Linear order: a minimal syntactic tool to express the modifier and the modified

Leyla Kürşat[1,2], Rabia Ergin[1,3], Ethan Hartzell[1,4], Ray Jackendoff[1,5]

Tufts University; Stanford University; Max Planck Institute of Psycholinguistics; American University in Cairo; Massachusetts Institute of Technology

lkursat@stanford.edu

Introduction

- Central Taurus Sign Language (CTSL) is a village sign language that emerged spontaneously in the absence of a conventionalized language model and it currently has 36 deaf signers.

- It is a vantage point into observing the structure, or lack thereof, of a language in its infancy (Ergin, 2017; Ergin et al., 2018).

- Previous research in emergent signed systems and homesign systems provide evidence for early conventionalization of linear sequencing of the modifier and the modified (Sandler et al., 2005).

- This study investigates the emergence of word order patterns in CTSL by exploring the use of concatenation as a minimal syntactic tool to express modification.

Methods

- 12 deaf CTSL signers
- 19 target clips (scenarios with two members of the same semantic category)
- 228 responses annotated and coded as **Mod-H or H-Mod**

BOOK + SMALL

1) **Target video:** *There is a big book and a small book and the man takes the small book.*

2) **Response:** *H-Mod (simple modification)*

References

Ergin, R. (2017). Central Taurus Sign Language: A Unique Vantage Point into Language Emergence (Doctoral dissertation). Tufts University.

Ergin, R., Meir, I., Ilkbasaran, D. , Padden, C., & Jackendoff, R. (2018). The Development of Argument Structure in Central Taurus Sign Language. *Sign Language Studies, 18*(4), 612-639.

Sandler, W., Meir, I., Padden, C., & Aronoff, M. (2005). The emergence of grammar: Systematic structure in a new language. Proceedings of the National Academy of Sciences of the United States of America, 102(7), 2661- 2665.
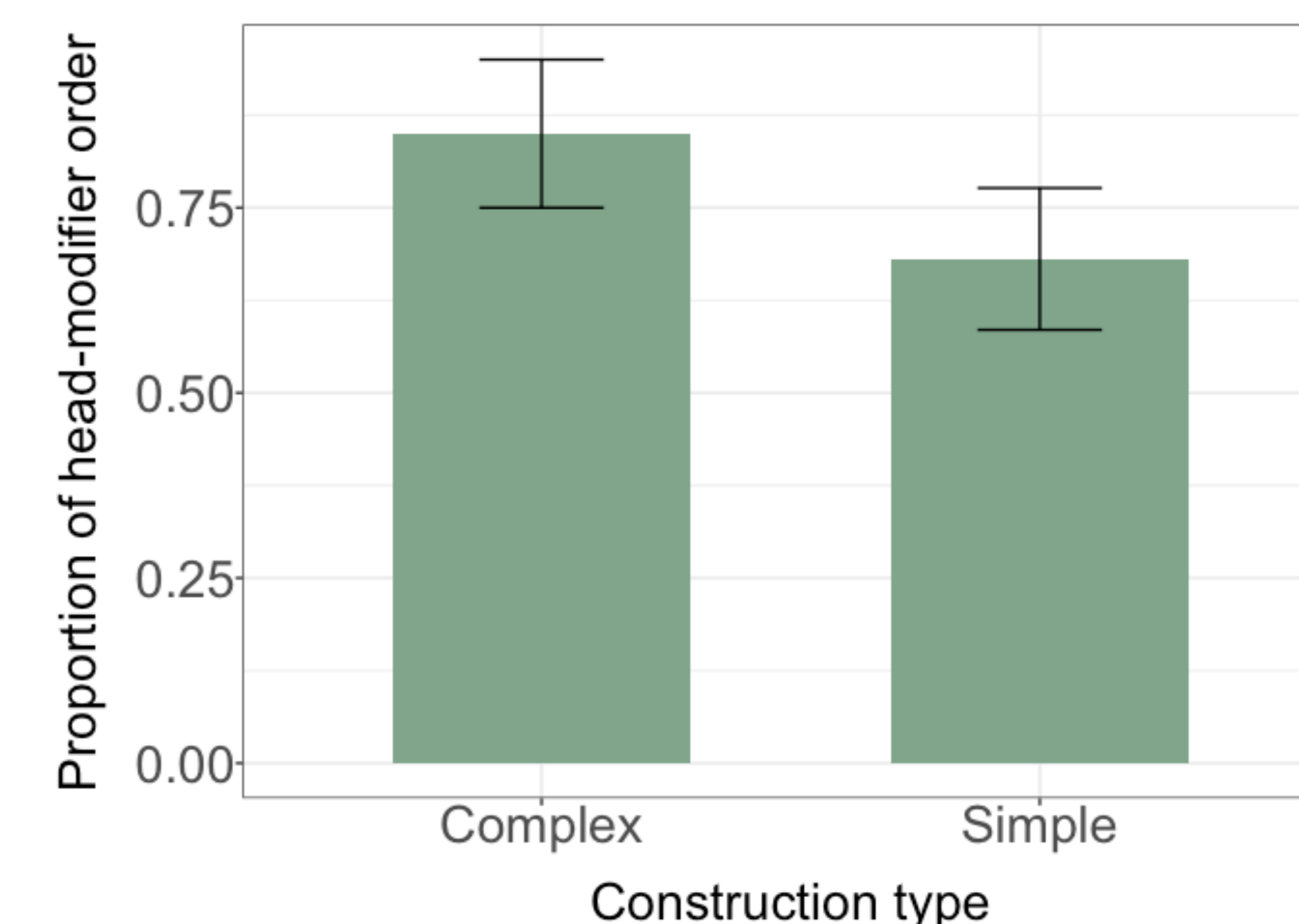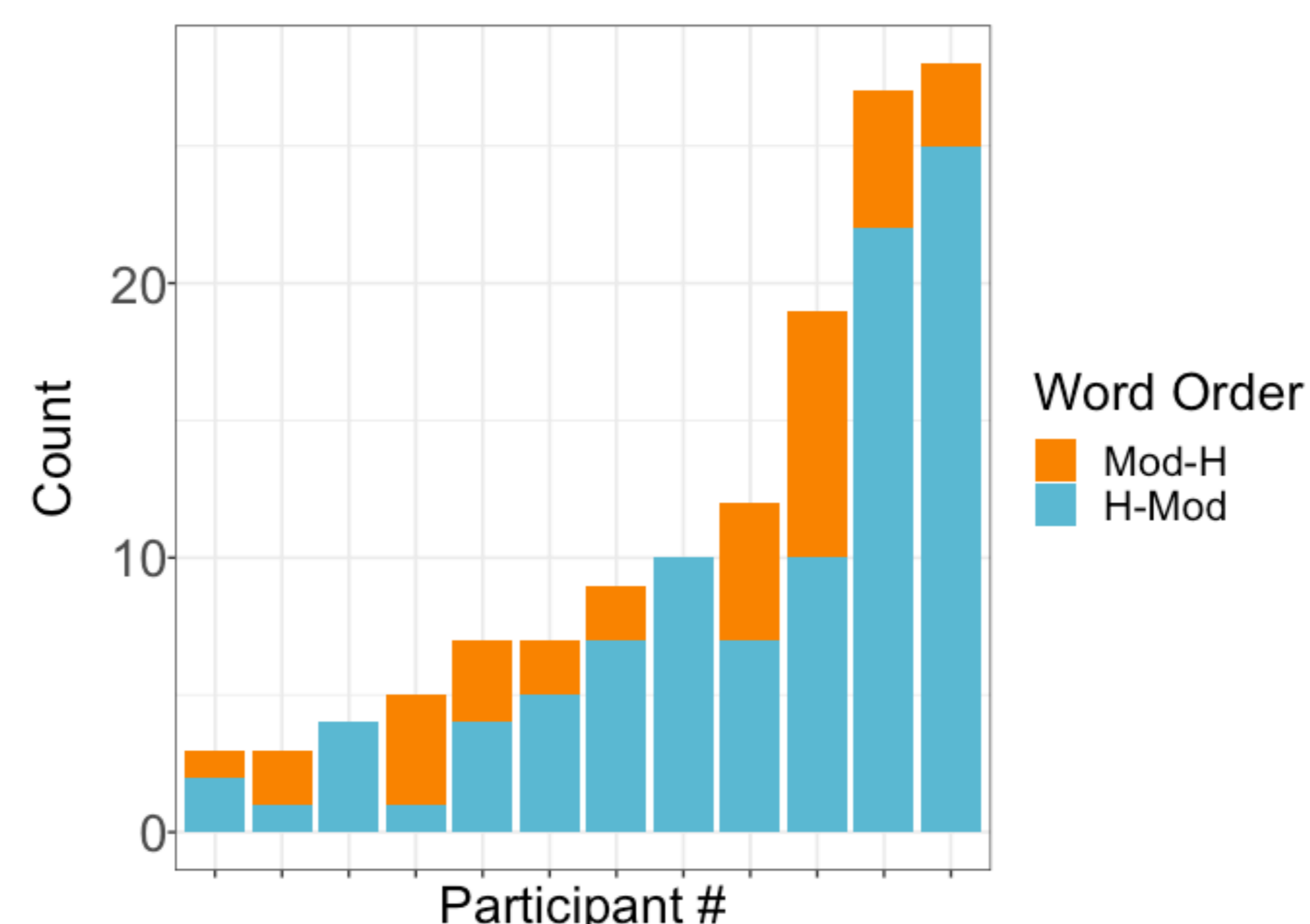
Results

Simple modification (SM): Single modifier is used. **CTSL:** TWO WOMAN SIT / WOMAN HAT THROW-BALL

Complex constructions:

Conjoined modifiers (CM): Multiple modifiers modify the same head. **CTSL:** MAN BEARD GLASSES / MAN BOOK GO

Semantic embedding (SE): A second modifier modifies the first modifier. **CTSL:** MAN SHIRT RED / MAN THROW-BALL

Conjoined modifiers combined with embedding (CE): Multiple modifiers modify the same head, and one of them itself has a modifier. **CTSL:** MAN BALD SHIRT RED LAUGH / MAN SIT

Conclusion

- 134 instances of modification, 72.05% have head-modifier word order (dominant word order) —> conventionalization in phrase structure

- Opposite word order in Turkish and Turkish Sign Language —> development independent of surrounding languages

- Even the complex modification constructions can be characterized in terms of a simpler 'linear grammar' that maps directly between phonology and semantics.

- When signers used multiple modifiers to modify a single element (complex modifications) they followed the dominant order more strictly —> greater semantic complexity calls more strongly for a conventional order