Is it possible to prime an ungrammatical structure across a bilingual's two languages? Assessing the combined role of language and structure activation using within- and across-languages priming experiments.

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Cross-linguistic influence in bilingual language production has been accounted for in terms of activation states of lexical and syntactic structures: the higher their activation in one language, the more likely they are to be reproduced in the other language (Serratrice 2016; Sharwood Smith and Truscott 2014). In this contribution, we investigate a structure which is available in only one of a bilingual's two languages. By triangulating the results of two within-languages priming experiments and one across-languages priming experiment, we will investigate if: i) it is possible to prime an ungrammatical structure in Language A, depending on whether the prime sentence is in Language A or Language B (in which the target structure is allowed for); ii) activation of Language B leads to the production of the ungrammatical structure in Language A, even if the structure is not directly primed. The target structures which we investigate are the VSO and SVO word orders. In Greek, SVO and VSO are both possible, in particular the latter is found in broad focus sentences, while in Italian VSO is ungrammatical in this context (Roussou and Tsimpli 2006).

We tested 36 Greek-Italian bilingual children (15 females, age range 7;5-11;10, M: 9;5) attending an Italian immersion school in Athens (Greece). They were all simultaneous or early sequential bilinguals (AoO between 0 and 3). Considered as a group, they were relatively balanced between Greek and Italian (based on the analysis of background questionnaires).

We designed two within-languages priming experiments (Italian-to-Italian and Greek-to-Greek) and one across-languages (Greek-to-Italian) priming experiment. Children had to look at a picture, listen to a prime sentence and repeat it. The prime sentences were either SVO or VSO structures. Then they were asked to describe a new picture (Figure 1). In the Greek-to-Greek task prime and target sentences were in Greek, while in the Italian-to-Italian task they were in Italian. In the Greek-to-Italian task, primes were in Greek while target sentences were in Italian. Each task targeted the production of 40 sentences, 20 preceded by an SVO-prime and 20 by a VSO-prime.

Children mostly produced SVO(s) across all tasks. We ran a Generalized Linear Mixed Model (GLMM) of the probability of producing a VSO-structure as an effect of prime (SVO vs VSO) and type of task (Greek-to-Greek, Italian-to-Italian, and Greek-to-Italian). The children were more likely to produce VSO(s) after VSO-primes ($\beta=1.62$, SE=0.31, z=5.16, p<.001). The analysis also shows an effect of type of task, indicating that in the Greek-to-Greek ($\beta=3.14$, SE=0.45, z=6.94, p<.001) and in the Greek-to-Italian task ($\beta=2.84$, SE=0.44, z=6.51, p<.001), children produced significantly more VSO(s) than in the Italian-to-Italian task (which was chosen as our reference level in the model) – see Figure 2.

The results of the Italian-to-Italian task show that ungrammatical VSO-structures can be primed (even if to a low extent) – see research question (i) above. The results of the Greek-to-Italian task reveal that the activation of Greek alone leads to an increase in the production of VSOs in Italian, also following an SVO-prime (research question (ii)). The greatest increase in the production of VSOs in Italian can be observed after a VSO-prime in Greek. Notably, the results of the Greek-to-Italian task do not differ from the ones of the Greek-to-Greek task. The results suggest an account of cross-linguistic influence in terms of the degree of activation not only of a syntactic structure, but also of a language in a bilingual's processing system.

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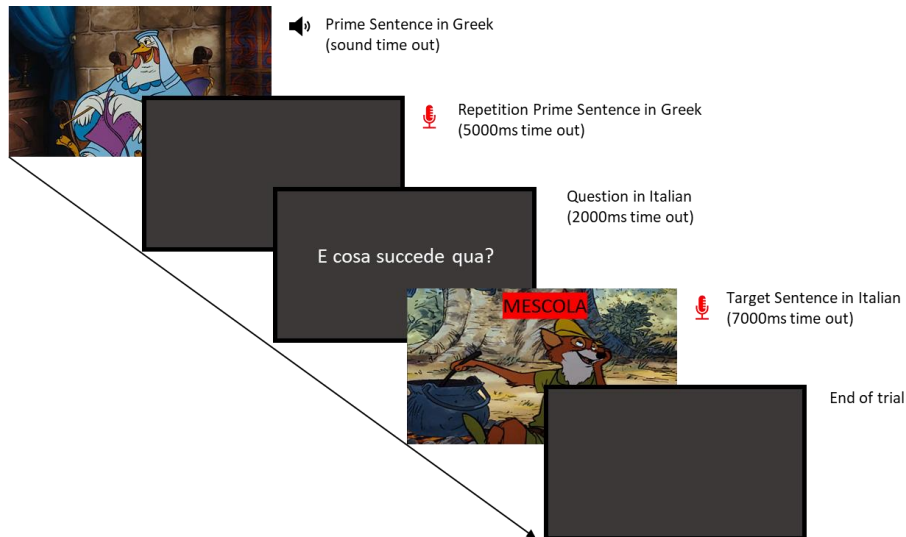
Figure 1 Design of the cross-linguistic priming experiment
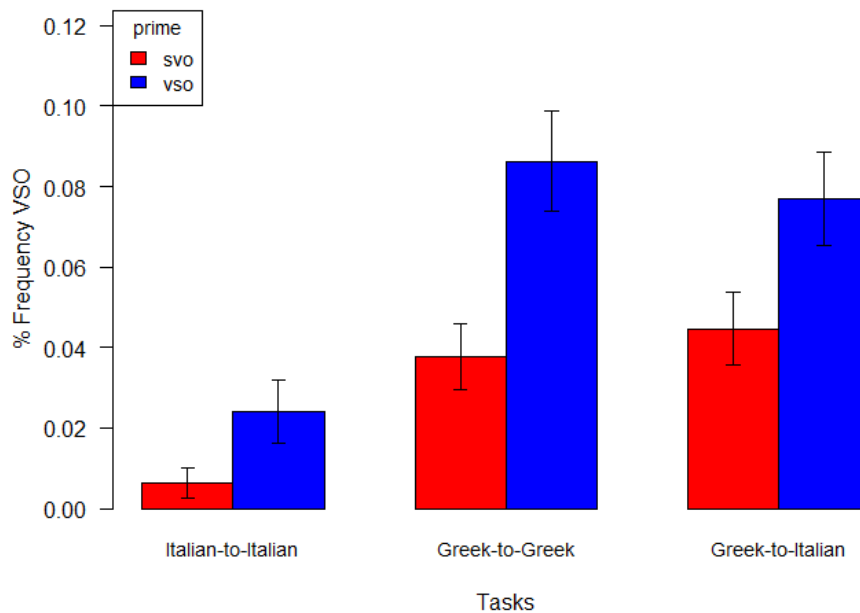

Figure 2 Percentage of frequency of production of VSO after an SVO and a VSO prime in the Italian-to-Italian, Greek-to-Greek and Greek-to-Italian task