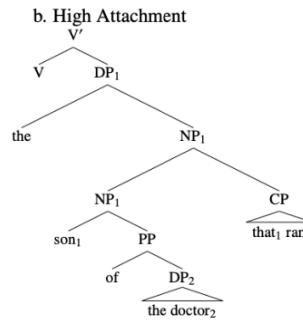
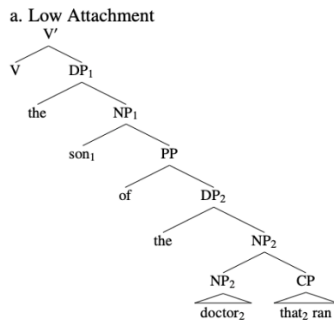


One factor affecting online processing of an attachment ambiguity

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Numerous studies including Cuestos & Mitchell (1999) and Dussias (2003) have shown that there are cross-linguistic differences in the attachment preference of the ambiguous relative clause (RC) structures as in (1): **low attachment (LA) preference** in Chinese (Shen 2006), English (Frazier & Clifton 1996), and Romanian (Ehrlich et al. 1999), but **high attachment (HA) preference** in Dutch (Mitchell et al. 2000), French (Colonna et al. 2000), and Spanish (Gibson et al. 1999).

(1) I saw the **son**_(HA) of the **doctor**_(LA) that was ran.



(Grillo & Costa 2014)

These results suggest that processing strategies might be language specific.

Very few studies, however, have investigated whether ambiguous RC constructions are always processed in the same way within a given language, and, if it is not the case, what kind of factors can affect processing. Thus, this study investigates RC attachment preferences in Korean, where strong high attachment preference has been reported (Kweon & Lee 2003, Lee & Kweon 2004). Particularly, I examined whether a syntactic/morphological agreement cue (honorific agreement) can affect processing of RC attachment ambiguity in Korean.

Experiments: I conducted an experiment consisting of a self-paced reading task and a comprehension task. In the experiment, I tested the effect of a syntactic agreement cue on Korean speakers' preferences in RC attachment ambiguity by using two conditions as in (2): the presence or the absence of honorific affix *-si-* on the verbs in RCs.

- (2) region: 1 2 3 4 5 6 7
- a. *Yengse hyeng-un* [*thipi-lul* *poko iss-ten*] *imo-uy* *sonca-wa* *sacin-ul* *ccik-ess-ta*
 Y. brother-Top TV-Acc watch-prog-past-Rel aunt_{LA}-of grandson_{HA}-with photo-ACC take-past-Dec
 '(My brother) Yengseo took a photo with the grandson of the aunt who was watching TV.'
- b. *Yengse hyeng-un* [*thipi-lul* *poko kyey-si-ten*] *imo-uy* *sonca-wa* *sacin-ul* *ccik-ess-ta*
 Y. brother-Top TV-Acc run-prog-hon-past-Rel aunt_{LA}-of grandson_{HA}-ACC photo-ACC take-past-Dec
 '(My brother) Yengseo took a photo with the grandson of the aunt who was watching TV.'

In the stimuli, I used NPs related to each other semantically in terms of family relationship such as *hyeng* 'brother' vs. *imo* 'aunt' vs. *sonca* '(her/his) grandson'. The two NPs used for the structure *NP of NP* (i.e. *imo* 'aunt' and *sonca* '(her/his) grandson') are either higher or lower than the subject NP (i.e. *hyeng* 'brother'). The higher NPs in the family relationship were located at the low attachment positions, in order to prime LA interpretation. Additionally, in order to avoid the effects of sentence complexity (Kim 2009), I used simple sentence structure of RCs, which does not include adverbs.

I created 16 total target sentences (= 8 sets x 2 conditions). All target sentences were randomized with fillers and distributed across 2 groups. 15 participants (Korean native speakers) read the target sentences word by word and were asked to indicate which NP was modified by the RC. The order of two NPs on the screen was counterbalanced. This experiment was conducted with the online survey tool PCIBEX farm.

Results and Discussion: In general, HA preference in Korean has been reported in both offline (a written survey test) and online (a self-paced reading task) tests in the previous literature. The results of this study also confirm a strong HA preference in Korean. The results of the comprehension test are summarized in Figure 1. When there was no honorific affix, strong high attachment preference (70%) was observed. However, when the honorific affix *-si-* appeared on the relative clause verb, high attachment answers were only 20%. This shows that there is a significant effect on processing of a relative clause attachment ambiguity (logistic regression model: $p < 0.1$). In addition, the results of self-paced reading task in Figure 2 show that the syntactic ambiguity increases processing cost. In the spill-over region 6, the average reading time was significantly slower in non-honorific condition than in honorific condition. This is in the same line with the findings of the studies on referential processing (Gernsbacher 1989, MacDonald & MacWhinney 1990, Badecker & Straub 2002): longer reaction times for ambiguous pronouns than for unambiguous pronouns. This study shows that syntactic ambiguity also increases processing difficulty. In conclusion, this study provides evidence that syntactic/morphological cues (the appearance of the honorific affix *-si-* on the verb) leads to a priming effect on resolving relative clause attachment ambiguity and encourage a LA preference.

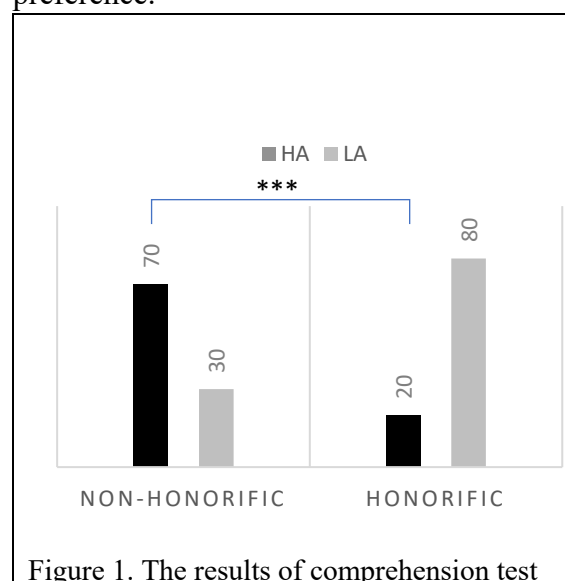


Figure 1. The results of comprehension test

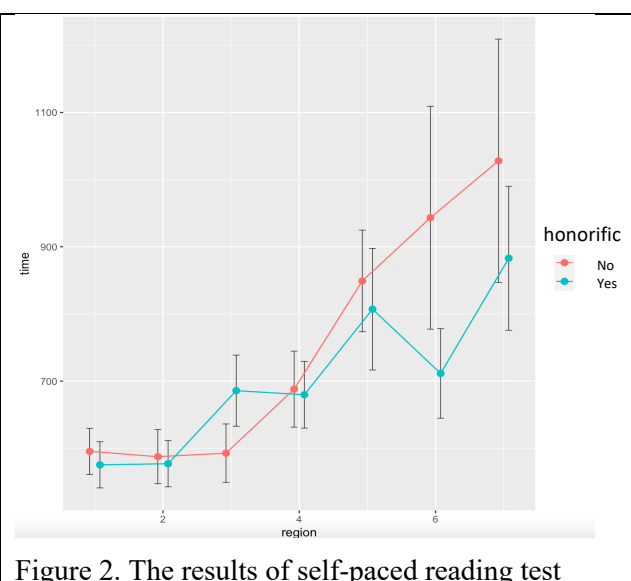


Figure 2. The results of self-paced reading test

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