

# Exploring the influence of thematic role and case marking in structural priming: A structural priming study in Basque

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## INTRODUCTION

**Structural Priming** is a well attested phenomenon revealing the tendency of speakers to repeat sentence structures (e.g., Bock, 1986).

**Lexical boost:** Structural priming seems to boost when both prime and target sentences contain the same verb (e.g., Pickering & Branigan, 1998).

**Thematic role priming:** thematic relations do not seem to affect structural priming: locative by-PP primes passives as well as passives do (e.g., Bock & Loebell, 1990).

However, Melinger (2006) reported that unaccusatives prime passives, suggesting that this occurs due to the subject's thematic role mapping.

Instead, Kim (2006) showed that causer-experiencer passives primed agent-theme passives as strongly as agent-theme passives, suggesting that unaccusative to passive prime effects are due to syntactic structure similarities, not thematic role mapping.

**AIMS:** Test the priming effects from unaccusatives to passives in a context where there is not subject's thematic role overlap (Psych-Verbs).

Test different priming effects from unaccusatives and unergatives to passives in a language where the subject of unaccusatives and unergatives receives the same (English) or different (Basque) case.

**PREDICTIONS:** Due to syntactic structure similarities, unaccusatives should prime passives more than unergative (and active) sentences.

If case marking plays a role in structural priming, larger passive priming differences are expected between unaccusatives and unergatives in Basque than in English.

### Main differences between Basque and English

**Basque:** Ergative language + overt case marking. No passive voice in Basque, but...

*transitive/intransitive alternation with Psych-Vs [Causer-experiencer thematic roles]*

**English:** Accusative language + no overt case marking. Passive/active alternation.

Same **thematic role assignment** to the subject positions of unergative and unaccusative verbs mirroring the assignment to the subjects of actives and passives in both languages (Levin & Rappaport, 1995).

But differences in subject **case assignment:**

**English:** Nominative case for the subject of all structures.

**Basque:** Ergative case for actives and unergatives; Absolutive case for passives and unaccusatives.

	AGENT/causer	EXPERIENCER/Theme	BASQUE	ENGLISH
Active/transitive:			[NP-k <sub>ERG</sub> ] [NP-Ø <sub>ABS</sub> ] V+Trans aux]	[NP <sub>NOM</sub> ] [NP <sub>ACC</sub> ] V]
Unergative:			[NP-k <sub>ERG</sub> ] [V+Trans aux]	[NP <sub>NOM</sub> ] [V]
Passive/Intransitive:			[NP-Ø <sub>ABS</sub> ] [PP] V+Intr aux]	[NP <sub>NOM</sub> ] [(PP)] V]
Unaccusative:			[NP-Ø <sub>ABS</sub> ] V+Intr aux]	[NP <sub>NOM</sub> ] V]

## CONCLUSIONS

**Evidence of structural priming and lexical boost effects in a new type of syntactic alternation:**

Transitive/intransitive use of Psych-Vs in Basque.

**Subject's case similarity is not enough to trigger syntactic priming:**

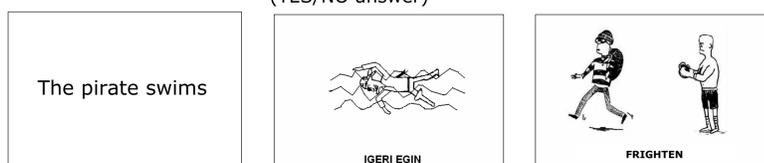
Absence of unaccusative to passive or unergative to active priming.

**Alternatively, null effects might be due to the absence of thematic emphasis binding** (Bernolet, Hartsuiker, and Pickering, 2009):

Absolutive subjects of unaccusatives are not emphasized, as they are not contrasted with any other role, thus failing to prime Intr-Psych-V structures.

## METHOD

**Task:** 1) Read sentence aloud 2) Sentence-picture matching (YES/NO answer) 3) Describe picture



**Materials:**

**TARGET PICTURES:** 24 pictures representing change of psychological state actions (12 psychological verbs: *frighten, adore, admire, terrify, surprise, bore, embarrass, upset, annoy, praise, soothe, respect*).

**PRIME CONDITIONS:**

- The same 24 pictures used as target
- + 24 pictures representing unergative verbs (*cough, swim, sleep, laugh, run, cry*)
- + 24 pictures representing unaccusative verbs (*go, come, arrive, stoop, depart, \*walk*)
- \* The verb "walk" is unaccusative in Basque, but unergative in English (4 trials discarded from the analysis in Experiment 3)

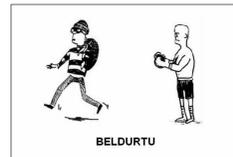
**FILLERS:** 72 filler pictures representing ditransitive (24), transitive (24) and intransitive (24, 12 unergative / 12 unaccusative) actions.

## EXPERIMENT 1: Structural priming of intransitive Psych-Vs in Basque

**Prime Conditions**

- 1a Medikua piratarekin beldurtzen da (Intransitive, Same)  
The doctor the pirate-with fright is [the doctor is frightened by the pirate]
- 1b Piratak medikua beldurtzen du (Transitive, Same)  
The pirate the doctor frighten has [the pirate frightens the doctor]
- 2a Medikua piratarekin aspertzen da (Intransitive, Different)  
The doctor the pirate-with bore is [the doctor is bored by the pirate]
- 2b Piratak medikua aspertzen du (Transitive, Different)  
The pirate the doctor bore has [the pirate bores the doctor]

**Target:**



Lapurra boxeolariarekin beldurtzen da [the burglar is frightened by the boxer]  
or  
Boxeolariak lapurra beldurtzen du [the boxer frightens the burglar]

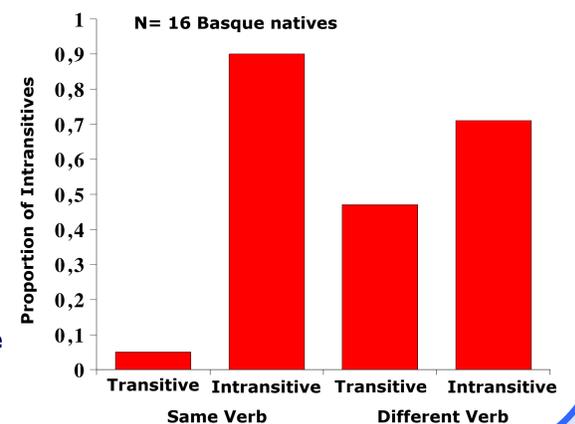
**Results:**

More intransitive Psych-Vs after intransitive than after transitive Psych-V primes.

Larger priming with verb repetition between prime and target (lexical boost).

**Evidence of structural priming in a new type of syntactic structure alternation in Basque:**

**Transitive vs. Intransitive use of Psych-Vs**



## EXPERIMENTS 2 & 3: Do unaccusatives prime intransitive/passive Psych-V use in Basque and English?

**Prime Conditions**

- 1a Medikua piratarekin aspertzen da (Intransitive, Different)  
The doctor is bored by the pirate
- 1b Piratak medikua aspertzen du (Transitive, Different)  
The pirate bores the doctor
- 2a Pirata abiatzen da (Unaccusative)  
The pirate depart is [the pirate departs]
- 2b Piratak igeri egiten du (Unergative)  
The pirate swim make has [the pirate swims]

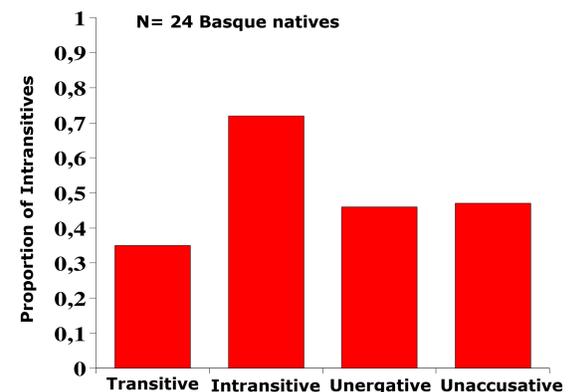
**Target:** Same as in Experiment 1

**Results Experiment 2:**

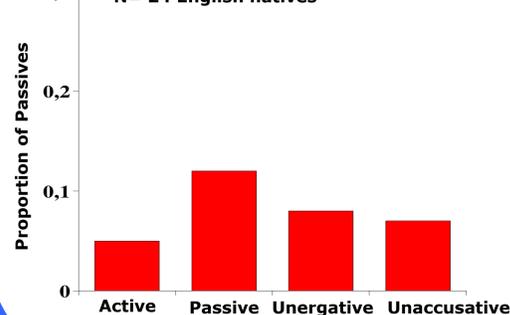
More intransitive Psych-Vs after intransitive than after transitive Psych-V primes.

**More intransitive Psych-Vs after unaccusatives and unergatives than after transitive Psych-Vs.**

**However, unaccusatives do not prime intransitive Psych-V more than unergatives.**



**N = 24 English natives**



**Results Experiment 3:**

English speakers produced more passives after passive than after active primes.

**Same amount of passive Psych-Vs after unaccusatives, unergatives and active Psych-Vs.**

**Unaccusatives do not prime passives more than unergatives.**

**Selected references**

Bernolet, S., Hartsuiker, R. J., & Pickering, M. J. (2009). Persistence of emphasis in language production: A cross-linguistic approach. *Cognition*, 112, 300-317.

Kim, C. S. (2006). *Structural Priming and Non-surface Representations*. Unpublished Master thesis, UCLA.

Melinger, A. (2006). The influence of thematic role assignment on structural priming. Poster presented at the 19th annual CUNY conference on Human Sentence Processing, New York, NY.

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