

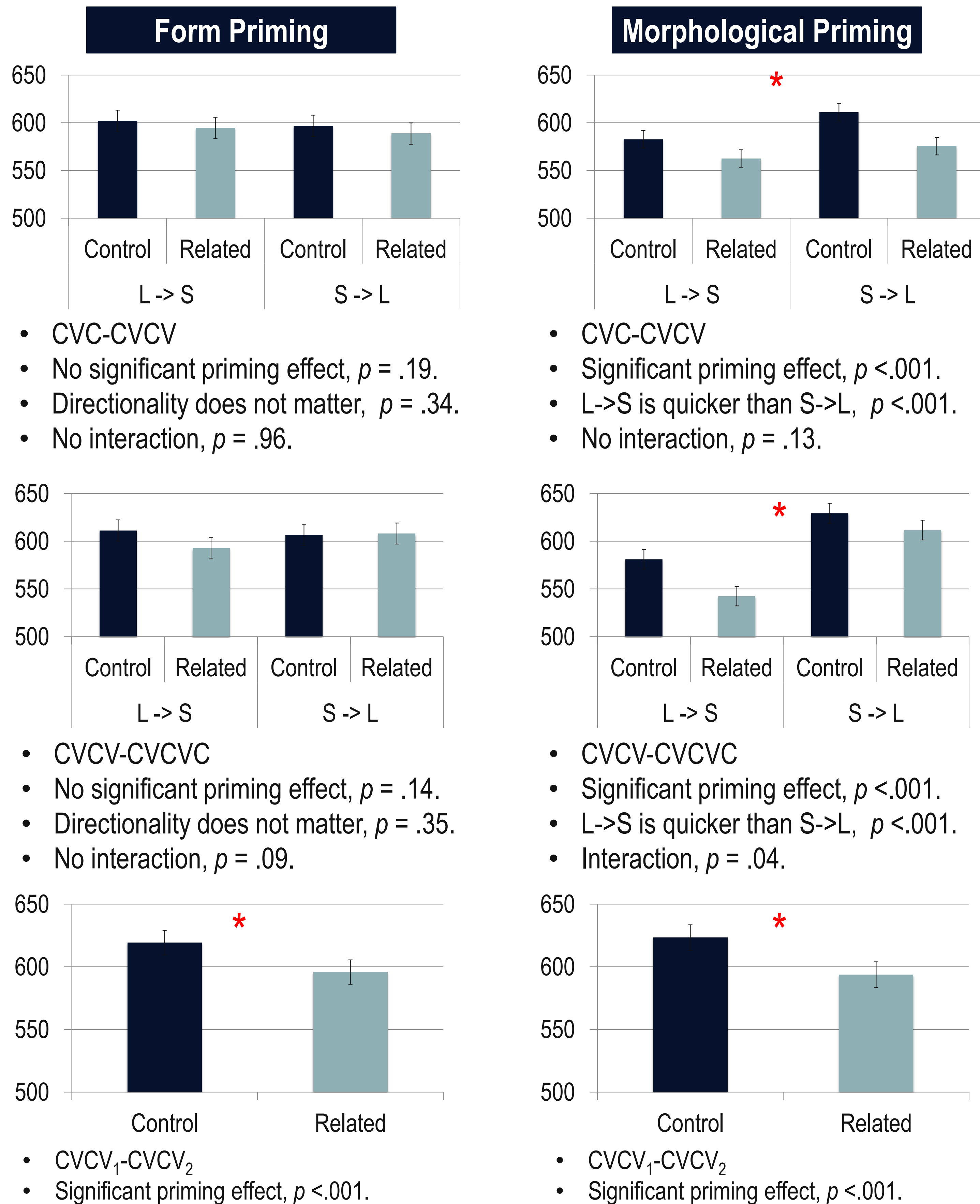
Introduction

- Morphologically related words often have substantial phonological overlap. To understand the underlying morphological processing, it is necessary to understand the relevance of phonological overlap.
- In the form priming literature, the effect of phonological overlap is not conclusive (cf. Zwitserlood, 1996; Giraudo and Dal Maso, 2016).
- One limitation of previous research on the effect of phonologically related items is that form overlap is not strictly controlled for.
- We have used Bengali since its phonological structure (initial stress, no reduced vowels) and range of morphological suffixes allow us to control the experimental materials.

Research Questions

- (a) to investigate form priming with systematically manipulated segmental overlap between the prime and the target
- (b) to compare the results for word pairs that are purely phonologically related or morphologically related with parallel segmental/syllable structure (see Table 1)
- (c) to investigate the list context effect

Priming Results: Blocked Design



Experimental Design

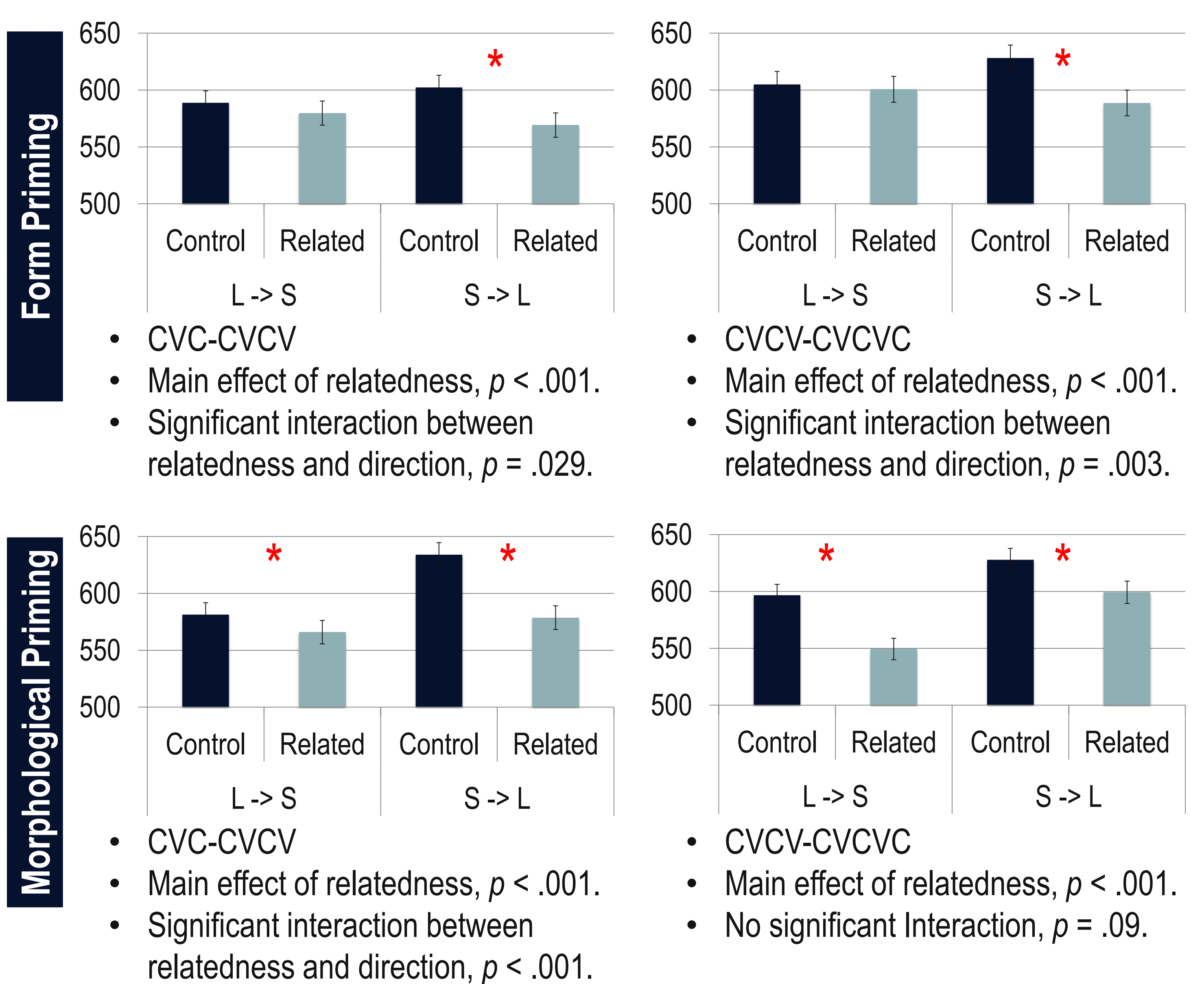
- Six lexical decision experiments in Bengali with cross-modal priming
- Three with **phonologically** related prime/target pairs, three with **morphologically** related pairs with parallel segmental structure (see Table 1)
- We deliberately increased the relationship between the prime and the target by **one segment** or by **changing the final vowel**.
- Two designs were used: **Blocked design** (N = 64) **Mixed design** (N = 64)

Condition	CVC↔CVCV	CVCV↔CVCVC	CVCV1↔CVCV2
Phonologically related	kal (day) ↔ kali (ink)	qali (basket) ↔ qalim (pomegranate)	tʃani (cataract) ↔ tʃana (paneer)
Morphologically related	dag (mark) ↔ dag-i (stain)	dekʰ-i (see-1st.PRES.) ↔ dekʰ-iʃ (see-2nd.PRES.)	dækʰe (see-3rd.PRES.) ↔ dækʰo (see-2nd.PRES.)
Syllable structure	CVC↔CV.CV	CV.CV↔CV.CVC	CV.CV1↔CV.CV2
Number of syllables matched	No	Yes	Yes
First stressed syllable matched	No	Yes	Yes
Number of overlapping segments	3	4	3
Type of second syllable	-open	open/closed	open/open

Hypotheses and Predictions

- The COHORT model predicts that hearing a sequence of sounds and syllables activates all the other words that begin with that sequence. We therefore predict that the short words will prime the long words but not vice versa.
- We will investigate the potential effect of number of segments overlap and syllable overlap and to what extent they contribute to form priming.
- We also predict that engaging in morphological processing should have an effect on subsequent processing for forms that have similar structures.

Priming Results: Mixed Design



Discussion

- In the **blocked** setting:
 - Phonologically related pairs showed a priming effect only when the prime/target pairs shared the **exact same syllable** structure
- In the **mixed** setting:
 - Significant phonological priming effect emerged
 - Form priming was driven by pairs where targets **increased** by one segment rather than those which decreased by one segment
 - In line with the COHORT model (Marslen-Wilson & Zwitserlood, 1989)
 - Longer words did not prime shorter words: unlike offset embedded words (e.g. 'trombone' primes 'bone', Shillcock, 1990), onset embedded words showed no such effect.
 - Morphological priming effect is **not** stronger in mixing than in blocking: form overlapping is not an additive effect.
 - Absence of priming effect for purely phonologically related word pairs (e.g. bulletin – bullet, Marslen-Wilson, 1994) might be due to the direction of priming.
 - Form priming effect in the mixing condition results from a more activated phonologically related cohort, arguably because morphological processing draws on phonological relatedness.
 - Does not preclude the effect of semantic relationships for the current design.

Contact

<http://brainlab.clp.ox.ac.uk/people/beinan-zhou>
beinan.zhou@ling-phil.ox.ac.uk

Selected References

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