Keep calm and move on: Reduced processing advantage of an early-arriving morphological cue in comprehension of Korean suffixal passive construction

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'Good-enough' processing argues that a linguistic processor favours a simpler and less effortful analysis available.[1][2] The processor seeks to achieve cognitive equilibrium in online processing at the earliest opportunities and remain in this state as long as possible; these properties lead the processor to prefer heuristic processing over algorithmic processing.[3] A core force that establishes heuristics, involving morpho-syntactic typicality and semantic-pragmatic plausibility,[2] comes from frequency in use.[4][5] Against this background, we investigate how sentence processing is modulated by heuristics and the assumed early-arriving morphological cue benefit in parsing[6][7] during sentence comprehension. Korean, an SOV language, provides an intriguing testbed for this issue because scrambling of sentential components is permitted (albeit infrequent compared to the canonical counterpart) with the propositional meaning intact (yet inviting particular discourse effects).[8] We focus on suffixal passives (Table 1) engaging in the unusual form-function mapping of case-marking: the NOM indicating a theme (but usually indicating an agent) and the DAT indicating an agent (but usually indicating a recipient), with passive morphology serving as a key disambiguation point for these form-function parings.[8][9]

Methods. Forty native speakers of Korean (mean age = 23.6; *SD* = 4.05) participated in two tasks sequentially in web-based platforms: self-paced reading (SPR; a non-cumulative moving-window paradigm) and acceptability judgment (AJ; a 6-point Likert scale from zero to five). Sixteen sentences (one half for the verb-final (VF) pattern; the other half for the verb-initial (VI) pattern), together with fillers, split into two sub-lists and were randomly assigned to participants. Sentences for the AJ were adapted from those for the SPR (Table 2) by reducing R1, R5, and R6. The data from each task (outliers excluded → AJ: Z-transformed; SPR: log-transformed) were fitted to separate linear mixed-effects models (AJ: canonicity as a fixed effect & participant / sentence as random effects; SPR: canonicity as a fixed effect & participant / word-in-region as random effects).

Prediction. (AJ) The VI pattern should be rated less acceptable than the VF pattern due to the infrequent word order with no relevant context. (SPR) If the position of passive morphology affects comprehension more strongly than heuristics, RTs for the VI pattern should be shorter than those for the VF pattern. This is because passive morphology in the VI pattern guides the whole interpretation from R2 whereas the same morphology in the VF pattern necessarily requires revision of the previous interpretation at R4. In contrast, if the opposite happens, we should expect RTs for the VI pattern to be longer than those for the VF pattern. This is due to continuous online disequilibrium incurred by the VI pattern— infrequent word order and weak plausibility, along with the unusual form-function associations of case-marking—relative to the VF pattern.

Results. (AJ; Fig 1) Participants rated the VI pattern significantly less acceptable than the VF pattern. Given the no-context setting, their judgment may have been affected by canonicity and plausibility of the sentences. (SPR; Fig 2) RTs for the VI pattern were numerically longer than those for the VF pattern in all regions (with statistical significance in R3/5/6), indicating that the VI pattern incurred more processing cost than the VF pattern. This is ascribable to (i) infrequent word order with no proper context and (ii) cumulative computation cost for integrating the unusual case-marking information (requiring realignment of the form-function mapping; R3/4) into the entire construction (R5/6) to arrive at a complete interpretation. The VF pattern involves the same revision/integration process, but the pattern is frequent and context-neutral within this construction type, so participants may have handled the processing challenge efficiently when encountering passive morphology in its typical location—a sentence-final position.

Together, our findings suggest that the extent to which a processor benefits from an early-arriving morphological cue may be limited to heuristic processing which is subject to morpho-syntactic typicality and semantic-pragmatic plausibility. This aligns nice with how good-enough processing occurs during sentence comprehension, continuously seeking online cognitive equilibrium.

Table 1. Korean suffixal passive construction

Pattern	Composition	How does PSV work in comprehension?	Frequency in use (within the construction)
Verb-final (canonical)	N-NOM + N-DAT + V-PSV	Requires revision of the initial interpretation	Frequent
Verb-initial (scrambled)	V-PSV + N-NOM + N-DAT	Guides the following interpretation	Infrequent

Note. The passive morphology consists of four allomorphs: *-i-*, *-hi-*, *-li-*, and *-ki-*.

Table 2. Scheme of stimuli (SPR)

	R1	R2	R3	R4	R5	R6
Verb-final (canonical)	*I heard that*	N-NOM	N-DAT	V-PSV	*yesterday*	*night*
Verb-initial (scrambled)		V-PSV	N-NOM	N-DAT		

Note. English translations in R1, R5, and R6 are only for the readers' sake; all test sentences were presented in Korean.

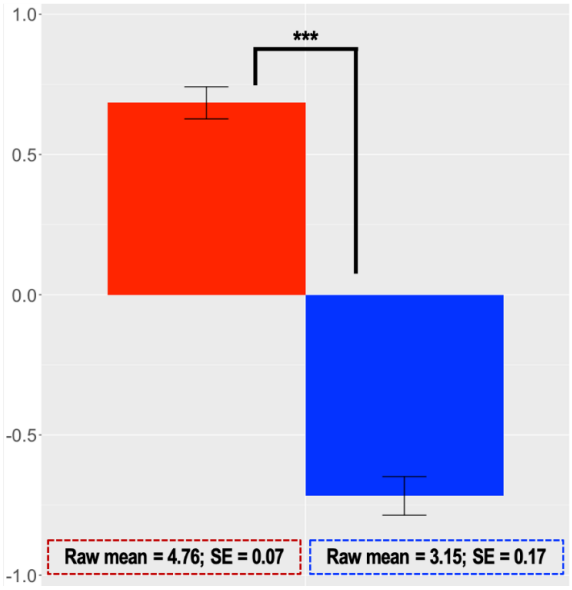

Figure 1. Result: AJ. X-axis: pattern; Y-axis: rating (1000 ms ≤ response time for each value ≤ 10000 ms (data loss: 4.37%) → *Z*-transformation); red: verb-final; blue: verb-initial. *** < .001.

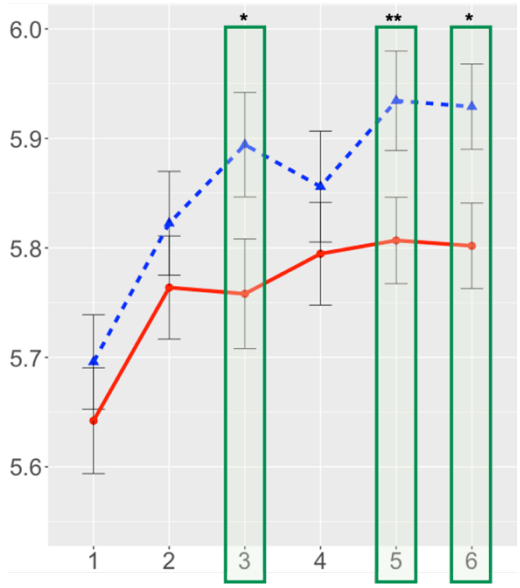

Figure 2. Result: SPR. X-axis: region; Y-axis: RT (3SD cut-off (data loss: 4.32%) → log-transformation); red: verb-final; blue: verb-initial. * < .05; ** < .01.

Abbreviations: DAT = dative marker; N = noun; NOM = nominative case marker; PSV = passive suffix; V = verb

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