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PRONOUN USE AND INTERPRETATION IN TURKISH HERITAGE SPEAKERS

A Comparative Study in Germany and the US



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Introduction

- Bilinguals of pro-drop and non-pro-drop languages often overuse overt pronouns (Sorace & Filiaci, 2006).
- Turkish bilinguals don't consistently follow this pattern.
- Prior studies showed mixed results
- No comparison between Turkish-American and Turkish-German HSs using the same methodology



Pronominal System in the 3 Languages

| | 3rd person singular pronouns follow Principle B | Allows reflexive pronoun as subject | Allows dropping the pronoun in subject position | Topic shift |
|---------|--|---|---|---------------|
| English | ✓ | ⊘ | ⊘ | Prosody |
| Turkish | ✓ | ✓ | ✓ | Overt pronoun |
| German | ✓ | ⊘ | ⊘ | d-pronoun |

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Past research

Gürel & Yılmaz (2011)

Dutch/Turkish and English/Turkish
bilinguals' pronominal interpretation
different from monolingual Turkish system:
o/ pro / kendisi as topic shift.

Knospe (2019)

Knospe's results suggest that the
interpretation of the overt pronoun *o* does
not differ between **Heritage Speakers** and
Late Bilinguals in Germany.

Koban-Koç (2016)

Heritage Turkish speakers in the US **overuse**
the overt pronoun *o* compared to their
monolingual counterpart.

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Little is known about how language *use* and *linguistic context* affect pronoun interpretation and use.

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- **Active use**, not just proficiency or AoA, shapes bilingual processing (Pliatsikas et al., 2023).
 - **Frequent use** leads to neural adaptations and greater efficiency (Pliatsikas et al., 2020).
 - **Higher use** improves speed, accuracy, and proficiency (De Carli et al., 2015).

Building on prior research

- Koban-Koç (2016): Focused on ***overt pronoun use*** among Turkish heritage speakers **in the U.S.**
- Knospe (2019) and Gürel & Yilmaz (2011): Focused on ***pronoun interpretation*** among ***heritage*** and ***late bilinguals*** in ***Germany, the U.S., and the Netherlands.***

Research Questions

1. What is the proportion of null vs. overt pronouns in HS Turkish?
2. Do Turkish HS use *o*, *kendisi* and *pro* differently for topic shift?
3. Could variation be linked to different patterns of ***active use***?
4. Does linguistic context (i.e., sentence structure) play a role in the Turkish pronominal system

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Methodology

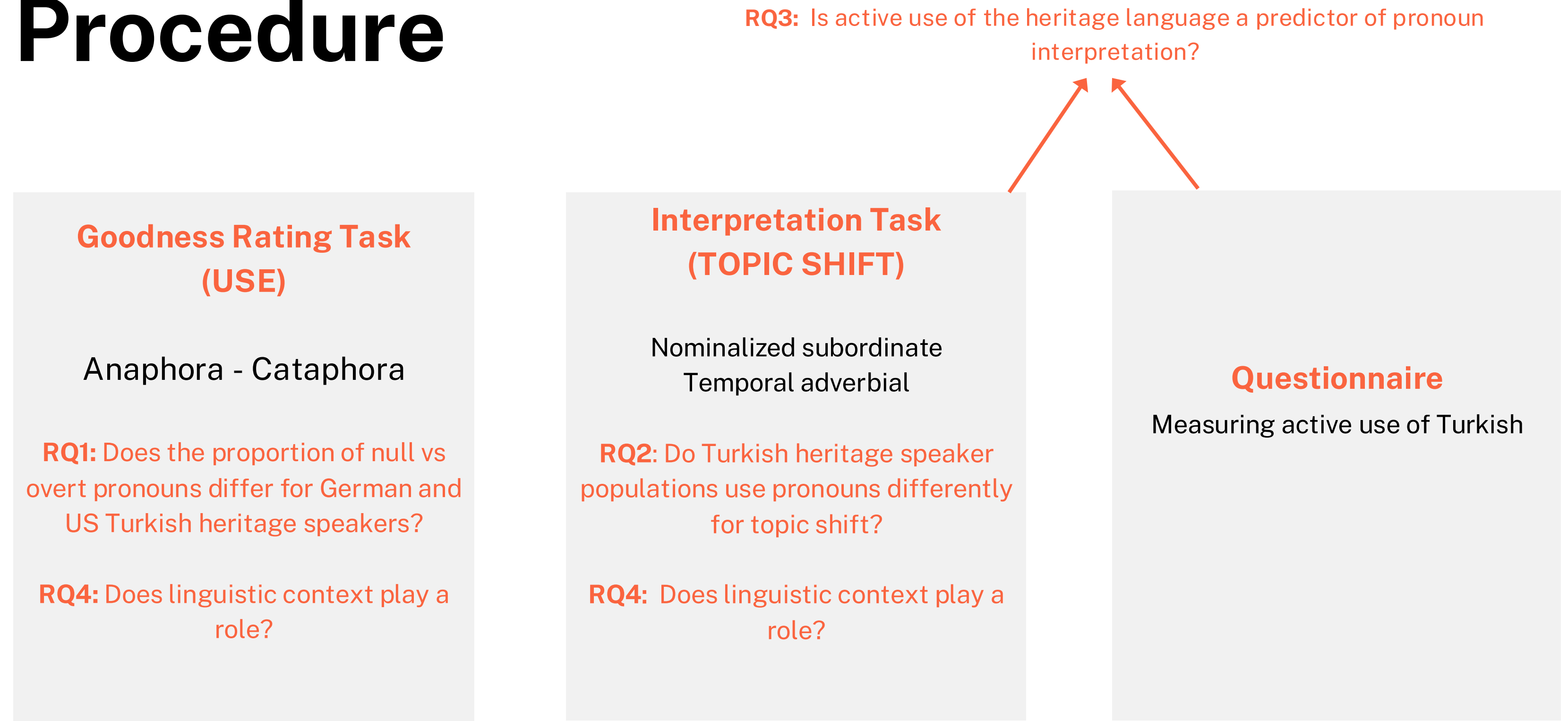
Participants

48 Heritage-Speakers:

Born in Germany/US, or moved before the age of six

- 36 Turkish-German (MA: 35, SD: 5.2; F=18, M=18)
- 12 Turkish-American (MA: 23, SD: 3.8; F=7, M=5)

Procedure



Questionnaire

Adapted from HeLEx (Tomić et al., 2023)

RQ3: Is **active use** of the heritage language a predictor of pronoun interpretation?

Current Language Use

Scale used: *Never – Very Little – Half of the time – Most of the time – All the time* (“N/A” option available for all items)

Activities by language (Turkish / English or German): *Speaking, Listening, Reading, Writing*

Language Use by Life Stage & Relationships

Scale used: *Fully Turkish – Mostly Turkish – Half/Half – Mostly Other – Only Other*

Life stages: *0–3, 3–6, 6–12, 12–18, 18–24, 24–today*

People: *Mother, Father, Siblings, Grandparents, Other relatives, Friends, Partner, Housemates, Neighbours*

Language Use by Context

Scale used: *Fully Turkish – Mostly Turkish – Half/Half – Mostly Other – Only Other*

Situations:

Home, School, Work, Social activities, Religious activities, Out-of-school activities, Shopping, Restaurants, Other commercial settings, Health services, Government/public institutions, Banks

Daily activities:

Reading, Email, Texting, Social media, Shopping lists, Note-taking, Watching TV, Listening to radio, Watching movies, Surfing internet, Praying

Stimuli – Goodness Rating task

RQ1: Are there different patterns in the use of the null/overt pronouns?

Do the patterns differ between HSs in Germany and in the US?

RQ4: Does linguistic context play a role?

5 items per pronoun type → 15 items per structure.

Total experimental items: 30

Fillers: 60

| Anaphora | Cataphora |
|---|---|
| <p>Ayşe alarmını <i>Ayşe alarm_{POSS.3SG}</i> duymadı. O/pro/kendisi <i>hear_{PAST3SG} S/he</i> işe geç kaldı. <i>work_{DAT} late stay_{PAST3SG}</i></p> <p>Because Ayşe did not hear her alarm, <i>o/pro/kendisi</i> was late to work.</p> | <p>O/pro/kendisi okuldan <i>S/he school_{from}</i> çıkarken, <i>go out_{PROG}</i> Ali mutlu hissetti. <i>Ali happy feel_{PAST3SG}</i></p> <p>While <i>o/pro/kendisi</i> was going out from school, Ali felt happy.</p> |

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Stimuli - Interpretation task

RQ2: Do Turkish heritage speaker populations interpret overt and null pronouns differently compared to Late Bilinguals?

RQ4: Does linguistic context play a role?

5 items per pronoun type → 15 items per structure.
Total experimental items: 30
Fillers: 60

Nominalized subordinate

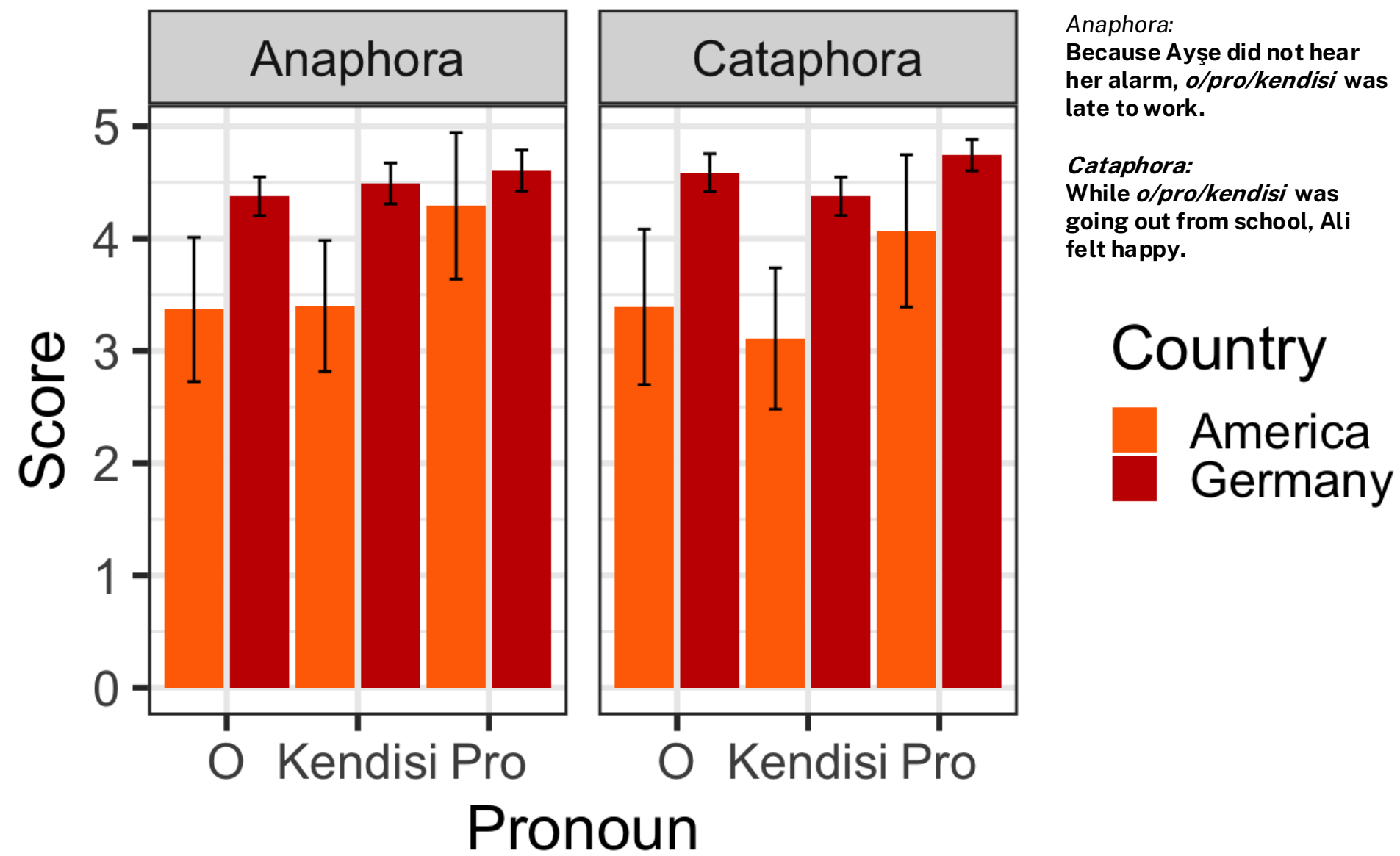
Ali ve Ayşe maçı
Ali and Ayşe a match_{ACC}
televizyondan izliyorlardı.
on tv watch_{PROGR.3PL}
Ali [**o/pro/kendisi** canlı maç
Ali him/her live match
izlemesi gerektiğini]
to watch needs
söyledi.
say_{PAST3SG}
Kimin canlı maç izlemesi
Who live match watch_{PAST3SG}
gerekti?
must?

Ali and Ayşe were watching a match on TV.
Ali said **o/pro/kendisi** needs to watch a live match.
Who needs to watch a live match?

Temporal Adverbial

Ahmet ve Ayşe ofiste öğle yemeği
Ahmet and Ayşe in the office lunch
yiyorlar.
eat_{PRES3PL}
Ahmet sandviç yerken,
Ahmet sandwich eat_{PROG.PAST},
o/pro/kendisi günlük gazete okudu.
s/he daily newspaper read_{PAST3SG}
Kim gazeteyi okudu?
Who the newspaper read_{PAST3SG}?

Ahmet and Ayşe are eating lunch in the office.
While Ahmet was eating a sandwich, **o/pro/kendisi** reads the daily newspaper.
Who reads the newspaper?

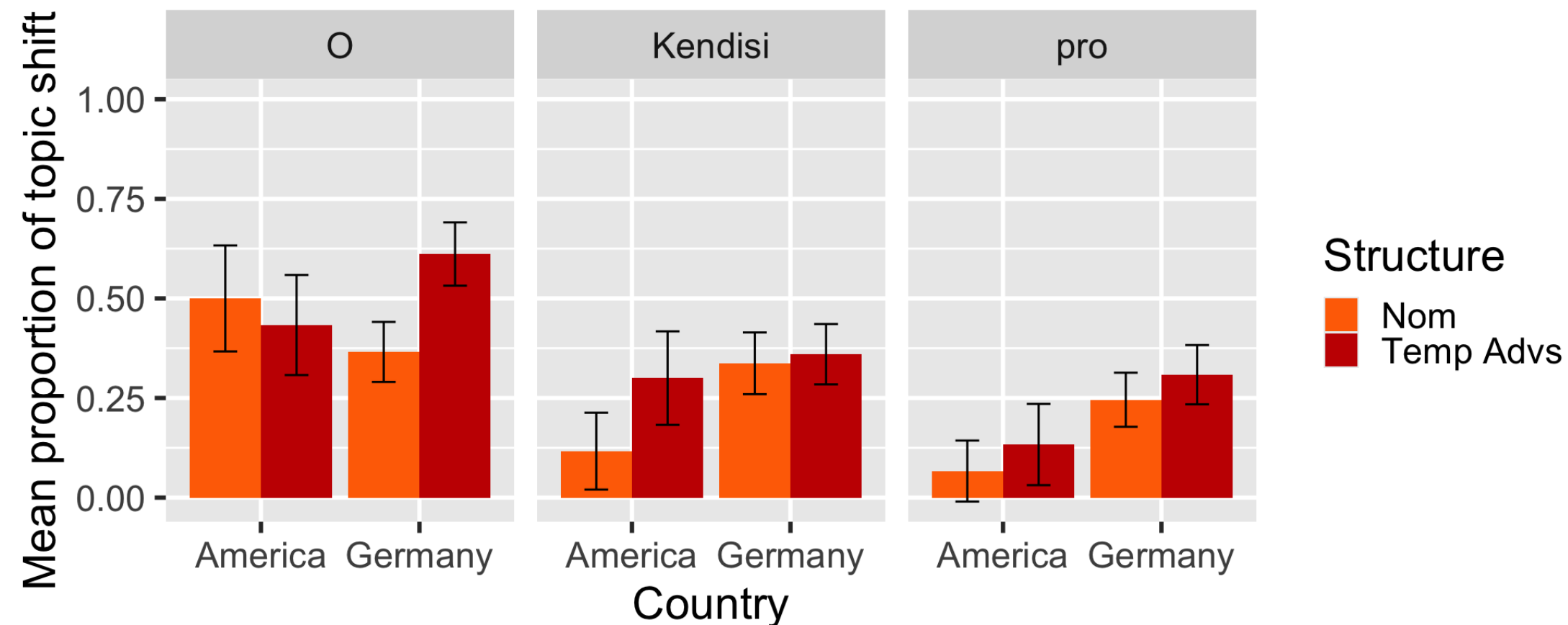


12 Results for Pronoun Use

Preliminary trends

- **Anaphora:**
 - **Turkish-German** group gives high and equal ratings across pronouns. Merging pronominal system?
 - **Turkish-American.** Merging pronominal systems? Less determinate.
- **Cataphora:**
 - **Turkish-German** again high and equal ratings across pronouns.
 - **Turkish-American** Merging pronominal systems? Less determinate.
- **Same patterns across linguistic structures**

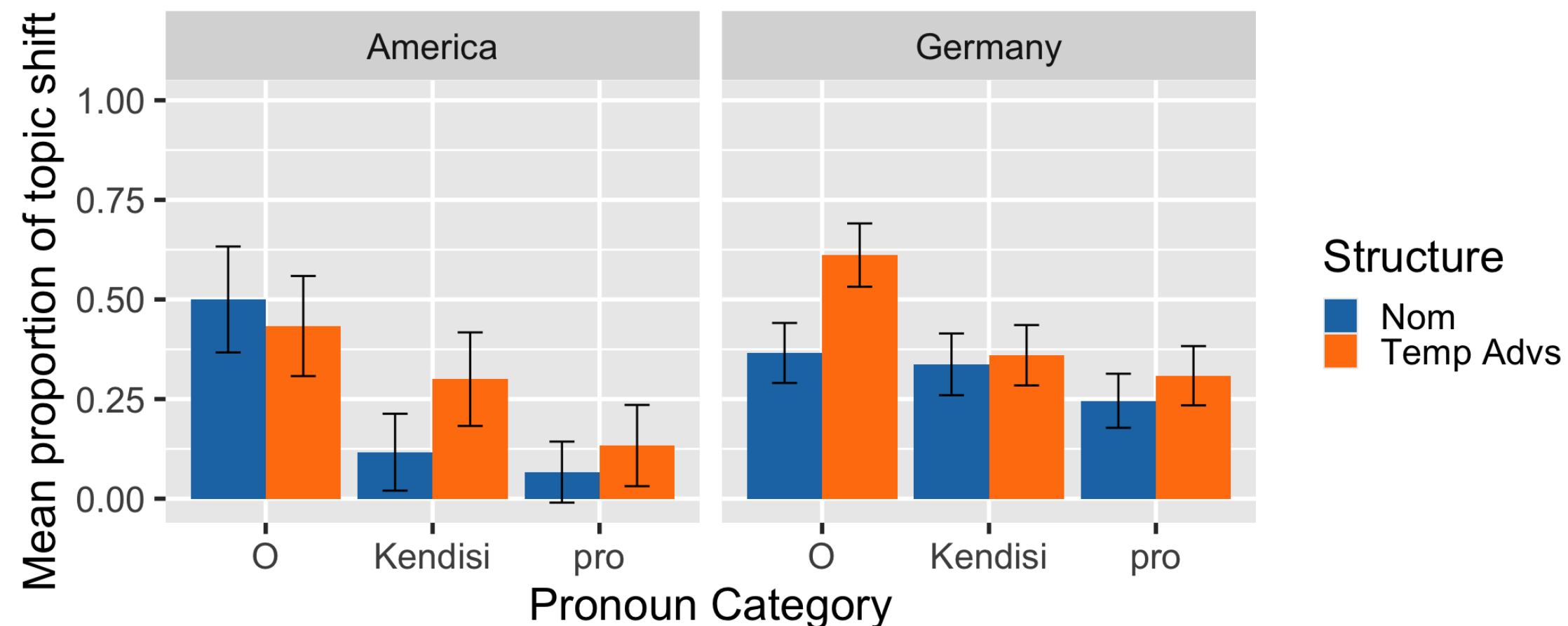
Results for Topic Shift



- Both groups show similar trends:
 - Overall, *o* receives topic shift interpretation more than *kendisi* or *pro*.
- In **temporal adverbial** clauses, German HSs showed clearer topic shift patterns than in **nominalized** clauses.
- Turkish Americans showed a clearer topic shift pattern in **nominalization**, but still at or under chance level for *o* in both structures.

| Structure | HS group | Mean TS o | SD o | Mean TS kendisi | SD kendisi | Mean TS pro | SD pro |
|-----------|----------|-----------|-------|-----------------|------------|-------------|--------|
| Temp.Adv. | US | 0.433 | 0.486 | 0.300 | 0.455 | 0.133 | 0.395 |
| Nom.Sub. | US | 0.500 | 0.515 | 0.117 | 0.373 | 0.067 | 0.297 |
| Temp.Adv. | DE | 0.611 | 0.532 | 0.360 | 0.508 | 0.309 | 0.449 |
| Nom.Sub. | DE | 0.366 | 0.505 | 0.337 | 0.519 | 0.246 | 0.455 |

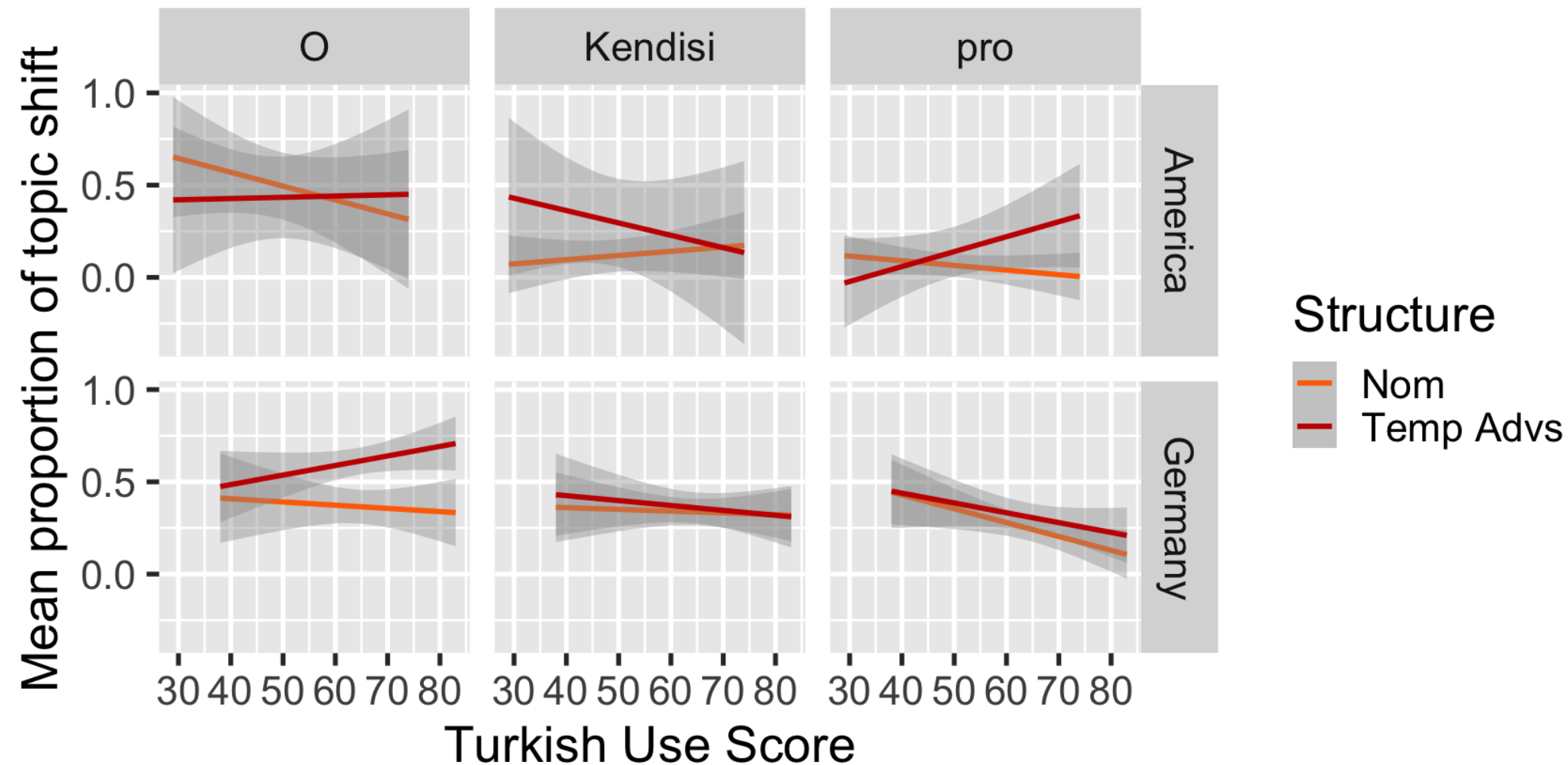
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15 Correlation between active use and topic shift



Preliminary trends

- German heritage speakers show more stable patterns across active use levels:
 - In **Temp Adv**s more Turkish use → higher topic shift for *o*
 - Nom** does not show this pattern
 - kendisi* shows a flat line
 - pro* is used less in topic shift as Turkish use increases.
- American heritage speakers show different patterns:
 - No relationship between Turkish use and *o* as topic shift in **Temp Adv**s
 - Nom** shows that more Turkish use results in less topic shift for *o*.
 - kendisi* shows a flat line.
 - pro* is used less in topic shift as Turkish use increases



Key Takeaways

1. Turkish-German and American-German HS show similar patterns of merged pronominal systems. L2 dominance?
2. *O* as topic shift and *pro* as topic maintenance shown in both groups but at a higher level for German group.
3. Active use modulates topic shift for German group but not American group.
4. Linguistic structure modulates outcomes in topic shift with temporal adverbial clauses eliciting clearer topic shift patterns than nominalized ones.

Ongoing Work

- Recruiting more participants
- Reaction time
- Refining structural manipulation
- Incorporate proficiency measure
- Current vs Historical language use



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Selected References:



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thank you

Do you have any questions?



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