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# Proximity and same case marking do not increase attraction effect in comprehension: Evidence from eye-tracking experiments in Korean

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## Background & Research questions

➤ **Memory retrieval is content addressable** (Lewis & Vasishth, 2005; Lewis et al., 2006; McElree et al., 2003; Van Dyke & McElree, 2006)  
 → Potential targets in memory are activated in parallel in response to retrieval cues.

- Facilitatory intrusion  
 : Reading time penalty for a mismatching dependency could be reduced due to the presence of a partially matching distractor (Wagers et al. 2009; Vasishth et al. 2008; Xiang et al. 2009)

- (a) The musician who the reviewer **praise** won the prize.
- (b) The musicians who the reviewer **praise** won the prize.
- reading times at praise: (b) < (shorter) than (a)

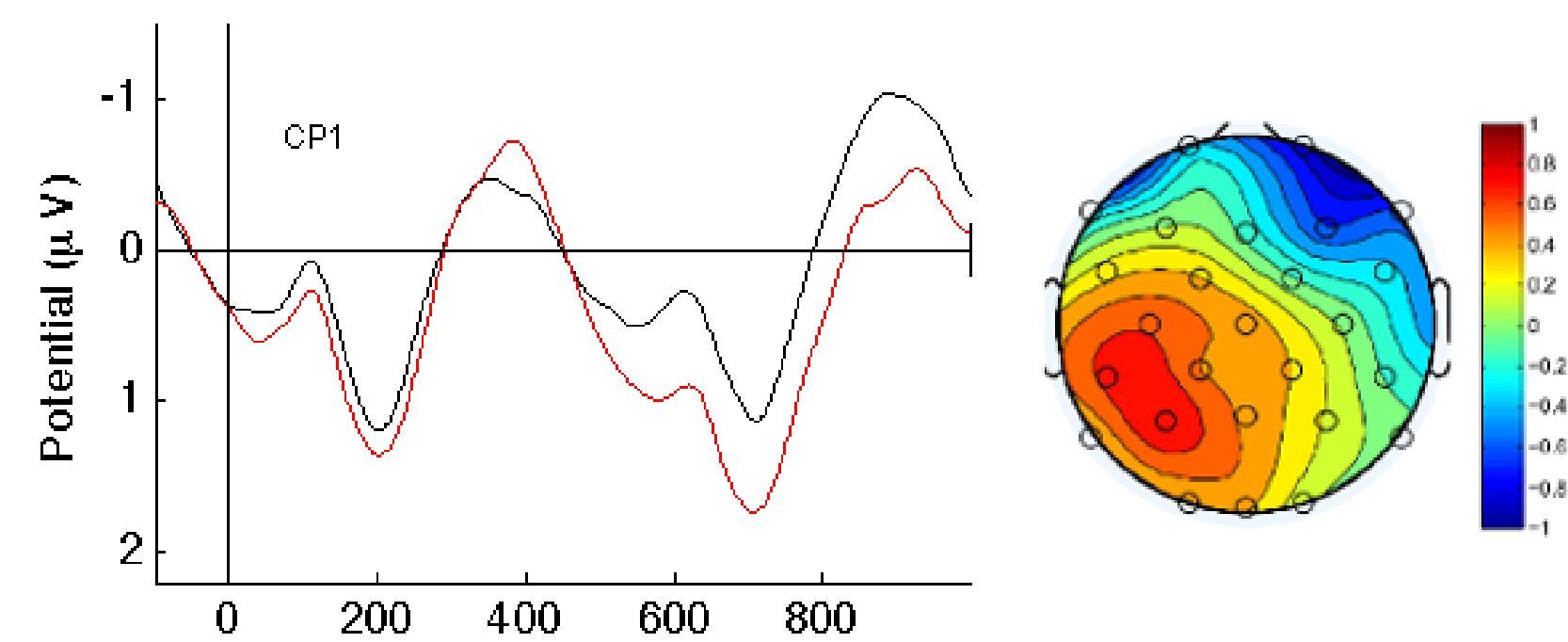
➤ **Goal of study: To investigate whether attraction effects would be modulated by memory representation of a distractor** (cf. Nicol et al. 2016; Kwon & Sturt, 2017)

### Korean

- SOV word order with case marking & impoverished verbal agreement except for subject honorific agreement
- Subject honorific suffix **-si-** is optional and can be omitted (a) but
- when used, should agree with the subject in honorific feature (b)
- cannot be used with a subject of low social status (c)

- a) Grandpa-nom TV-acc watch-decl (optional)
- b) Grandpa-nom TV-acc watch-**si**-decl
- c) \*Kid-nom TV-acc watch-**si**-decl

- Subject honorific violation in Korean elicits a P600 (Kwon & Sturt, 2015).



## 3 Experiments & Results (4 conditions: ± honorific features of NP1 and NP2; Emb. Verb-honorific)

- Experiment 1: different case markers & intervening distractor  
 Subject control (-*keyss*, -*keyss*); (+hon vs. -hon) NP1-nom x (+hon vs. -hon) NP2-dat ... emb.verb-**si** ...
- Experiment 2: different case markers & distant distractor  
 Object control (-*keyss*, -*keyss*); (+hon vs. -hon) NP1-nom x (+hon vs. -hon) NP2-dat ... emb.verb-**si** ...
- Experiment 3: same case markers & distant distractor  
 Center embedding; (+hon vs. -hon) NP1-nom x (+hon vs. -hon) NP2-nom ... emb.verb-**si** ...

Predictions:

- 1) If proximity matters, stronger attraction effects in Exp 1 > Exp 2
- 2) If same case marking matters, stronger attraction effects in Exp 3 > Exp 2

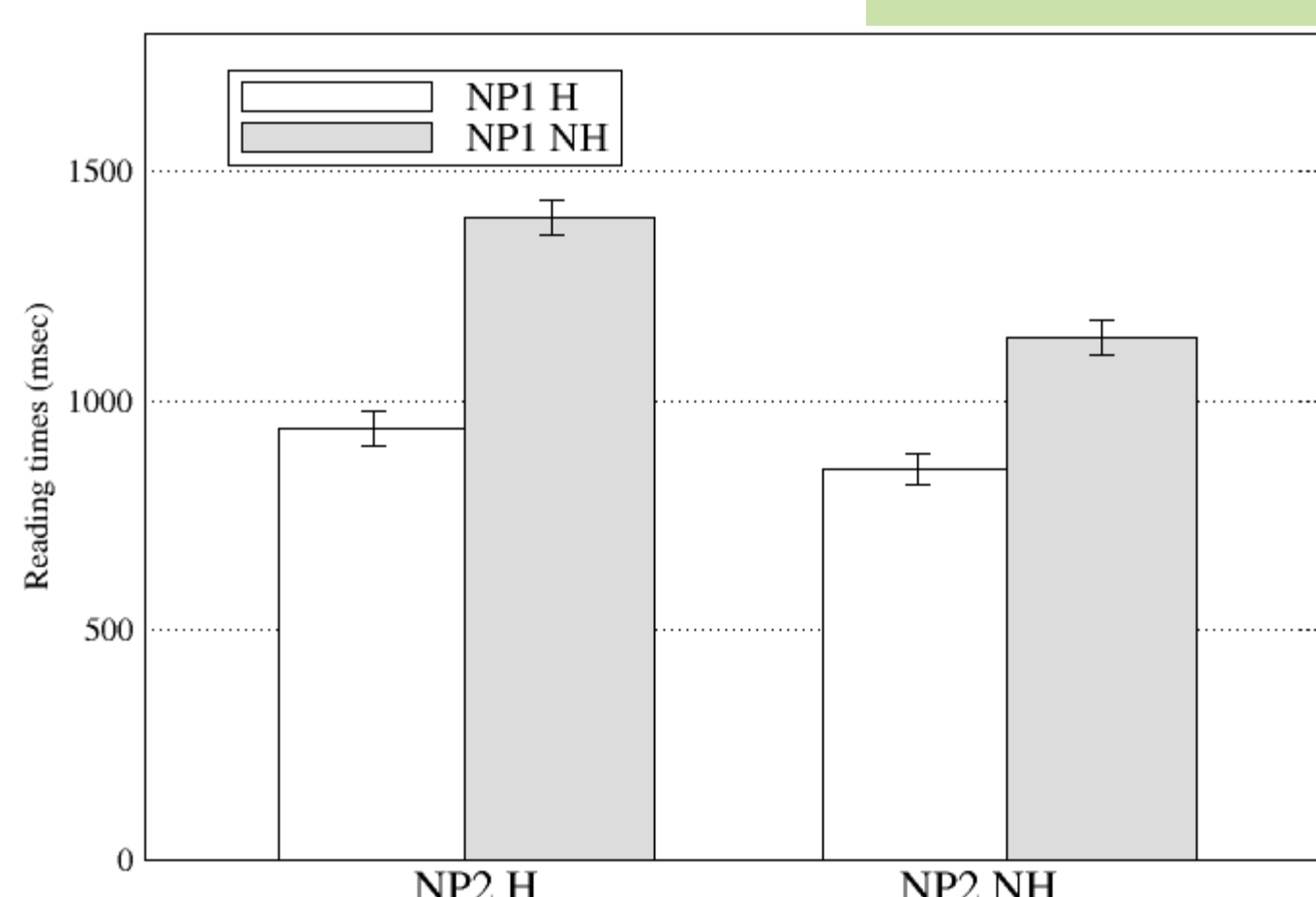
Main subj	Emb subj	W1	W2	W3	W4	W5	W6	W7	W8	
H	H	Teacher <sub>i</sub> -nom	editor <sub>k</sub> -dat	PRO <sub>i</sub>	demo	cd-acc	listen- <b>si</b> -comp	calm	voice-in	said
NH	H	Minji <sub>i</sub> -nom	editor <sub>k</sub> -dat	PRO <sub>i</sub>	demo	cd-acc	listen- <b>si</b> -comp	calm	voice-in	said
H	NH	Teacher <sub>i</sub> -nom	Tayho <sub>k</sub> -dat	PRO <sub>i</sub>	demo	cd-acc	listen- <b>si</b> -comp	calm	voice-in	said
NH	NH	Minji <sub>i</sub> -nom	Tayho <sub>k</sub> -dat	PRO <sub>i</sub>	demo	cd-acc	listen- <b>si</b> -comp	calm	voice-in	said

Exp1: Subject control 'The teacher<sub>i</sub>/Minji<sub>i</sub> told the editor<sub>k</sub>/Tayho<sub>k</sub> ~ that she<sub>i</sub> would listen to a demo cd.'  
 Exp2: Object control 'The teacher<sub>i</sub>/Minji<sub>i</sub> told the editor<sub>k</sub>/Tayho<sub>k</sub> ~ PRO<sub>k</sub> to listen to a demo cd.'  
 Exp3: Embedding 'The teacher<sub>i</sub>/Minji<sub>i</sub> told the editor<sub>k</sub>/Tayho<sub>k</sub> ~ that she<sub>i</sub> listened to a demo cd.'

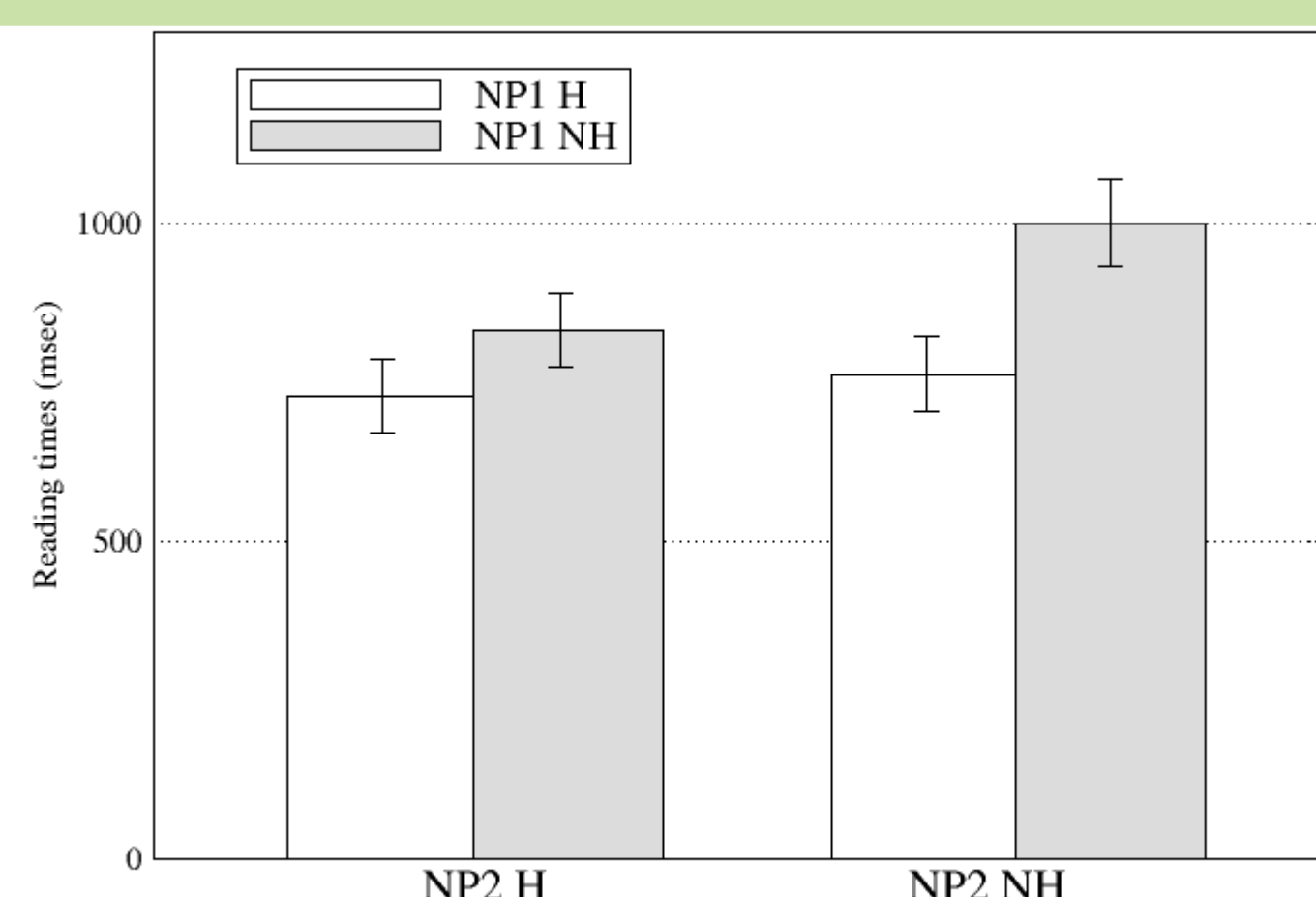
➤ Methods: 28 native Korean speakers per an experiment; 40 sets of experimental sentences; Eyelink 1000+

### Results:

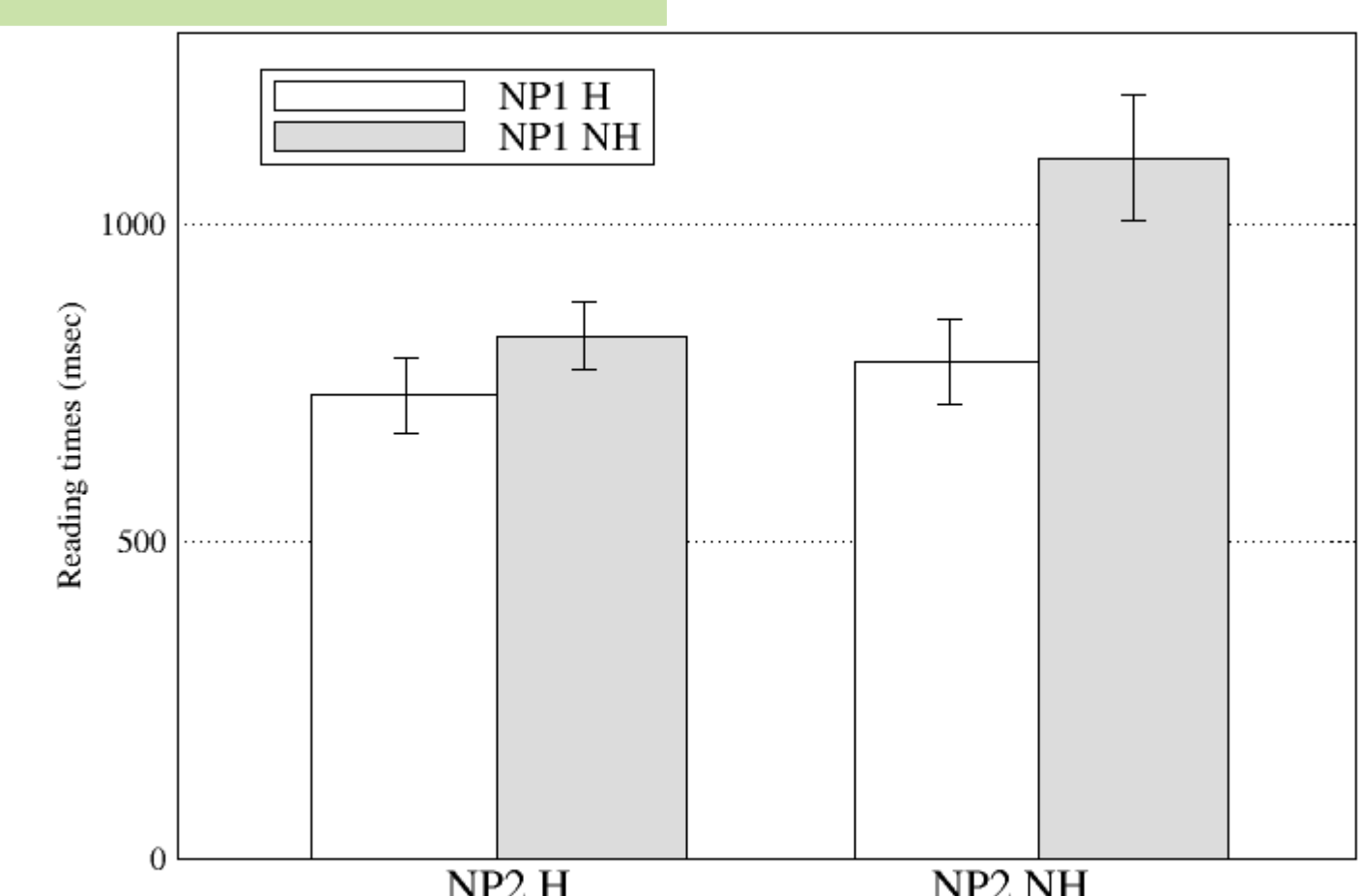
Regression path durations at spill-over region: Two words after the critical verb position



Exp1: NP 1 is the licit antecedent  
 No attraction effect in early processing



Exp2: NP 2 is the licit antecedent  
 Main effect of a distractor t = 2.22



Exp3: NP 2 is the licit antecedent  
 Main effect of a distractor t = 2.79

## Discussion & Conclusions

- The proximity effect was not observed, with the results suggesting a stronger attraction effect in Exp2 than in Exp1.
  - Conservatively it is compatible with the hypothesis that cues are weighted. That is, the subject grammatical role is a critical cue for a subject-verb agreement such that a distractor marked with dative case (NP2) is less likely to be retrieved even when it is closer to retrieval point (Experiment 1) than a distractor marked with nominative case further away (Experiment 2).
- The same case marking did not incur a stronger attraction effect, given the similar level of attraction effects in Exp2 and Exp3 (t < 1).
  - This is not compatible with the hypothesis that a greater number of matching cues of a distractor would trigger more mis-retrieval, in contrast to a previous finding that a greater number of (mis)matching cues of a licit antecedent does so (Park, 2014).