Novel Marking of Signer Commitment in Turkish Sign Language (TİD)

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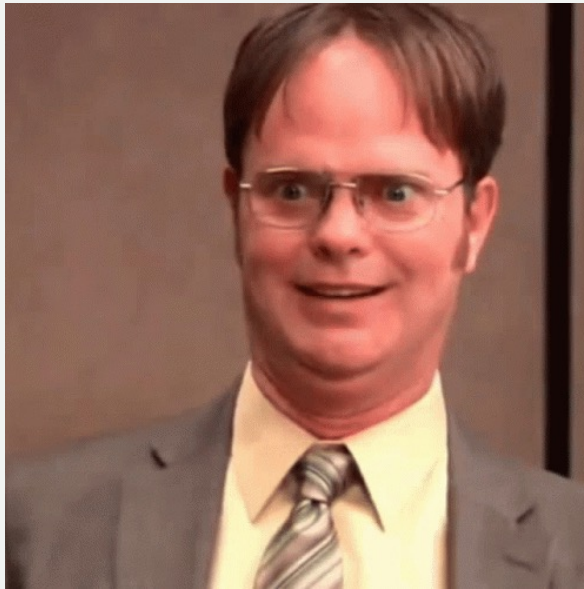
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DGfS 2024 - Clause type marking in the visual modality

Introduction

❖Certainty is conveyed via multiple strategies, adverbs, modals, attitude verbs, intonation, gestures, and/or sentence particles.

Introduction

❖Signers have the simultaneous structure available to them.

❖How are manual and nonmanual channels used to convey signer certainty in Turkish Sign Language (TİD)?

Outline

❖Previous studies on signer certainty

❖Design

❖Analysis

❖Discussion

❖Conclusion

Certainty

(Un)certainty expressions indicate the degree to which speakers are committed to the content of their utterances (Lorson et al. 2021).

Strategies to convey certainty:

❖Speakers – attitude verbs (Lorson et al 2021, Schuster & Dengen 2020), intonation (Prieto & Roseano 2021, Tonhauser 2016), gestures (Borrás-Comes et al. 2019)
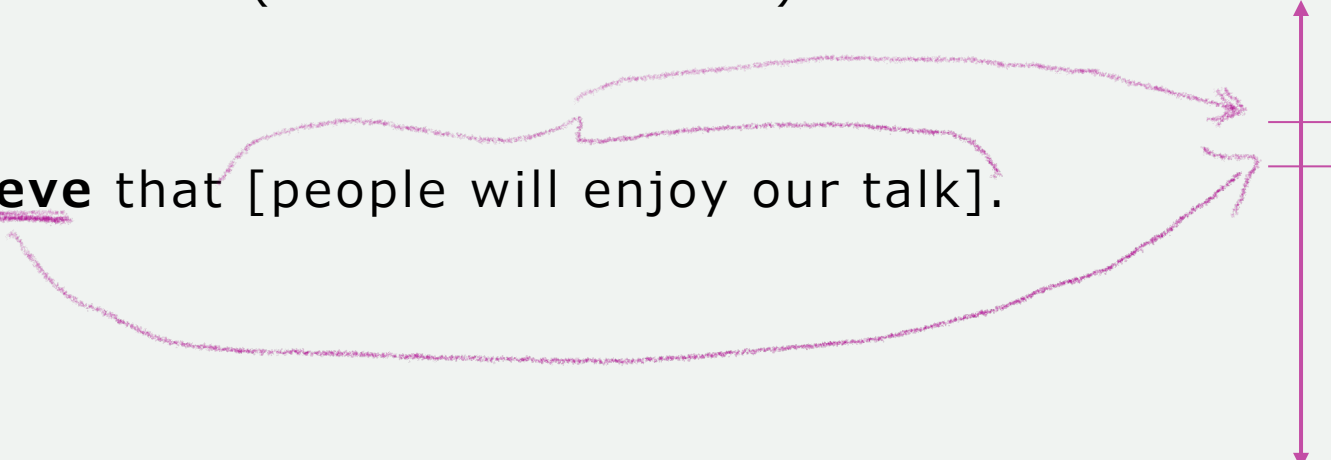
❖Signers - attitude verbs (Karabüklü 2022), modulations in nonmanuals (ASL – Shaffer 2004, JSL – Akahori et al. 2013, DGS, NGT, ISL – Herrmann 2013, TİD - Karabüklü & Wilbur 2020)

Threshold Semantics

❖ Expressions have a threshold [0,1) (Lassiter 2017; Lorson et al. 2021, Yalcin 2010).

❖ The probability of an event in the embedded proposition exceeds that threshold it is true (Lorson et al. 2021).

(1) I **believe** that [people will enjoy our talk].

Signer certainty in TİD

In sign languages, signers also use different lexical signs and manual prosody.

(2) ZEYNEP DRIVE

'Zeynep is driving.'

(3) ZEYNEP DRIVE **POSSIBLE**

'Zeynep might be driving.'

(TİD, Karabüklü 2022)

Nonmanuals and Certainty in TİD

Same nonmanual appears with different modals (Karabüklü & Wilbur, 2020).

Mostly appearing one – head nod   Most consistent one – squint

Modal/NMMs	squint(sq)	head nod (hn)	brow raise (br)	head tilt (ht)
FREE		86%		7%
POSITIVE	7%	81%	3%	
POSSIBLE	70%	90%	85%	35%
NECESSARY	28%	97%	89%	38%
DO	15%	90%	25%	15%

Table 1. Percentages of NMMs in the data

Research Questions

❖Will squint have the same effect with different modals or sentence types?

❖How will NMMs and different sentence types (declarative, modals, attitude verbs) interact?
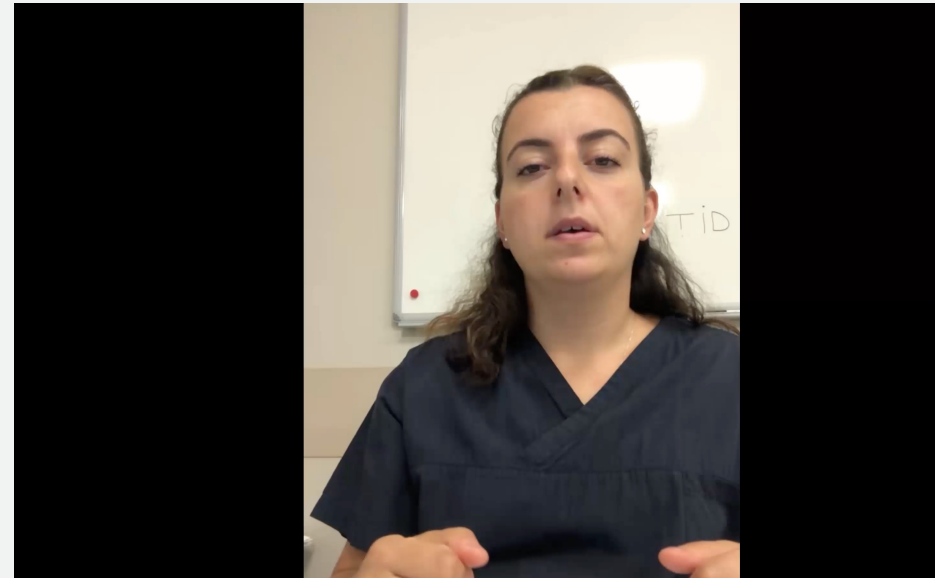
Certainty Rating Study

Aim: To investigate the effects of sentence types and nonmanual markers on signer's certainty (Karabüklü, 2022)

A Sample of Stimuli:

                             _____rhn

(4) ZEYNEP DRIVE   (5) ZEYNEP DRIVE

    'Zeynep drives.'   'Zeynep drives.'

            _____sq   _____hn

(6) ZEYNEP DRIVE   (7) ZEYNEP DRIVE

    'Zeynep drives.'   'Zeynep drives.'

Stimuli

Design & Participants

❖**Design:** 7 nonmanual conditions x 11 sentence types

❖nmm conditions: no nmm, head tilt, squint, head nod, repetitive head nod, repetitive head nod & squint, head tilt & squint

❖Sentence types: all modals, declarative, attitude verbs KNOW, GUESS, and TELL.

❖**Participants:** 16 (9 f, 9 DoD) participants:

❖15 İstanbul residents

❖Age mean ~ 35.19, sd=7.55.

Procedure

❖ 'Imagine you are at a party and see two people signing. You will see one person's sentence. How much is that person certain about what they are signing? Slide the circle to the number that you think she is certain. Higher is totally certain, lower is less certain'

❖ They first did a trial session, then the main session.
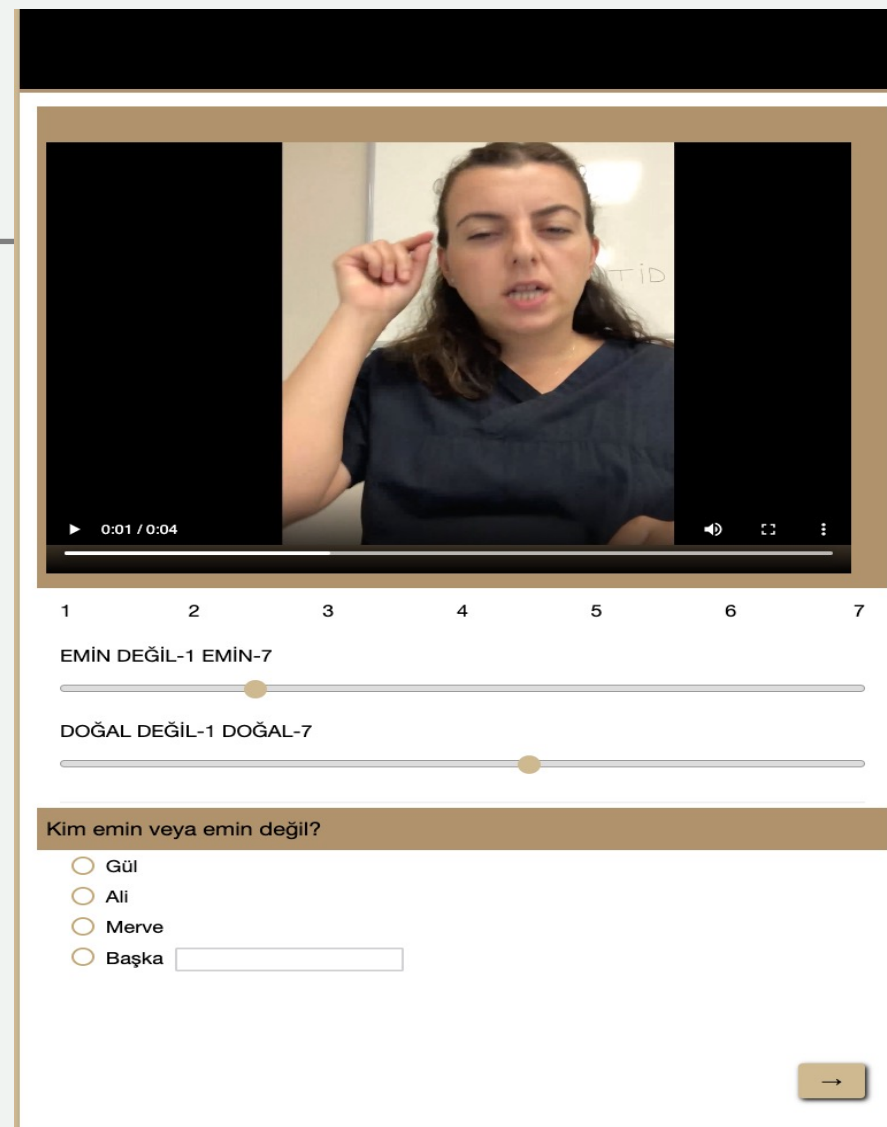
❖ Items were randomized and there were attention checks.


Figure 6. Sample of Experiment

Analysis

❖ One participant's data was excluded.

❖ Naturalness, **certainty ratings, and choices for 'Who is certain?'** - lmer

❖ Participants and items as random effects

❖ Age of acquisition (AoA), nonmanuals, sentences as fixed effects

❖ Significant effect of nonmanuals, sentences, and their interaction

Parameter	X^2	p
Sentences	36.80	<.001
Nonmanuals	87.40	.04
Sentences*Nonmanuals	134.15	<.001

Certainty Results: Sentence types affect certainty ratings
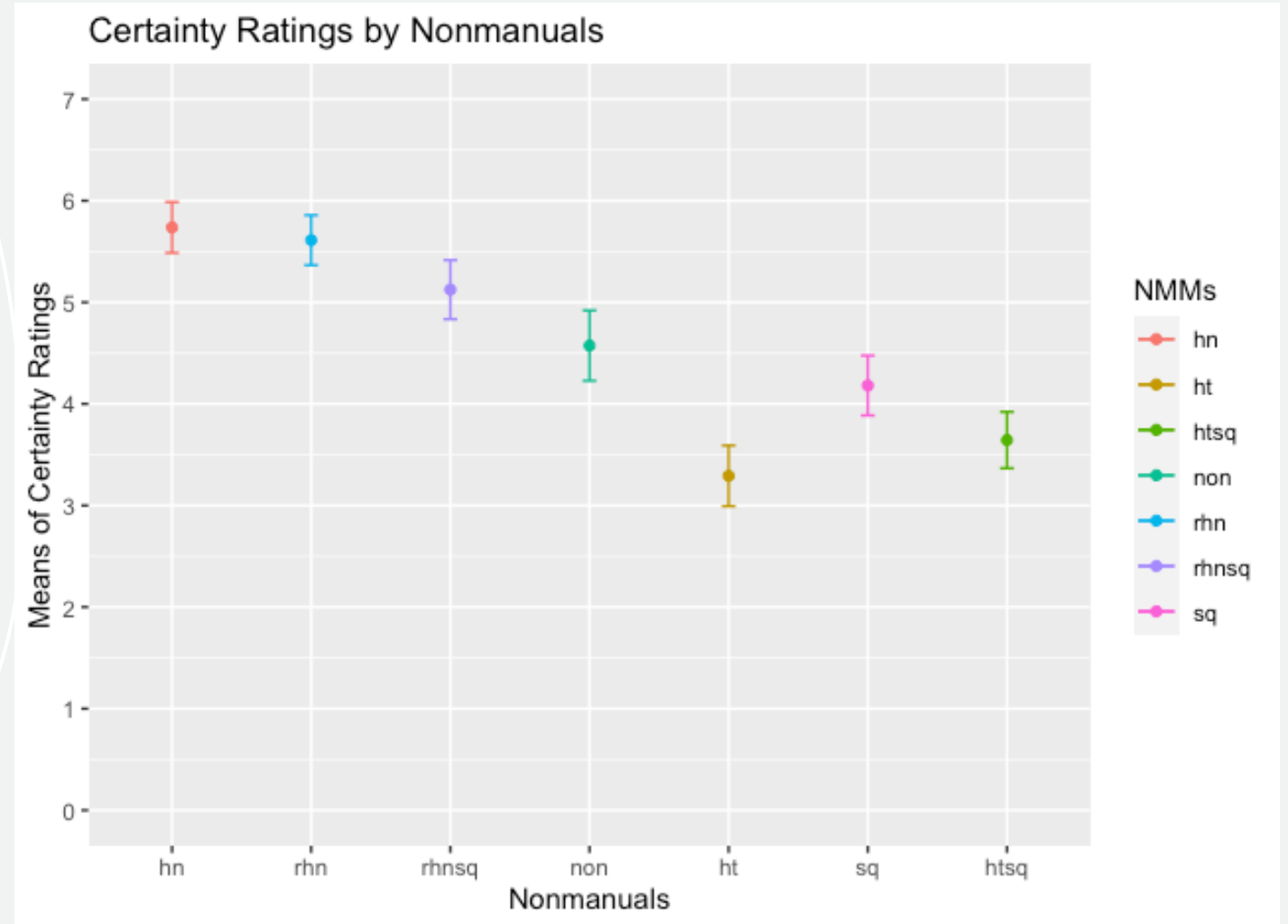
TAHMIN (guess) –least certain

Ability modals – more certain
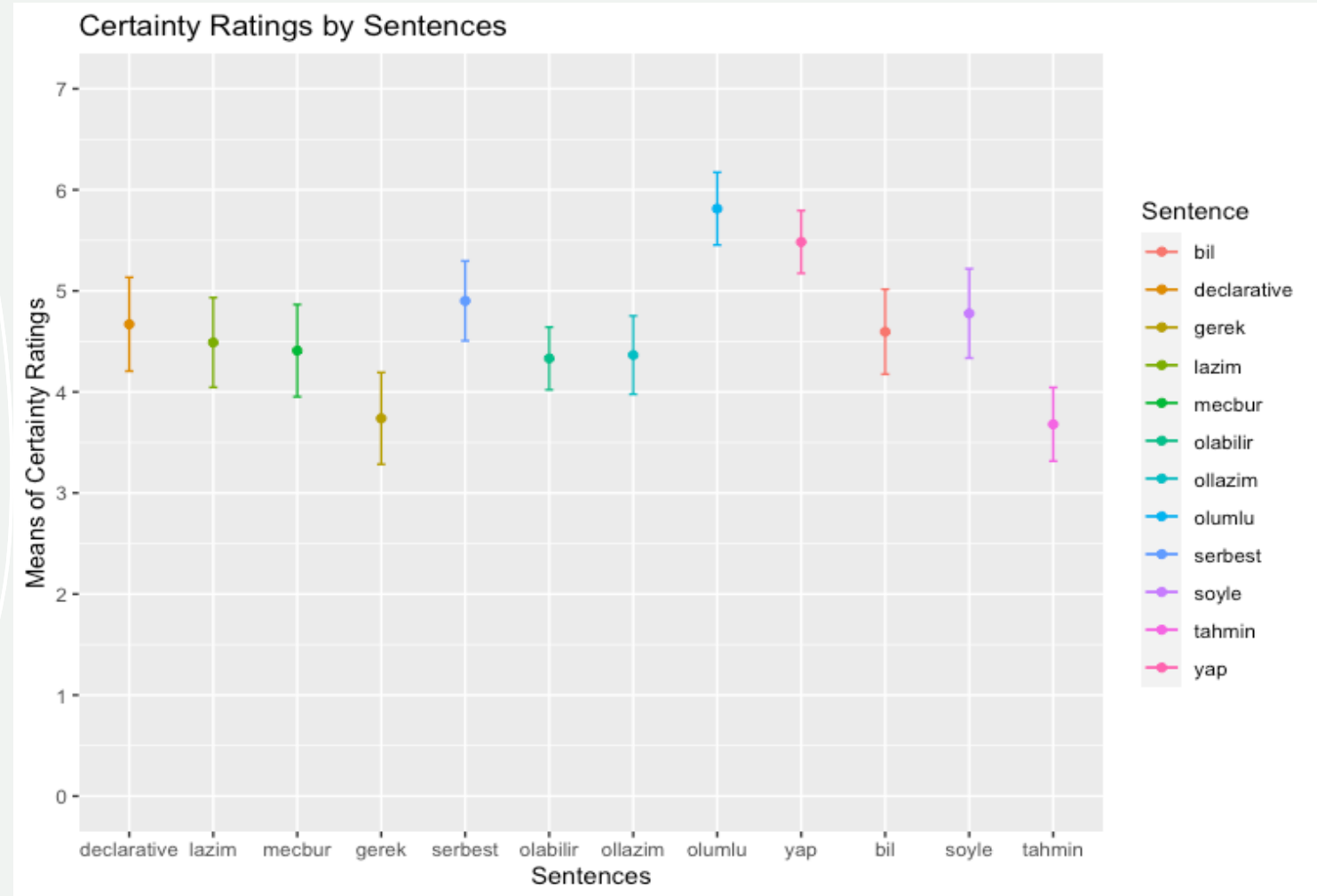
Certainty Results: Nonmanuals affect certainty ratings

Squint, head tilt & squint – less certain

Head nod, repetitive head nod – more certain

Certainty Ratings by Nonmanuals

Certainty Results: Sentence and Nonmanual Interaction

No effect of nmms in TAHMIN (guess).

Effect of head nod in OLABILIR (possible)

Effects of both head nod, and squint in declarative

Certainty Ratings by Nonmanuals with Sentences

Results – Certainty Attributions

❖ Significant effect of sentence types

❖ No effect of AoA, nonmanuals

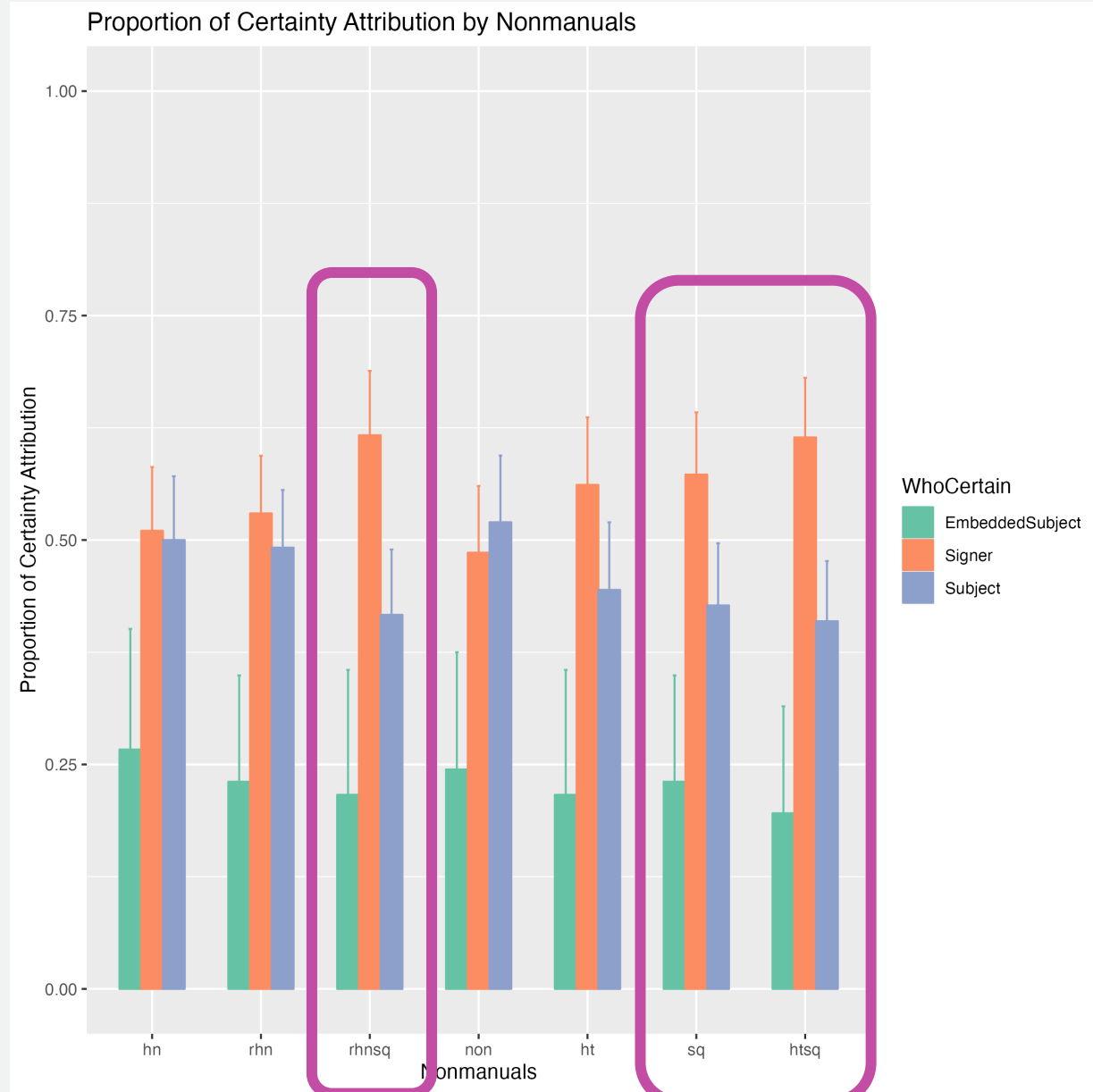❖ But signer was chosen significantly more in conditions with squint (p<.01).

Parameter	X^2	p
Sentences	22.78	.02
Nonmanuals	0.26	.99

Proportion of Certainty Attribution by Sentences
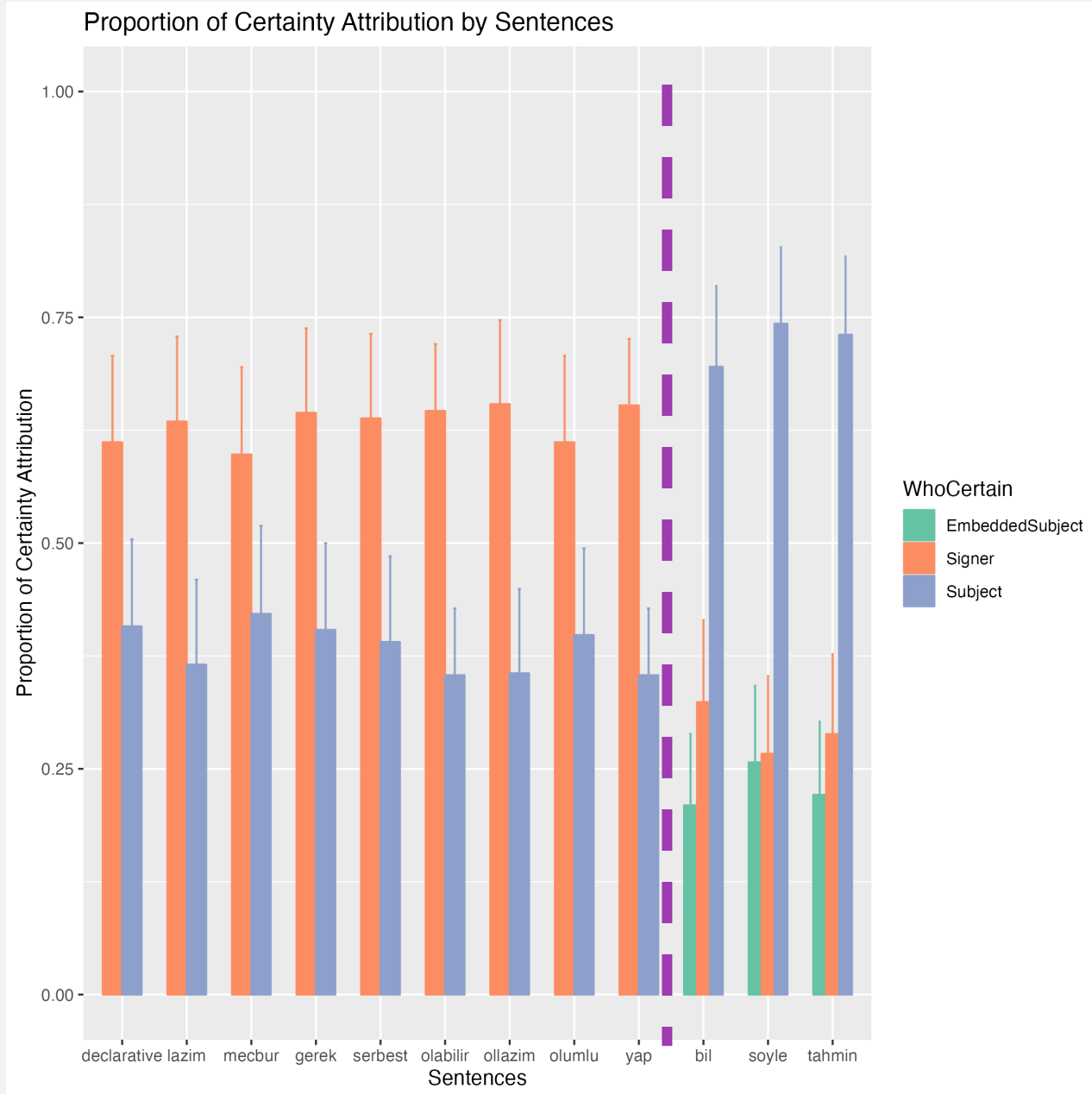
Sentence type affects certainty attribution

Signer was chosen more with **declarative and modals**
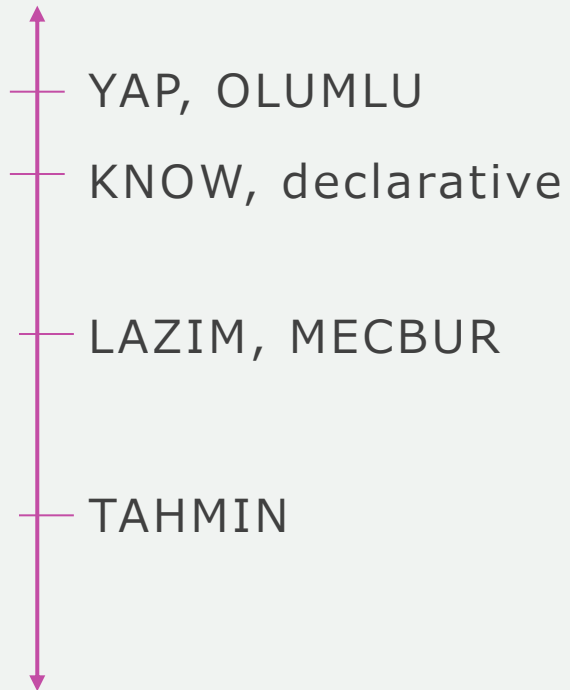
Subject was chosen more with **attitude verbs**

Proportion of Certainty Attribution by Nonmanuals

Signer was chosen in the conditions with squint

Signer was chosen significantly more with **squint**.

How do two channels interact?

certainty

certainty

— YAP, OLUMLU	— hn, rhn
— KNOW, declarative	— rhn+sq
— LAZIM, MECBUR	— non
— TAHMIN	— sq, ht+sq

Nonmanuals

Senteences

How do two channels interact?

certainty

declarative + hn

declarative + no nmm

declarative + sq

Nonmanuals

Senteences
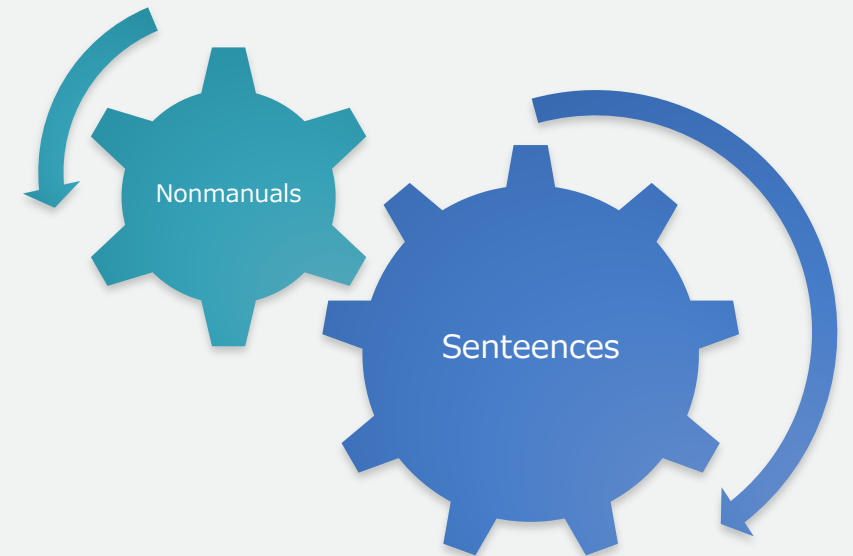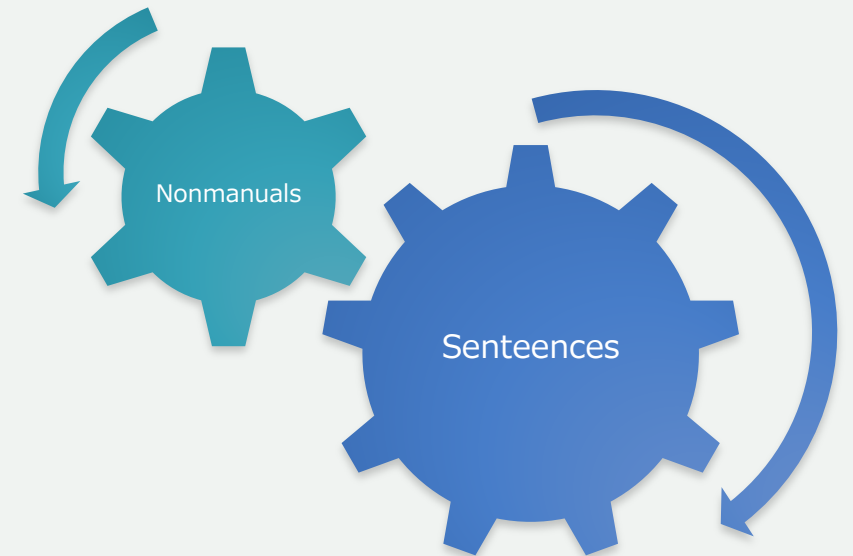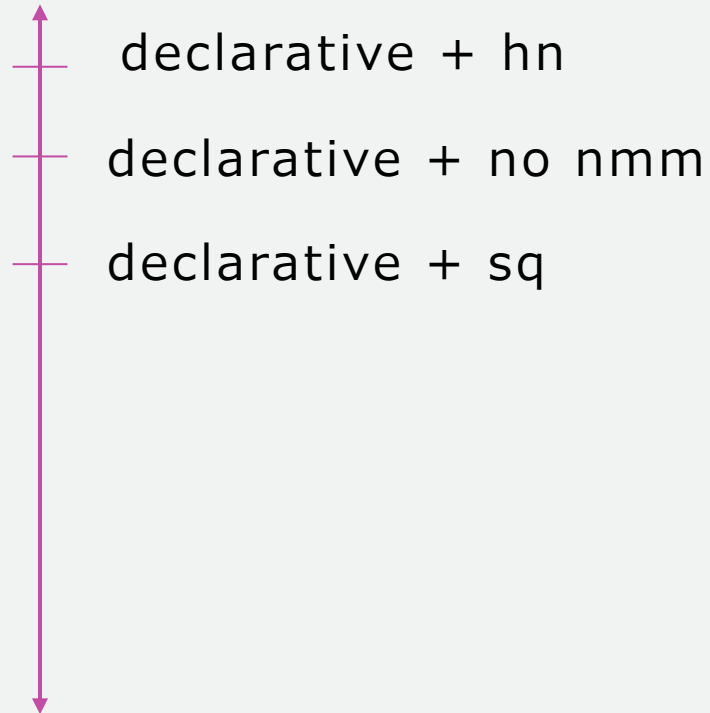
What are nonmanuals' function?

❖ Certainty might be nonmanuals' functions or interaction effects

   ❖ High certainty – focus occurring on verb

      Head nod is **not** focus marker. (Karabüklü & Gürer in press)

   ❖ Squint – uncertainty marker?

      It is closely tied to the signer – certainty attribution

      It can appear in questions and scopes over the negation.

Where does the squint live?

(8) CONFERENCE FOR,
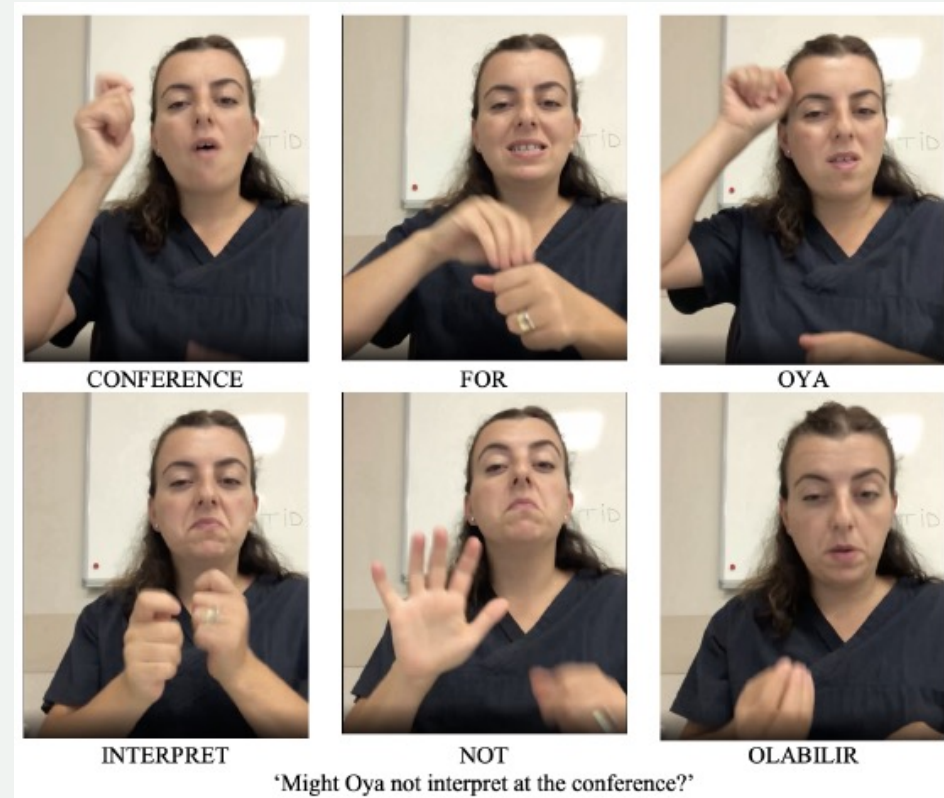
_____

_____sq

                             ___hbt

_____hft

OYA INTERPRET^NOT POSSIBLE

'Might Oya not interpret at the conference?'

CONFERENCE   FOR   OYA

INTERPRET   NOT   OLABILIR

'Might Oya not interpret at the conference?'

Conclusion

❖Signer certainty is affected by the sentence type and nonmanual markers.

❖Sentences set the certainty level and nonmanuals increase or decrease that level.

❖In terms of threshold semantics, bare assertion, modals, and attitude verbs come with their thresholds but these thresholds can be increased or decreased with nonmanuals.

❖What are their functions?

Thanks to

❖Purdue Ross-Lynn Research Foundation

❖Purdue Promise Awards for data collections

❖Purdue University Sign Linguistics Lab

❖University of Chicago Sign Language and Linguistics Lab

❖Boğaziçi University Sign Language and Linguistics Lab

Thank you

Thank you!
Questions?

References

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