



# Effects of morphological and prosodic focus cues on topic maintenance in Korean

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How do morphology and prosody work together to manage a discourse topic?

## Morphological and Prosodic Focus Cues in Korean

- (1) Chelswu-ssi-ka Yengswu-ssi-eykey chayk-ul kenney-ess-ta.  
C-HON-NOM Y-HON-DAT book-ACC hand-PAST-DECL  
'Mr. Chelswu handed a book to Mr. Yengswu.'
- (2) Chelswu-ssi-nun Yengswu-ssi-eykey chayk-ul kenney-ess-ta.  
C-HON-TC Y-HON-DAT book-ACC hand-PAST-DECL  
'Mr. Chelswu<sub>TC</sub> handed a book to Mr. Yengswu.'
- (3) Chelswu-ssi-ka YENGSWU-SSI-EYKEY-NUN chayk-ul kenney-ess-ta.  
C-HON-NOM Y-HON-DAT-TC book-ACC hand-PAST-DECL  
'Mr. Chelswu handed a book to Mr. YENGSWU<sub>TC</sub>.'

Sohn (1999):

"[-nun] provides the co-occurring noun phrase with either a **topic meaning**, usually when the noun phrase is **unstressed** and occurs in the **sentence-initial position**, or a **contrast meaning**, especially when the **noun phrase is stressed** or appears in a **non-initial position**."

NB: (1) with contrastive focus prosody and (3) without contrastive focus prosody are unnatural in Korean.

## Motivation for this Study

- Kim, Grüter & Schafer (2013) tested the effect of topic/focus marking on topic maintenance, using sentence types (1)-(3) in a written story continuation task. They found:

- No difference between (1) and (2) in topic choice in the continuation (see also Ueno & Kehler, 2010, for Japanese).
- (3) increased maintenance of the current topic (vs. (1) & (2)).

- This goes against the idea that focus increases salience and therefore subsequent reference (Birch & Garnsey, 1995).
- This supports the idea that focus highlights a reference set with alternatives (Rooth, 1992), which allows maintenance of the current topic (source/subject), together with a contrastive alternative as focus (see Appendix, example (ii)).

- What remains unresolved:

To what extent is this effect due to

- (a) the presence of the morphological marker *-nun* on the goal, or
- (b) the presence of implicit prosody on the *-nun*-marked goal?

→ Need for *spoken* stimuli with manipulation of prosody: this study.

### References

Birch, S. L., & Garnsey, S. (1995). The effect of focus on memory for words in sentences. *Journal of Memory and Language*, 34, 232-267.

Kim, K., Grüter, T., & Schafer, A. (2013). Effects of event-structure and topic/focus-marking on pronoun reference in Korean. Poster presented at CUNY2013.

Rooth, M. (1992). A theory of focus interpretation. *Natural Language Semantics*, 1, 75-116.

Sohn, H.-M. (1999). *The Korean language*. New York: Cambridge University Press.

Ueno, M., & Kehler, A. (2010). The interpretation of null and overt pronouns in Japanese: grammatical and pragmatic factors. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Meeting of the Cognitive Science Society* (pp. 2057-2062). Austin, TX: Cognitive Science Society.

## Method

Participants: 32 students at Seoul National University

Task: Participants *listened* to a context sentence (1-4), then *wrote* a continuation.

Materials: 4 conditions (see 1-4 below) ; 70 items (42 experimentals; 28 fillers)

### • Broad focus prosody (Cond1)

- (1) Chelswu-ssi-ka Yengswu-ssi-eykey chayk-ul kenney-ess-ta.  
C-HON-NOM Y-HON-DAT book-ACC hand-PAST-DECL  
'Mr. Chelswu handed a book to Mr. Yengswu.'

### • Focus on source/subject: morphology only (Cond2)

- (2) Chelswu-ssi-nun Yengswu-ssi-eykey chayk-ul kenney-ess-ta.  
C-HON-TC Y-HON-DAT book-ACC hand-PAST-DECL  
'Mr. Chelswu<sub>TC</sub> handed a book to Mr. Yengswu.'

### • Focus on source/subject: morphology & prosody (Cond3)

- (3) CHELSWU-SSI-NUN Yengswu-ssi-eykey chayk-ul kenney-ess-ta.  
C-HON-TC Y-HON-DAT book-ACC hand-PAST-DECL  
'Mr. CHELSWU<sub>TC</sub> handed a book to Mr. Yengswu.'

### • Focus on goal/non-subject: morphology & prosody (Cond4)

- (4) Chelswu-ssi-ka YENGSWU-SSI-EYKEY-NUN chayk-ul kenney-ess-ta.  
C-HON-NOM Y-HON-DAT-TC book-ACC hand-PAST-DECL  
'Mr. Chelswu handed a book to Mr. YENGSWU<sub>TC</sub>.'

## Prosodic analyses

Fig1. Duration (in ms) of critical regions. Pause after contrastive *-nun*.

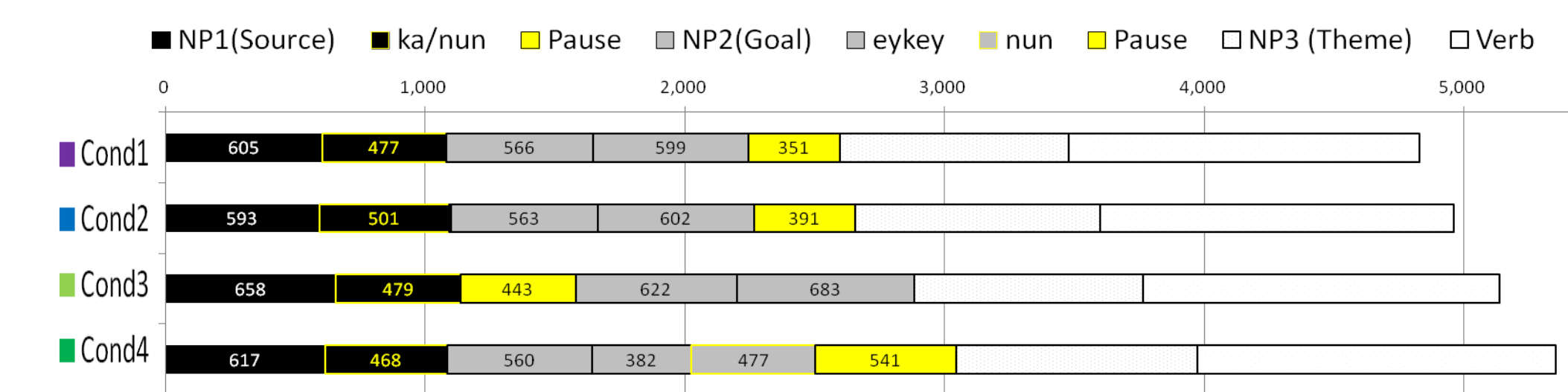
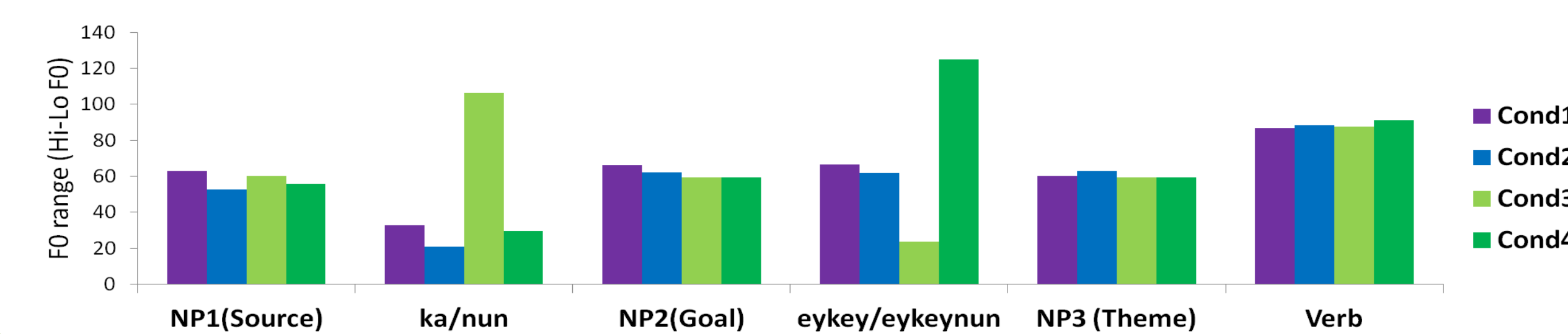


Fig2. Prosodic analyses, F0 range. Greater F0 range with contrastive *-nun*.

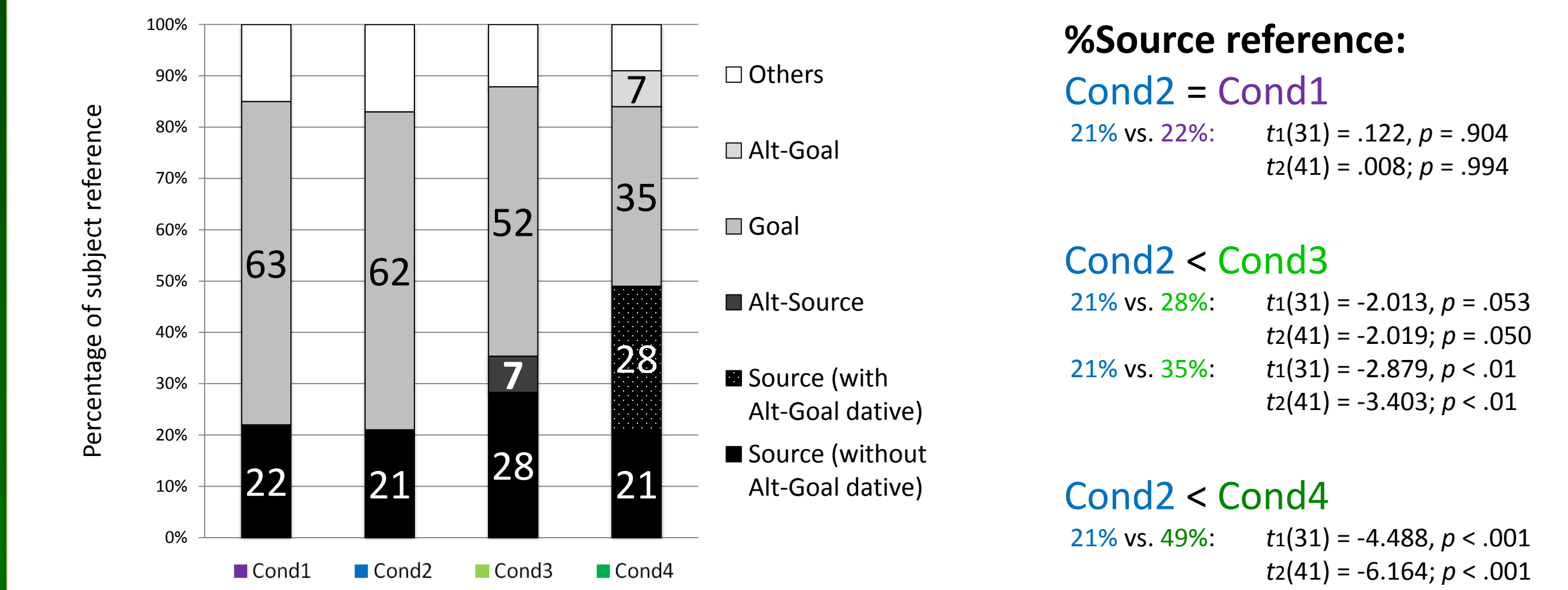


## Questions and Predictions

- **Cond2 vs Cond1:** How does morphology alone on the **source/subject** affect topic selection in the continuation?
  - Previous (written) work showed no effect (Kim et al., 2013; Ueno & Kehler, 2010).
- **Cond3 vs Cond2 (and 1):** How do morphology and prosody together on the **source/subject** affect topic selection in the continuation?
  - If increased salience promotes increased selection for topic, → more source selections for topic
  - If focus highlights a reference set with alternatives, → more continuations with contrastive (parallel) coherence relation
  - more selections from source reference set (alternative or original source) for topic
- **Cond4 vs Cond2 (and 1):** How do morphology and prosody together on the **goal/non-subject** affect topic selection in the continuation?
  - If increased salience promotes increased selection for topic, → more goal selections for topic
  - If focus highlights a reference set with alternatives, → more continuations with contrastive (parallel) coherence relation
  - more selections from goal reference set (alternative or original goal), especially as the focus, while maintaining current (source/subject) topic

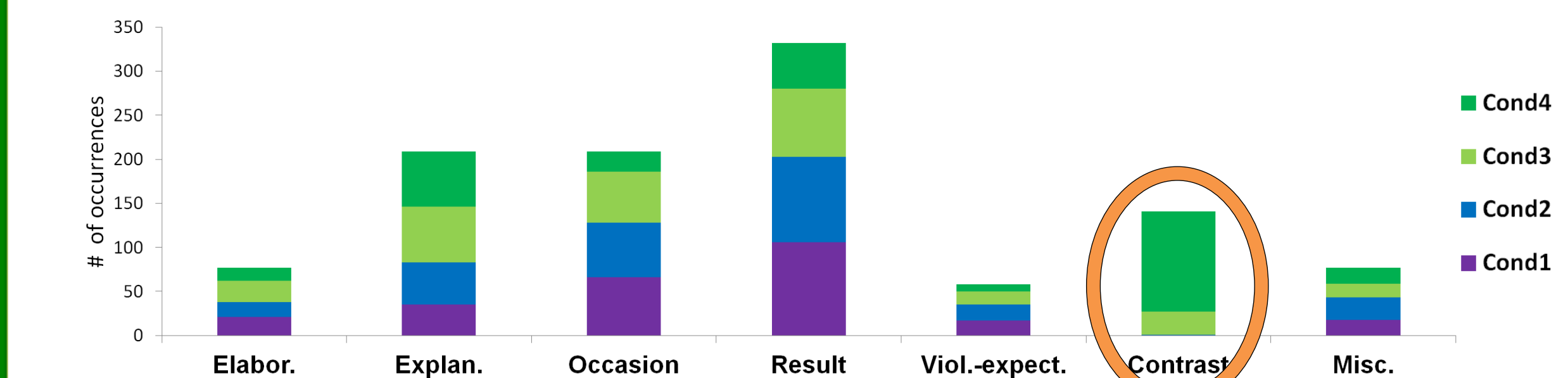
## Results

Fig3. Referential patterns: Sentential subject of continuation



- Replication of written study: Broad focus *-ka* and *-nun* result in similar referential patterns. (Written *-nun* in sentence-initial position is interpreted with implicit broad focus prosody.)
- Contrastive prosody on *-nun* results in distinct referential patterns:
  - Contrastive prosody on the **source** increases source and alt-source selections for the topic.
  - Contrastive prosody (+ *-nun*) on the **goal** also increases source selections for the topic: Goal focus enhances topic maintenance, together with a selection from the goal reference set as the focus.

Fig4. Coherence relations vary by condition



- Contrastive coherence relations were found only in Cond3 and Cond4

contrastive focus prosody → contrastive coherence rel. → maintenance of current topic

## Conclusion

- Contrastive prosody plus contrastive morphology together produce contrastive focus, which in turn affects discourse coherence and topic management.
- Contrastive morphology alone does not.

## Appendix: Examples of Contrastive Continuations

Context:	Continuation:	Source subject with Alternative Goal dative	Alternative Goal subject
<b>Found only in Cond3 - Alt-Source subject continuation (7%)</b> CHELSWU-SSI-NUN Yengswu-ssi-eykey chayk-ul kenneyessta. C-HON-TC Y-HON-DAT book-ACC handed 'Mr. CHELSWU handed a book to Mr. Yengswu.'	(i) Alt-ssi-nun Yengswu-ssi-eykey chayk-ul kenney-ci anh-ass-ta. Alt-HON-TC Y-HON-DAT book-ACC hand-NEG-PAST-DECL 'Mr. Alt did not hand a book to Mr. Yengswu.'		
<b>Found only in Cond4 - Alt-Goal dative (28%), Alt-Goal subject (7%) continuations</b> Chelswu-ssi-ka YENGSWU-SSI-EYKEY-NUN chayk-ul kenneyessta. C-HON-NOM Y-HON-DAT-TC book-ACC handed 'Mr. Chelswu handed a book to Mr. YENGSWU.'	(ii) Chelswu-ssi-ka Alt-ssi-eykey-nun chayk-ul kenney-ci anh-ass-ta. C-HON-NOM ALT-HON-DAT-TC book-ACC hand-NEG-PAST-DECL 'Mr. Chelswu did not hand a book to Mr. ALT.'		
	(iii) Alt-ssi-nun Chelswu-ssi-eykeyse chayk-ul pat-ci-mot-ha-ess-ta. Alt-HON-TC C-HON-from book-ACC receive-NEG-PAST-DECL 'Mr. Alt did not receive a book from Mr. Chelswu.'		