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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)*

- **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*

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

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

- **Experiment 2**: different case markers & distant distractor
  - Object control (-2,-3,-4a); (+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-nom editor,-dat | PRO1 demo cd-acc | listen-si-comp | calm voice-in said |
NH H | Minji-nom editor,-dat | PRO1 demo cd-acc | listen-si-comp | calm voice-in said |
H NH | Teacher-nom Tayho,-dat | PRO1 demo cd-acc | listen-si-comp | calm voice-in said |
NH NH | Minji-nom Tayho,-dat | PRO1 demo cd-acc | listen-si-comp | calm voice-in said |

**Exp1: Subject control**
- The teacher/Minji, told the editor/Tayho, that she would listen to a demo cd.

**Exp2: Object control**
- The teacher/Minji, told the editor/Tayho, to listen to a demo cd.

**Exp3: Embedding**
- The teacher/Minji, told the editor/Tayho, that she, 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)*.

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