



Potsdam Research Institute for Multilingualism (PRIM)

The role of proficiency in Turkish heritage speakers' processing of pronouns

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Overview

- Introduction
 - Heritage speaker grammatical processing
 - Turkish pronouns and reflexives
- Method
- Results
- Discussion
- Conclusion

Introduction - HS grammatical processing

- Previous studies on HS processing have often reported merging or loss of grammatical distinctions (Kim et al., 2009a; Keating et al., 2011; Polinsky, 2008; Gürel & Yilmaz, 2011; Arslan et al., 2015)
- Other studies report stronger contrasting compared to monolinguals (Knospe & Felser, 2015; Bamyacı, 2016)

Introduction - HS grammatical processing

How to explain contrasting results for similar phenomena?

➤ Offline/online difference?

Keating et al. (2014): intact distinctions between overt and null pronouns in online processing, but merging in offline data (Keating et al., 2011)

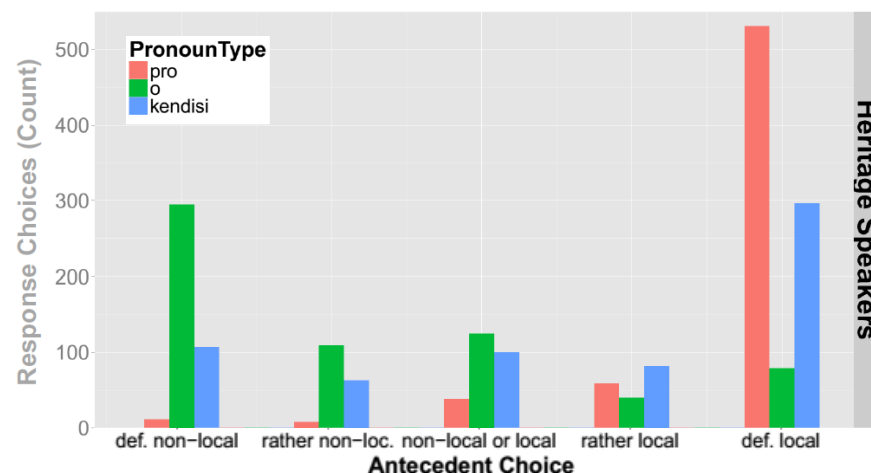
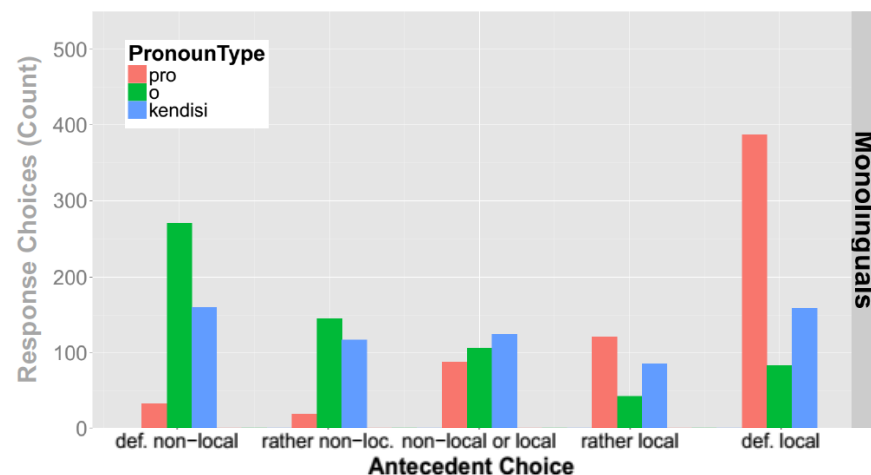
➤ Proficiency?

- may account for contrasting findings, e.g. between American and European HSs (Kupisch, 2013)
- Proficiency effects for HSs' tendency to merge or contrast Turkish pronouns in questionnaire study (Knospe & Felser, 2015)

Introduction - HS grammatical processing

Knospe & Felser (2015):
questionnaire study on Turkish
overt and null pronouns

- HSs contrasted *kendisi* and *pro* more strongly from *o*
- HSs with higher proficiency had a stronger tendency to contrast *kendisi* and *pro* from each other ($z = 2.19$)



Research questions

- **What is the influence of proficiency on Turkish HSs' tendency to merge or contrast pronouns?**
- **Is there a difference between online and offline processing in HSs' tendency to merge or contrast different forms?**

Introduction - Turkish reflexives

- Turkish allows local and long-distance binding of reflexives (Göksel & Kerslake, 2005; Kornfilt, 2001; Sezer, 1979; Schlyter, 1978, Enç, 1989; Dinçtopal-Deniz, 2009)

Ahmet_i [Ali_j'nin kendisine_{i/j} baktığı]-nı gördü.
Ahmet Ali_{Gen} him/himself_{Dat} look_{3rdSing-that} see_{3rdSingPast}
Ahmet saw that Ali looked at himself/him.

Ahmet_i [Ali_j'nin kendine_{?i/j} baktığı]-nı gördü.
Ahmet Ali_{Gen} him/himself_{Dat} look_{3rdSing-that} see_{3rdSingPast}
Ahmet saw that Ali looked at himself(/him).

- *Kendi* tends to prefer local antecedents more strongly than *kendisi* (Göksel & Kerslake, 2005; Kornfilt, 2001)

Introduction - Turkish pronouns

- The Turkish overt pronoun *o* cannot take local c-commanding antecedents, in line with Principle B of Binding theory (Gürel, 2002; Dinçtopal-Deniz, 2009; Rudnev, 2011)

Ahmet_i [Ali_j'nin **ona**_{i/*j} baktığı]-nı gördü.
Ahmet Ali_{Gen} him_{Dat} look_{3rdSing-that} see_{3rdSingPast}
Ahmet saw that Ali looked at him.

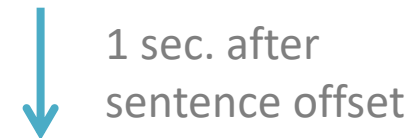
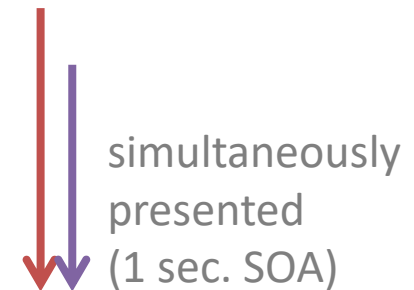
Predictions

- a) **Merging:** HSs treat different pronouns/reflexives more similarly than monolinguals, with higher-proficiency HSs approaching monolingual norms (cf. Kim et al., 2009)
- b) **Online/Offline difference:** intact distinctions in online processing (cf. Keating et al., 2014)
- c) **Stronger Contrasting:** non-native-like contrasting of pronouns and reflexives, stronger in higher-proficiency HSs (cf. Knospe & Felser, 2015)

Method - Design

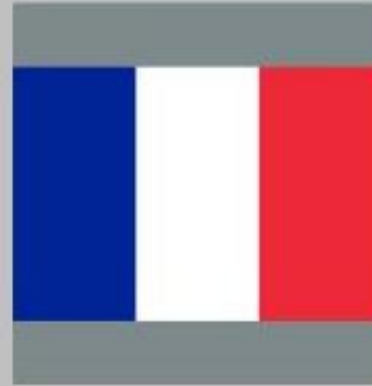
Visual-World Eyetracking Paradigm:

- **visual display** of 4 pictures
local antecedent, non-local
antecedent + 2 distractors
- **auditory presentation** of experimental or filler
sentence
- **comprehension question** which asks for
antecedent of the pronoun



24 experimental + 72 filler trials → 120 trials in total

Method - Materials



Method - Materials

1. [Mühendis [doktorun [Fransa'yı dolaşırken] ona bir elma aldığını] gördü.]
Engineer doctor France visit-when s/he_{DAT} an apple bought see
'The engineer saw that the doctor, while visiting France, bought him/her an apple.'
2. [Mühendis [doktorun [Fransa'yı dolaşırken] kendisine bir elma aldığını] gördü.]
Engineer doctor France visit-when s/he/self_{DAT} an apple bought see
'The engineer saw that the doctor, while visiting France, bought him/her(-self) an apple.'
3. [Mühendis [doktorun [Fransa'yı dolaşırken] kendine bir elma aldığını] gördü.]
Engineer doctor France visit-when self_{DAT} an apple bought see
'The engineer saw that the doctor, while visiting France, bought him/her(-self) an apple.'

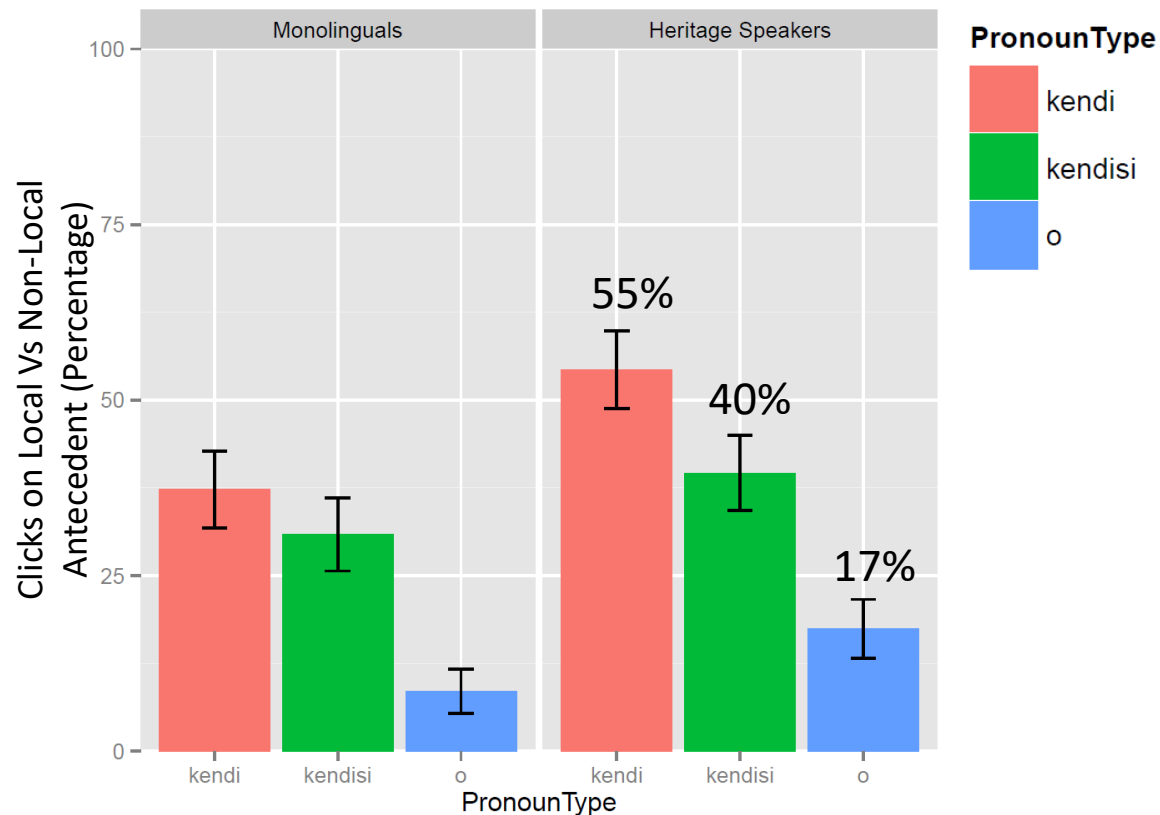
Method

- **42 Turkish-German bilinguals (13 male, 29 female)**
 - age: mean 22.98, range: 18 - 36, sd: 3.60
 - German AoA: mean 2.20, range: 0-6, sd: 2.06
 - German proficiency (Goethe test score): mean 27.52/30 (C2), range: 23-30, sd: 1.44
 - Turkish proficiency (TELC C1 test score): mean 16.36/22 points (74.36%), range: 7-22, sd: 3.72
 - average proficiency was higher for German than Turkish

- **42 monolingual native speakers of Turkish (10 m, 32 f)**
 - age: mean 19.12 (18-22, sd: 0.81)

Results – Comprehension questions

- HSs had statistically different preferences for all three forms
- Overall, more local antecedent choices compared to monolinguals



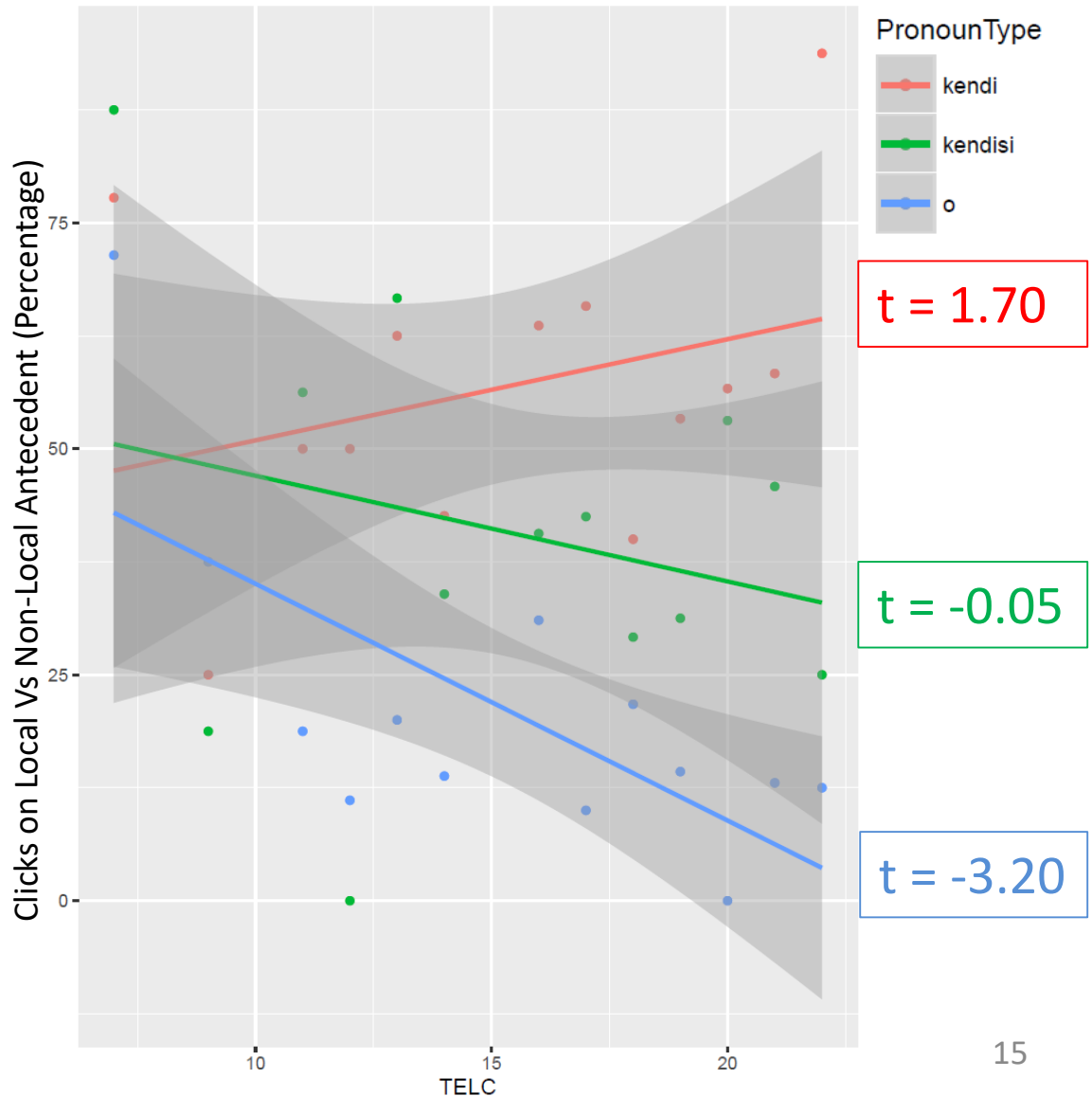
Results – Comprehension questions

Interactions:

TELC x
PronounType_{kendisi-kendi}
($t = -2.40$)

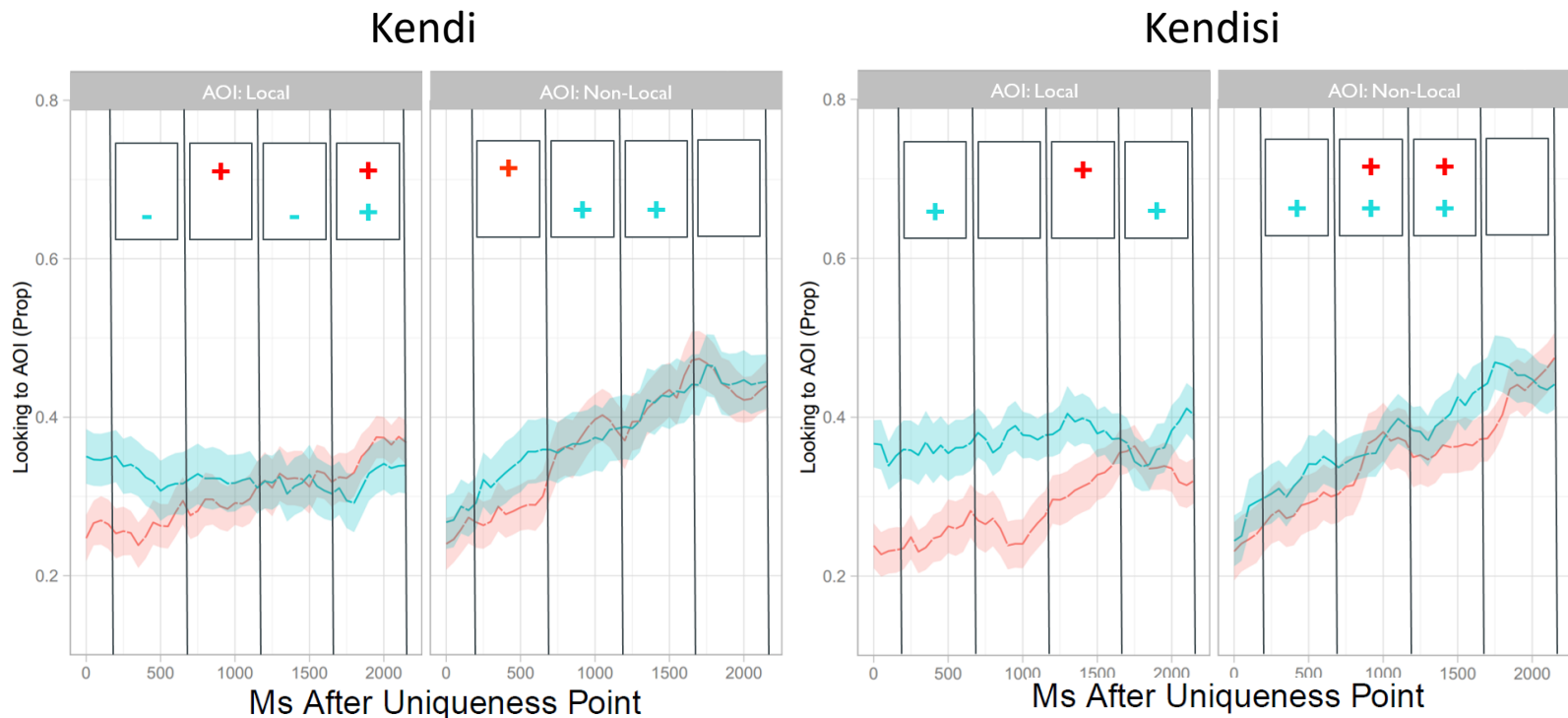
TELC x
PronounType_{kendisi-o}
($t = 1.94$)

→ split up pronoun
conditions

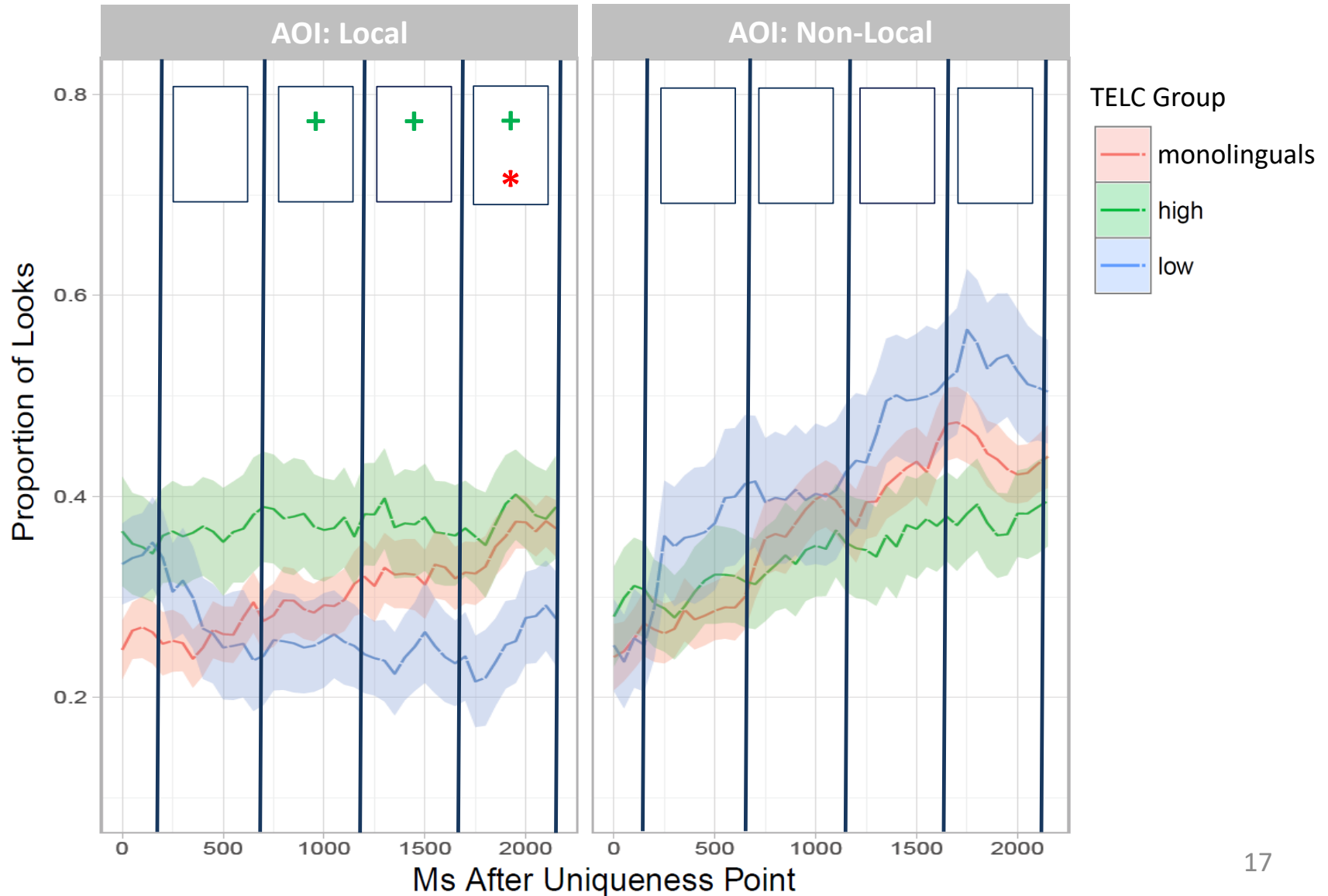


Results – Eye movements

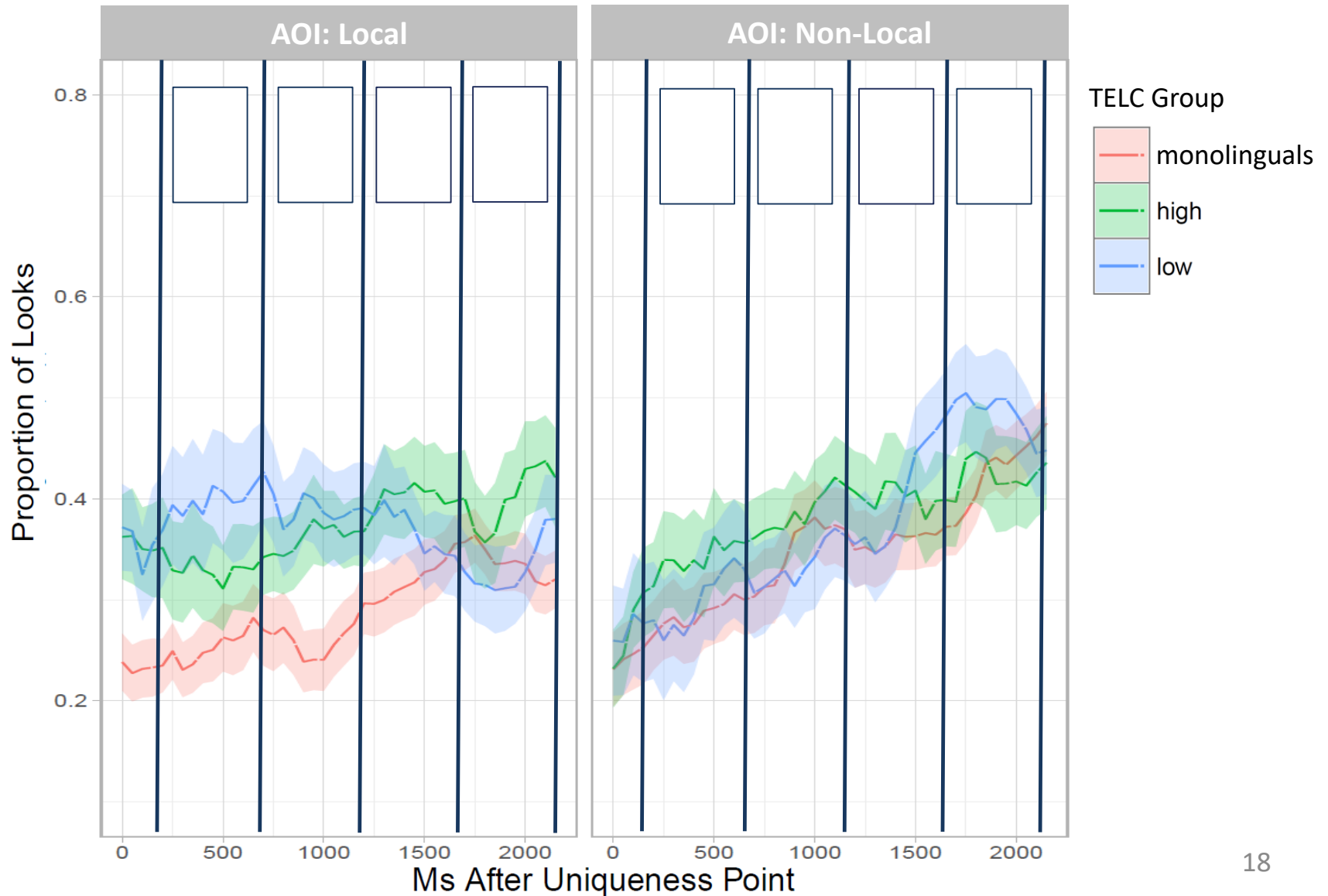
- Overall, HSs initially showed a stronger preference for non-local antecedents for *kendi* and *kendisi* compared to monolinguals



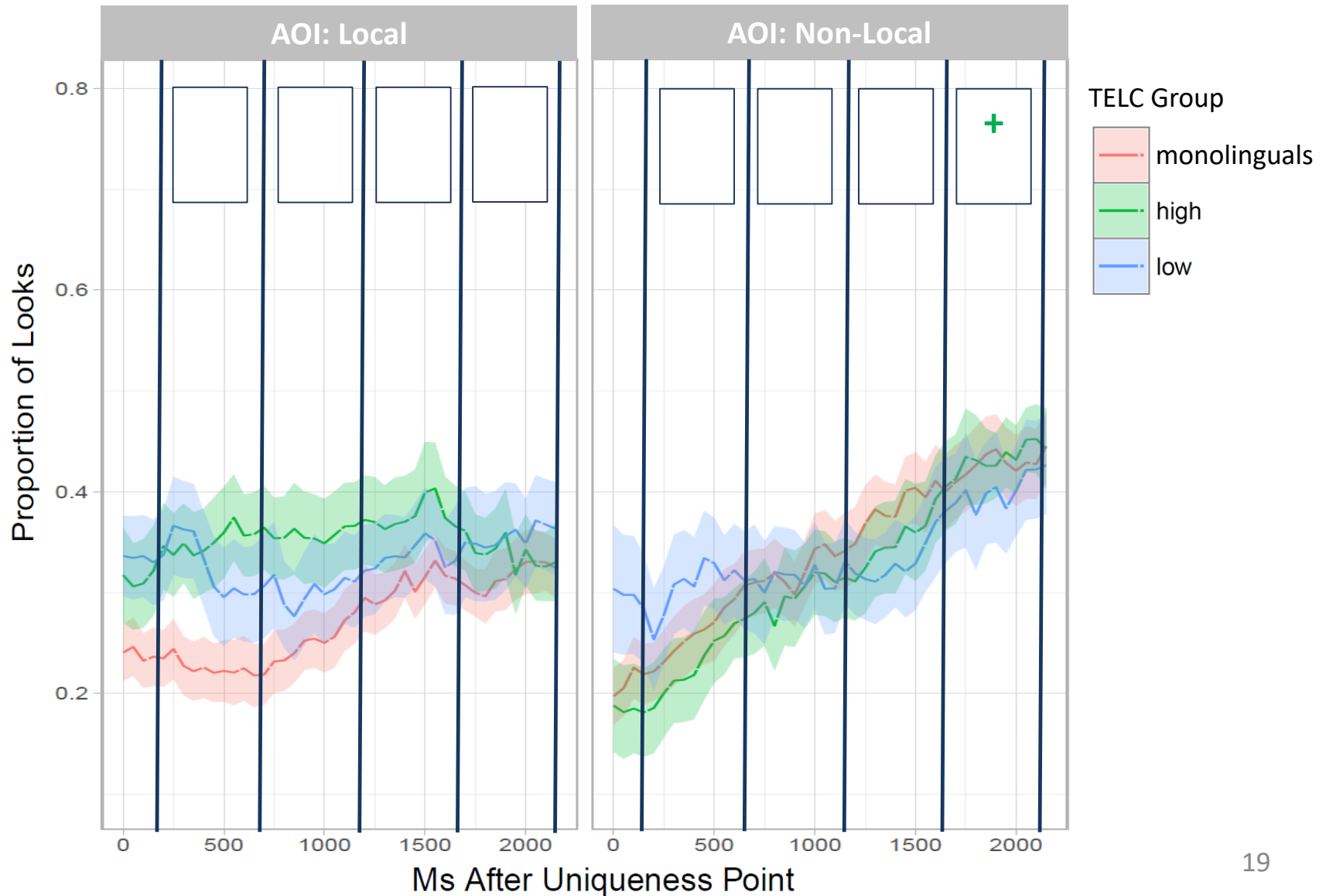
Results – Eye movements KENDI



Results – Eye movements KENDISI



Results – Eye movements O



Results - Overview

Comprehension questions:

- Higher-proficiency HSs contrasted forms more strongly than lower-proficiency HSs
 - In less proficient HSs, antecedent preferences for *o* and *kendi* were similar to *kendisi*

Eye movements:

- effects for *kendi* and *o* that matched the interpretation data
 - Stronger preference for local antecedent for *kendi* & stronger preference for non-local antecedent for *o* in more proficient HSs

Discussion

What is the influence of proficiency on Turkish HSs' tendency to merge or contrast pronouns?

- Merging in less proficient HSs vs. stronger contrasting in highly proficient HSs
- Differential processing due to proficiency differences may explain contrasting results in previous studies

Is there a difference between online and offline processing in HSs' tendency to merge or contrast different forms?

- No: results pattern is similar to offline questionnaire

Discussion

- What causes non-native-like processing in HSs?
 1. Merging in less proficient HSs
 - lack of HL knowledge?
 - stronger reliance on non-syntactic information?
 2. Stronger contrasting in highly proficient HSs
 - difficulties with ambiguity? (Gürel & Yilmaz, 2011)
 - influence of UG? (Bamyaci, 2016)

- Proficiency and age of onset of bilingualism
 - More merging in HSs with early AoO of L2 (Gürel and Yilmaz, 2011; Montrul et al., in prep., Kim et al., 2009b)

Conclusion

- Lower-proficiency and higher-proficiency HSs may differ from non-bilingual controls in different ways.
- Considering proficiency may prove valuable in bridging the gap between seemingly contradictory findings in previous HS studies.
- More online studies are necessary to paint a clearer picture of the role of proficiency in HSs processing.

Thank you!