

Cross-linguistic influence on pronoun resolution in simultaneous bilingual Turkish-Dutch children: An eye-tracking study

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We investigated whether pronoun interpretation preferences from a null subject language, Turkish, influence online and offline pronoun resolution in a non-null subject language, Dutch, in Turkish-Dutch simultaneous bilingual children. Dutch overt pronouns are usually linked to the most accessible referent in the discourse (e.g., Ariel, 2014), which is Anna in (1). In contrast, Turkish overt pronouns typically signal a shift in topic (e.g., Azar & Özyürek, 2015; Enç, 1986), linking *o* in (2) either to Sophie or a third unmentioned referent.

(1) Anna_i en Sophie_k zijn thuis. Terwijl Anna_i leest, neemt zij_{i/k} een slokje water.
Anna_i and Sophie_k are home while Anna_i reads takes she_{i/k} a sip water

(2) Anna_i okurken, o_{?i/k} sudan bir yudum alıyor.
Anna_i read she_{?i/k} water a sip take

It is unknown whether preferences from one language can influence bilingual children's online pronoun resolution preferences in their other language (see Serratrice, 2007, for offline pronoun resolution). In fact, cross-linguistic influence during sentence processing in general is an underexplored area in children (cf. Lemmerth & Hopp, 2019; van Dijk, Dijkstra, & Unsworth, under review). Our main aim was, therefore, to test for online cross-linguistic influence during Dutch pronoun resolution in Turkish-Dutch children. Furthermore, we compared online and offline effects and investigated the role of language dominance. Finally, we tested whether a general bilingualism effect affects children's pronoun interpretations (e.g., Sorace et al., 2009).

We measured 17 Turkish-Dutch children's (age: 7;0-11;0) pronoun interpretation preferences in Dutch sentences such as in (1) using an eye-tracking task (visual world paradigm) combined with a picture selection task. Twenty-two German-Dutch bilingual and 14 Dutch monolingual peers served as control groups. We expected no influence from German as Dutch and German have similar pronoun preferences (e.g., Roberts, Gullberg, & Indefrey, 2008).

Using mixed effects modelling we found evidence for cross-linguistic influence from Turkish in children's fixations when we took children's language dominance profile into account. The more balanced children were in their languages, as opposed to being Dutch-dominant, the less they fixated on the Turkish-preferred non-topic referent. We observed a similar although non-significant pattern offline. Finally, we found no evidence for a general bilingualism effect online or offline.

Our findings suggest that processing Dutch pronouns activates Turkish overt pronouns and their preferred non-topic interpretation, in line with accounts on non-selective lexical and syntactic access in bilinguals (e.g., Dijkstra & van Heuven, 2002; Hartsuiker & Bernolet, 2017). Turkish-Dutch children had to inhibit this Turkish co-activation. Consequently, the stronger this inhibition was, the less available the 'Turkish interpretation' became. Furthermore, language dominance mediated the strength of co-activation, and, consequently, inhibition. This study is one of the first to provide direct evidence of language co-activation during sentence processing in bilingual children.

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