).



References

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Additional information on languages

In Dutch, the passive is formed using the auxiliary verb *worden* and the past participle. The agent is expressed using a prepositional phrase with the preposition *door*. The word order of the passive construction is flexible. The by-phrase can occur in sentence-final position, in sentence-medial position or in sentence-initial position. In sentence-final position and in sentence-medial position, the information structure in terms of perceived emphasis is similar.

(1) **PP-final passive (PFP)**

het	broodje	word-	t	gegeten	door	de	jongen
the	sandwich	AUX	3SG	eat.PTC	by	the	boy

(2) **PP-medial passive (PMP)**

het	broodje	word-	t	door	de	jongen	gegeten
the	sandwich	AUX	3SG	by	the	boy	eat.PTC

'The sandwich is being eaten by the boy.'

All of the Arabic-speaking participants that we tested, were from Morocco. In Moroccan Arabic, the morphology of the passive is different from Modern Standard Arabic. Moroccan Arabic marks the verb with the prefix *t-*. Arabic usually does not express the agent, i.e. most passive sentences lack a by-phrase.

(3) I-bab t-hərrəs

(Loutfi, 2015, p. 9)

the-door PASS.break.PAST:M

'The door was broken.'

In our group of Arabic-Dutch speakers, we also included speakers of variants of Berber spoken in Morocco. The formation of the passive in Berber resembles the passive construction in Moroccan Arabic. Crucially, in Berber as well as in Arabic, the agent is usually not expressed in passive sentences.

(4) aḥuṛi i- ttwa- yars (Gutova, 2013, p. 111-112)

sheep:EL 3SG:M PASS- slaughter:P

'The sheep was slaughtered.' (Tarifiyt)

(5) lḥelwa tē- tswa- čča

cake 3SG:F- PASS- eat:P

'The cake was/is eaten.' (Taqbaylit)

In Turkish, animate agents are overtly expressed by means of the postposition *tarafından*. Inanimate agents are expressed by an ablative or locative. The position of the constituent indicating the agent is relatively free, although it mostly occurs immediately before the verb.

(6) araba soför tarafından sür-ül-dü

(Öszoy, 2009, p. 6)

car driver by drive-PASS-PAST

'The car was driven by the driver.'

(7) fırtına-da bütün evler yık-ıl-dı

(Göksel & Kerslake, 2005, p. 135)

storm-LOC all house destroy-PASS-PAST

'All the houses were destroyed in the storm.'