Turkish reflexive pronoun kendi 'self' and its interpretation in finite clauses:

Evidence from judgment survey and visual-world eye-tracking

Intro. Binding Theory (BT) (Chomsky, 1981) is a set of structural constraints that modulate a referential interpretation of pronouns and reflexives. Turkish includes a specific type of reflexive pronoun *kendi* 'self' that has been the center of debates within theoretical linguistics regarding its binding relations as formulated in BT. One assumption is that *kendi* is a long-distance anaphor, bound with both the local embedded subject and the non-local matrix subject (Sezer 1980; Meral 2010). The other view, on the other hand, is that *kendi* is a local anaphor, hence no long-distance interpretation is available (Kornfilt 2001; Göksel&Kesrslake 2005). There are two caveats to this debate: i) Reported judgments in existing syntactic literature mostly come from the researchers themselves, rather than from a systematic, formal data collection process ii) Of the reported judgments where *kendi* has a long-distance interpretation, they mainly include (non-finite) nominalized embedded clauses as in (1):

(1) Zehra_i [Mehmet'in_j kendi-n-i_{i/j} beğen-diğ-i]-ni düşün-üyor-Ø. Zehra Mehmet-GEN self-ACC like-NOM-3POSS-ACC think-PR.PROG-3SG 'Zehra thinks that Mehmet likes himself/her'

However, a crucial fact to not dismiss in Turkish is that the sentence embedding in Turkish is not limited to nominalized structures. Instead, the finite subordination in Turkish is also well-attested, with and without overt complementizer (cf. (2a-b) and (2c)). See the followings:

- (2) a. Ali_j duy-du-Ø [**ki** Ayşe_k (kendin-e_{j/k?}) araba al-mış-Ø. Ali hear-PAST-3SG COMP Ayşe (self-ACC) car buy-EVID.PAST-3SG 'Ali heard that Ayşe bought a car for herself/(him?).'
 - b. Ali_j [Ayşe_k (kendin-e_{j/k?}) araba al-mış-Ø **diye**] duy-du-Ø. Ali Ayşe self-ACC car buy-PAST-3SG COMP hear-EVID.PAST-3SG 'Ali heard that Ayşe bought a car for herself/(him?).'
 - c. Ali_j [Ayşe_k kendin-e_{j/k?} araba al-dı-Ø] san-ıyor-Ø. Ali Ayşe self-DAT car buy-PAST-3SG think-PROG-3SG 'Ali supposes that I bought a car for herself/(him?).

Further, finite clauses show variation regarding the morphological properties of the embedded subjects. Specifically, the embedded subject may have an accusative case marking (cf. (2c):

(3) Ali $_j$ [Ayşe-yi $_k$ kendin- $e_{j/k}$? araba al-dı-Ø] san-ıyor-Ø. Ali Ayşe-ACC self-DAT car buy-PAST-3SG think-PROG-3SG 'Ali supposes that Ayşe bought a car for herself/(him?).

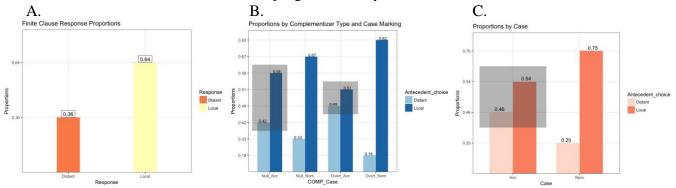
Given the lack of comprehensive and formally collected judgments in the literature on *kendi* interpretation in various syntactic and morphologic configurations, previous attempts on understanding the nature of this reflexive remain to be inconclusive. The current study aims to fill this gap in the literature.

Proposal. I will present evidence from an acceptability judgment survey and eye-tracking experiment on *kendi* interpretation in finite clauses. At the outset, the primary motive for incorporating the online eye-tracking experiment into the study is to investigate further the results of the offline judgment survey rather than testing the role of structural constraints on anaphor resolution. For this validation purpose, the study will employ the visual-

¹ I acknowledge that the very same data from this method can be used to evaluate BT-related structural roles in processing *kendi*, which remains as an option and will be included in the analysis if the time permits. However, the initial objective here is to empirically evaluate the claims about *kendi* interpretation by bringing behavioral online data.

world eye-tracking method. Therein, the participants will listen to finite clause sentences with two factors (i.e., complementizer type and case-marking) while looking at images of the mentioned characters on display. An assumption for this paradigm is that eye-movement to potential antecedents are time-locked to the input (i.e., audio stimuli). Hence, the proportions of looks to different objects displayed on the monitor indicate which characters the participant is considering as a potential referent of the anaphor.

Design&Results. A norming study for the embedded verbs to be used both in the acceptability survey and the eye-tracking experiment was conducted. With this, I aimed to obtain only verbs that are equally felicitous for reflexivity, hence avoiding bias regarding the local and non-local interpretation of *kendi*. 35 native Turkish speakers (M=6, Mean Age=22, SD=5.56) was recruited for the norming study. The task was a fill-in the gap in which participants provided a preference for a reflexive pronoun, proper name, or both. (e.g., Ahmet praised himself/Ali/Both). Further, they were asked to scale from 1-to-7 between the reflexive pronoun and proper NP if 'both' responses were preferred. In result, 16 verbs have been chosen in the norming study (i.e., verbs that had a response rate of 80% and over). The test items in judgment survey and eye-tracking experiment included 16 test items with four conditions, which amount to 64 critical trials in total. The four conditions are the type of complementizer (i.e., overt and null) and the case-marking on the embedded subject (i.e., nominative and accusative). For the judgment survey, 72 participants from a university in Turkey was recruited. The critical trials randomized using Latin Square design, ending up with 4 blocks. The figures below show the response proportions overall and across the conditions from the judgment survey:



The results in Figure A show that participants predominantly preferred the local antecedent. However, they also selected the non-local antecedent, contrary to the most observations under syntactic accounts. In analyzing the data, I looked at *distant* and *local* responses only. I added each predictor separately to the null model to evaluate model improvement. Model fit was assessed using chi-square on the likelihood values to compare the null and full models. Based on these, I found a significant main effect of case, $X^2_{df=1}=33.878$, p<0.05 whereas I did not find a significant main effect of complementizer type (i.e., Overt and Null), $X^2_{df=1}=1.7877$, p>0.05. Bearing on this, a distinction between nominative and accusative marked NPs emerges in Figure B and C. Namely, Turkish speakers more likely to prefer non-local antecedent when the embedded subject is in accusative case.

Discussion. The study suggests that unlike mostly reported judgments, if any, or claims in the literature, Turkish speakers do prefer non-local antecedent for *kendi* in finite clause domains, if not predominantly. Further, the morphological property of the embedded subject plays a role in participants' reference assignment to *kendi* in that accusative-marked embedded subjects tend to elicit more non-local responses.

References. Badecker, W., & Straub, K. 2002. The processing role of structural constraints on interpretation of pronouns and anaphors. • Nicol, J., & Swinney, D. 1989. The role of structure in coreference assignment during sentence comprehension. • Gibson, E. (1998). Linguistic complexity: Locality of syntactic dependencies. • Runner, J. T., Sussman, R. S., & Tanenhaus, M. K. (2003). Assignment of reference to reflexives and pronouns in picture noun phrases. • Runner, J. T., & Head, K. D. (2014). What can visual world eye-tracking tell us about the binding theory?