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
• 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; Bamyaci, 2016)
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)
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?
Turkish allows local and long-distance binding of reflexives (Göksel & Kerslake, 2005; Kornfilt, 2001; Sezer, 1979; Schlyter, 1978, Enç, 1989; Dinçtopal-Deniz, 2009)

Ahmet <sub>i</sub> [Ali <sub>j</sub>’nin kendisine <sub>i/j</sub> baktığı]-<sub>i/j</sub> -nı gördü.
Ahmet <sub>i</sub><br>Ali <sub>Gen</sub><br>him/himself <sub>Dat</sub><br>look<sub>3rdSing</sub> -that<br>see<sub>3rdSingPast</sub><br><i>Ahmet saw that Ali looked at himself/him.</i>

Ahmet <sub>i</sub> [Ali <sub>j</sub>’nin kendi<sub>e</sub>ne baktığı]-<sub>i/j</sub> -nı gördü.
Ahmet <sub>i</sub><br>Ali <sub>Gen</sub><br>him/himself <sub>Dat</sub><br>look<sub>3rdSing</sub> -that<br>see<sub>3rdSingPast</sub><br><i>Ahmet saw that Ali looked at himself(/him).</i>

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

Ahmeti [Ali’nin onaj/*j baktığı]-nı gördü.

Ahmet AliGen himDat look3rdSing-that see3rdSingPast

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)
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
1. [Mühendis [doktorun [Fransa'yi dolaşırarken] ona bir elma aldığını] görüdü.] 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'yi dolaşırarken] kendisine bir elma aldığını] görüdü.] 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'yi dolaşırarken] kendine bir elma aldığını] görüdü.] 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.’
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:

TEL C x PronounType\textsubscript{kendisi-kendi} (t = -2.40)

TEL C x PronounType\textsubscript{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

AOI: Local

AOI: Non-Local

TELC Group
- monolinguals
- high
- low

Proportion of Looks

Ms After Uniqueness Point

0 500 1000 1500 2000
Results – Eye movements KENDISI

AOI: Local

AOI: Non-Local

Proportion of Looks

Ms After Uniqueness Point

TELC Group
- monolinguals
- high
- low
Results – Eye movements O

AOI: Local

AOI: Non-Local

TELC Group

monolinguals
high
low

Proportion of Looks

Ms After Uniqueness Point
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
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)
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!