Cross-linguistic influence as motivated by the degree of language activation:

Empirical evidence from priming experiments within and across languages with Greek-Italian bilingual children

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INTRODUCTION

Cross-linguistic priming experiments have often been used to test whether the activation of a structure in Language A leads to the production of the same structure in Language B (Hartsuiker et al. 2004; Serratrice 2016). However, most studies have considered structures that are common across the two languages (e.g., passive sentences in Spanish and English; Vasilyeva et al. 2010).

This study investigate whether it is possible to **prime a structure** from Language A to Language B, even if the use of this structure is **inappropriate** in Language B.
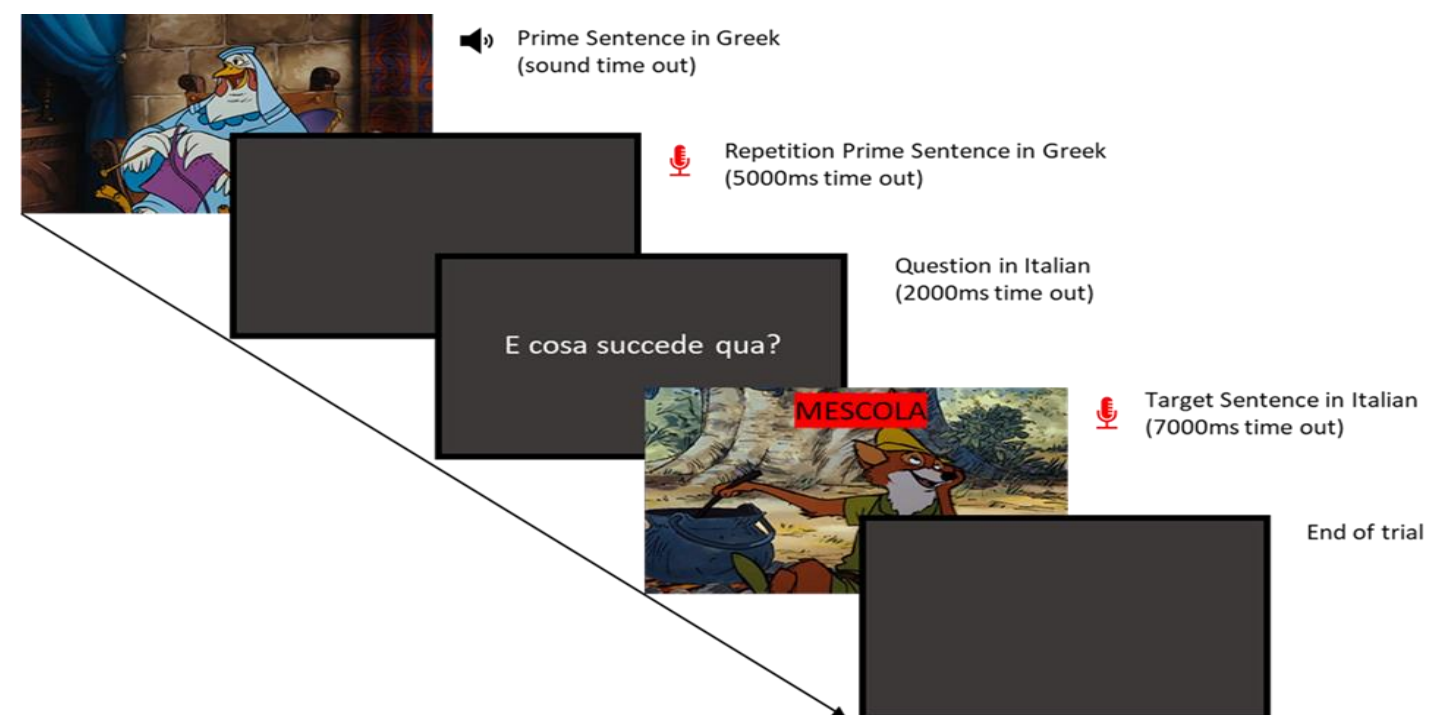
This would suggest an account of **cross-linguistic effects** in terms of **activation** of a syntactic structure in the bilingual's processing system.

In broad-focus sentences, Greek allows for the use of the **VSO-word-order**, but Italian does not (Roussou & Tsimpli 2006; Torregrossa et al. 2020).

METHODS

Three priming experiments, consisting in a picture-description task (40 sentences in total: 20 with an SVO-prime and 20 with a VSO-prime).
- two **within-languages** (**Greek-to-Greek and Italian-to-Italian**);
- one **across-languages** (**Greek-to-Italian**)

Prime Sentence in Greek (sound time out)

Repetition Prime Sentence in Greek (5000ms time out)

Question in Italian (2000ms time out)

E cosa succede qua?

MESCOLA

Target Sentence in Italian (7000ms time out)

End of trial

Participants: 36 Italian heritage children (age range: 7:5; 11;10. M: 9;6) in Greece (AoO to Greek between 0 and 3) attending an Italian immersion school.

RESULTS

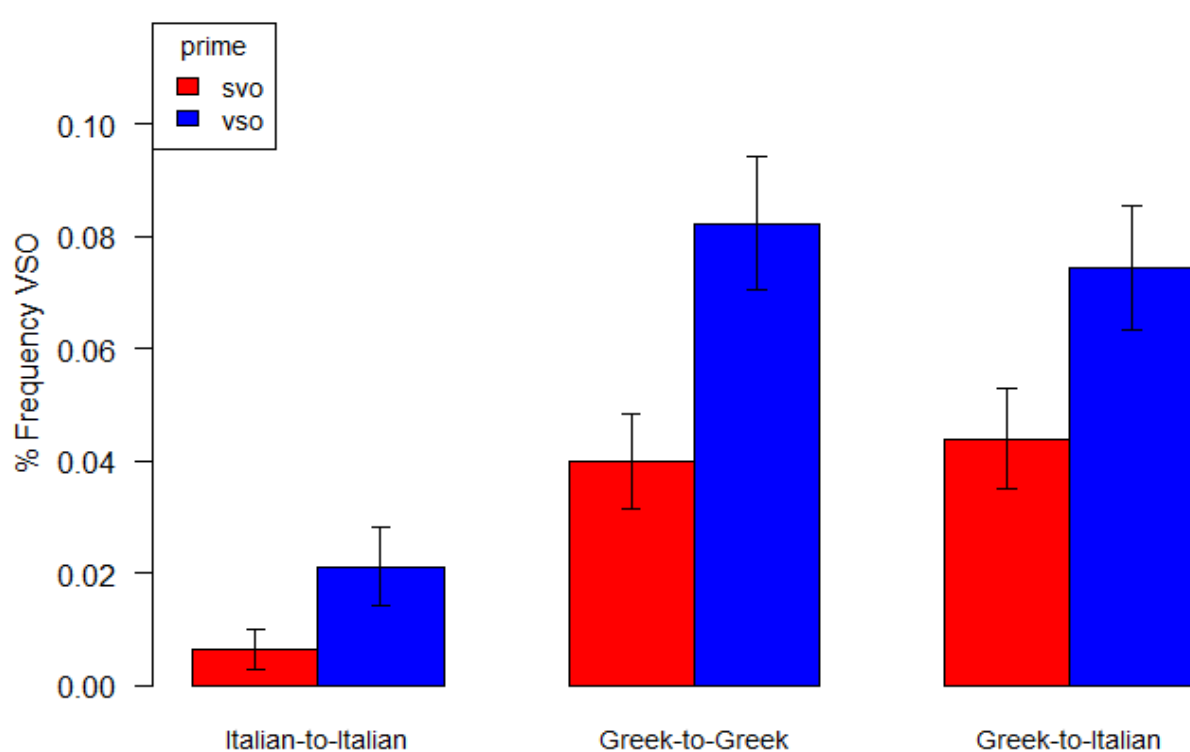**Production of VSO-target sentences**

prime
svo
vso

% Frequency VSO

Italian-to-Italian   Greek-to-Greek   Greek-to-Italian
Conditions

Figure 1.

prime effect plot

probs VSO

svo   vso
prime

condition effect plot

probs VSO

Italian-to-Italian   Greek-to-Greek   Greek-to-Italian
condition
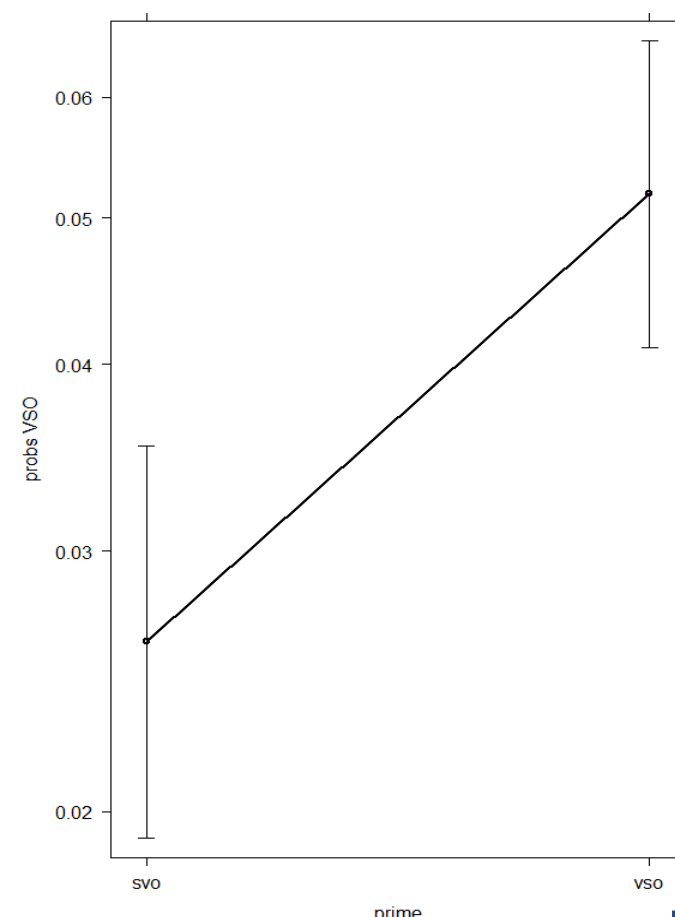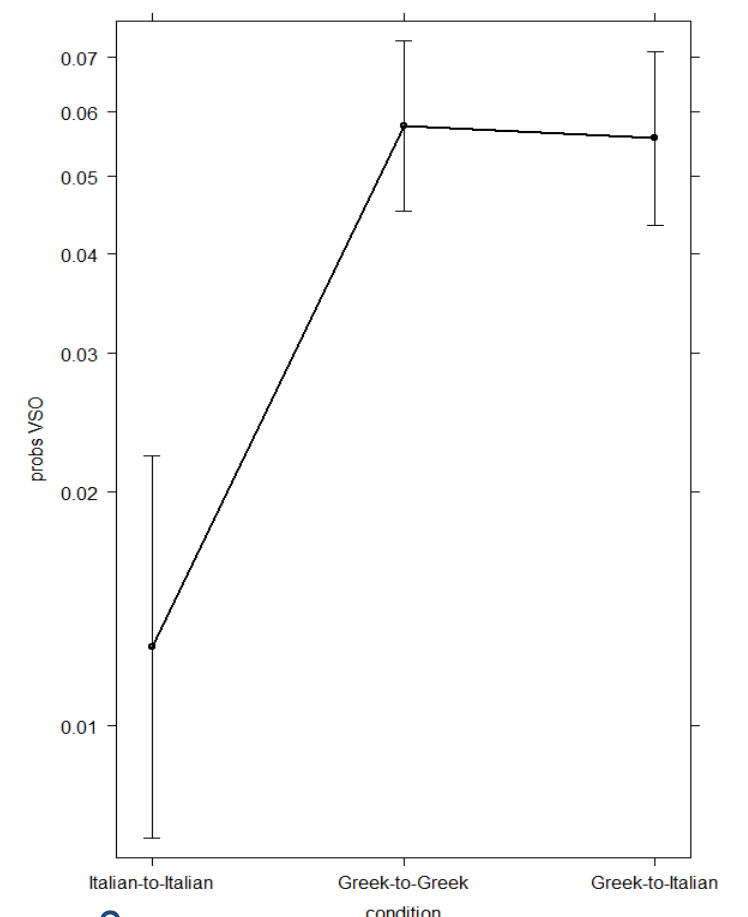
Figure 2.

SVO is by far the most produced structure across all conditions, independently of the type of prime (SVO vs. VSO).
A binomial logistic regression analysis shows that:
- **VSO**s are mostly produced following VSO-primes across all conditions (**prime effect plot**) [β= 1.58, SE(β)= 0.32, z= 4.91, p<.001];
- The **Italian-to-Italian task** exhibits a lower number of VSOs compared to the other two tasks (**condition effect plot**):
  [*Greek-to-Greek*: β= 3.24, SE(β)= 0.46, z= 7.07, p<.001; *Greek-to-Italian*: β= 2.88, SE(β)= 0.44, z= 6.50, p<.001]

DISCUSSION

The observation that in **the Italian-to-Italian task**, VSO-structures are produced **at the lowest rate** suggests that bilingual children are sensitive to the difference between their two languages.

The **increase** in the production of VSO-structures in Italian in **the Greek-to-Italian task** (especially following a VSO-prime) suggests that cross-linguistic influence is sensitive to the **degree of activation** of a given structure. **Prime** (SVO vs. VSO) and **condition** (Italian-to-Italian vs. Greek-to-Italian) exert a **cumulative effect** on the production of VSO in Italian.

The results suggest an account of cross-linguistic effects in terms of the degree of activation of a syntactic structure in a bilingual's processing system.

References: Hartsuiker, R. J., Pickering, M. J., & Veltkamp, E., (2004). Is syntax separate or shared between languages? Cross-linguistic syntactic priming in Spanish-English bilinguals. *Psychological Science*, 15(6), 409–414. **Roussou, A., & Tsimpli, I. M. (2006).** On Greek VSO again! *Journal of Linguistics*, 42(2), 317–354. **Serratrice, L. (2016).** Cross-linguistic influence, cross-linguistic priming and the nature of shared syntactic structures. *Linguistic Approaches to Bilingualism*, 6(6), 822–827. **Torregrossa, J., Andreou, M. & Bongartz, C. (2020).** Variation in the use and interpretation of null subjects. A view from Greek and Italian. Glossa 5(1). **Vasilyeva, M., Waterfall, H., Gámez, P. B., Gómez, L. E., Bowers, E., & Shimpi, P. Vasilyeva, M., et al., (2010).** Cross-linguistic syntactic priming in bilingual children. *Journal of Child Language*, 37(5), 1047–1064.