

Interpretation of Turkish reflexive anaphors: subjecthood vs semantic role

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Abstract. The current study investigates what factors control the interpretation of Turkish third person reflexive anaphors *kendi* and *kendisi*. Our results indicate that, in certain contexts, *kendi* and *kendisi* behave alike, which is a novel finding. We show that both *kendi* and *kendisi* have a slight *subject-orientation*, and they are sensitive to semantic roles, being *perceiver-oriented*. Lastly, our results show that word order affects the interpretation of *kendi* and *kendisi*, and that they prefer salient preceding DPs. Based on our findings as a whole, we suggest that both *kendi* and *kendisi* show some pronominal properties, and we suggest that Kornfilt’s (2001) proposal that *kendisi* can function as a pronoun might be extended to *kendi* as well.

Keywords. anaphor resolution; reflexives; logophors; pronouns; long distance reflexives

1. Introduction. Turkish has two different third person reflexive anaphors, *kendi* and *kendisi*. It is generally assumed that *kendi* is monomorphemic while *kendisi* consists of *kendi* and a possessive agreement marker *-sI* (Kornfilt, 2001; İşsever, 2015; Yakut, 2015; Özbek & Kahraman, 2016). Recent experimental studies (e.g. Özbek & Kahraman, 2016; Gračanin-Yüksek et al., 2017; Bakay & Dillon, 2022) repeatedly show that both *kendi* and *kendisi* can be bound non-locally, violating Principle A of the Binding Theory (Chomsky, 1981). The authors of these studies report that both *kendi* and *kendisi* in (1) are ambiguous between the local (*Can*) vs non-local (*Ali*) antecedents.

- (1) a. Ali [Can-ın *kendi*-ni sev-diğ-i-ni] bil-iyor.
 A. C.-gen self-acc like-nmlz-3sg-acc know-pres
 “Ali₁ knows that Can₂ likes him_{1/2}.”
- b. Ali [Can-ın *kendisi*-ni sev-diğ-i-ni] bil-iyor.
 A. C.-gen self-acc like-nmlz-3sg-acc know-pres
 “Ali₁ knows that Can₂ likes him_{1/2}.”

However, the properties of the two forms are not yet fully understood, and what allows these anaphoric forms to be non-locally bound is still unknown. Previous studies mainly focused on the differences between the two forms, and drew contrasting conclusions. For example, Kornfilt (2001) suggests *kendisi* is a possessive phrase (AgrP/PossP) in disguise, headed by the possessive agreement suffix *-sI*, and the possessor position is occupied by a silent pronoun (*pro*), which can refer to a non-local antecedent. According to Kornfilt, this allows *kendisi* to function as either a pronoun (non-local) or a reflexive (local), while *kendi* lacks the pronoun function as it is a simple reflexive DP. In line with this, İşsever (2015) suggests that the syntactic complexity

* We would like to thank the audience at the 8th Workshop on Turkic and Languages in Contact with Turkic (Tu+8), the USC Psycholinguistics Lab group, and two anonymous reviewers for their valuable and constructive feedback. Authors: Metehan Oğuz, University of Southern California (moguz@usc.edu) & Elsi Kaiser, University of Southern California (emkaiser@usc.edu).

of *kendisi* allows it to be used as a logophor and to pick up a non-local DP as its antecedent. Both İşsever (2015) and Kornfilt (2001) predict and suggest that *kendi* must be locally bound.

In contrast, Sezer (1980) suggests that *kendi* can be used non-locally to express the internal feelings of its referent, which is typically known to be a feature of logophoric anaphors (Sells, 1987). Similarly, Yakut (2015) suggests that *kendi* can be used as a logophor, referring to non-local antecedents.

Though both *kendi* and *kendisi* are independently proposed to have logophoric properties, there is no convincing evidence that the two forms function as logophors, rather than regular long-distance reflexives (without any logophoric function). In order to make the distinction, we must understand the properties of logophors and long-distance reflexives.

The term *logophor* is used to refer to an anaphoric form that introduces the mental perspective holder of a clause, whose speech, thoughts, feelings, or general state of consciousness is reported (e.g. Hagège, 1974; Clements, 1975; Park, 2018). In speech contexts, logophors are used to refer to the *source* of reported speech, who is the intentional agent of communication (Sells, 1987). As outlined in Sells (1987), logophoricity is a semantic/pragmatic concept, which can be encoded into the semantic selection properties of verbs. For example, *to tell* (and its equivalents in other languages) assigns a [+source] feature (and *source* semantic role) on its subject, and a [-source] (and *perceiver* semantic role) to its (indirect) object, in sentences like (2a), while *to hear* (and its equivalents in other languages) assigns the opposite features (and semantic roles) to its subject and indirect object (2b). A detailed discussion of logophors is unfortunately beyond the scope of the current paper. We refer the interested reader to relevant work (e.g. Clements, 1975; Sells, 1987; Pearson, 2015; Sundaresan, 2018; Charnavel, 2021) for more details.

- (2) a. John told Henry the story. (John = *source*, Henry = *perceiver*)
 b. John heard the story from Henry. (John = *perceiver*, Henry = *source*)

While some languages have pronominal forms used specifically as logophors, in other languages reflexive anaphors function as logophors (see Ameka, 2017 for a review). Logophors are not subject to the Binding Theory, and thus can be bound locally or non-locally.

The general term *long-distance reflexive* (LDR) is often used to describe reflexive anaphors that can pick up non-local DPs as antecedents, without saying anything about a special semantic/pragmatic function (such as logophoricity) being involved. Rudnev (2008) reports that in general long-distance reflexives are usually subject-oriented, citing Pica (1987), Cole & Hermon (1998), and Testelec & Toldova (1998). This means that interpretation of LDRs is affected mainly by the syntactic roles (i.e. subjecthood) of their antecedents, and an LDR will most likely refer to the DP in the subject position (rather than the indirect object) in a sentence with two possible long-distance DP antecedents.

In sum, logophors and LDRs are similar in that they can both refer to non-local antecedents. However, they differ in what factors their interpretation is restricted by. While logophors are restricted by semantic factors, preferring antecedents with a *source* semantic role, LDRs are restricted by syntactic factors (specifically subjecthood), and tend to refer to the sentence subject.

Though previous experimental studies on Turkish reflexive forms successfully demonstrate that both *kendi* and *kendisi* can be used non-locally (e.g. Özbek & Kahraman, 2016; Gračanin-Yüksek et al., 2017), these studies were not designed to specifically investigate the question of what kinds of features of non-local antecedents (i.e. semantic, syntactic) *kendi* and *kendisi* are sensitive to. Indeed, earlier work typically used sentences like (1), with only one non-local DP as a possible antecedent. The non-local DP here is both (i) the matrix subject and (ii) the attitude holder (a feature attributed to logophors). Thus, this configuration does not allow us to pull apart syntactic vs. semantic factors: whether the reflexive forms are sensitive to syntactic or semantic considerations does not change the predictions regarding which antecedent they would refer to, because there is only one non-local possible antecedent.

The structure of the paper is as follows: Section 2 describes the methodology of the study. Section 3 presents the experiment results. Subsequently, Section 4 discusses the implications of these results. Finally, Section 5 concludes the paper.

2. Methods. In our work, we address the questions left open by earlier studies by testing *kendi* and *kendisi* in contexts with two possible non-local antecedents, with different syntactic and semantic properties. This allows us to test to what extent the interpretation of *kendi* and *kendisi* is guided by semantic factors (a property commonly attributed to logophoric reflexives) and/or by syntactic factors, in particular subjecthood (a property commonly attributed to the general class of long-distance reflexives). We used an offline forced choice task to measure what factors (semantic vs syntactic) mainly control the interpretation of these two reflexive forms.

2.1. PARTICIPANTS. 100 adult Turkish native speakers (self-reported) were recruited via social media platforms (e.g. Facebook, Instagram); 12 were excluded for excessively fast reading times (suggesting they were not reading the experimental sentences, see below); 88 participants were included in the final analysis. In exchange for their time, participants could join a lottery to win gift cards worth 150 Turkish Lira.

2.2. MATERIALS AND DESIGN. Target sentences (as in 3) had a reflexive anaphor in the embedded object position, which could in principle refer to three different antecedents in the sentence (two non-local, one local). Considering that we are interested in the non-local use of the reflexive forms, we used sentences with other-directed embedded verbs (e.g. *congratulate*, *scold*) so that the local DP was not a semantically plausible antecedent.

- (3) Ali₁ Ahmetten₂ [hocanın₃ *kendisini* tebrik ettiğini] duydu.
 Ali Ahmet-abl teacher self congr. do hear-pst
 “Ali₁ heard from Ahmet₂ that the teacher₃ congratulated **self**_{1/2/#3}.”

We manipulated (i) the form of the reflexive (*kendi* or *kendisi*) and (ii) the matrix verb (*söyle* ‘to tell’ or *duy* ‘to hear/learn’). The matrix verb manipulation allows us to tease apart subjecthood and *source* semantic role. With *to tell*, the subject DP is a *source*, with *to hear/learn*, it is a *perceiver*, (and the indirect object DP has the opposite verb/semantic role pattern). We also manipulated (iii) the word order (canonical or non-canonical). In canonical order, both non-local DPs precede the reflexive anaphor, but only the indirect object precedes the reflexive anaphor in non-canonical order. This yields a 2x2x2 design, summarized in Table 1. To minimize any

confounds due to plausibility, we used sentences where both non-local DPs were plausible/likely to be the antecedents for the reflexives (based on the judgments of the first author, a native speaker of Turkish).

To keep the duration of the experiment manageable, *reflexive form* was implemented as a within-subjects factor. Thus, a given participant saw targets with *kendi* or targets with *kendisi*, but not both. Within these two groups, four experimental lists were created in a Latin-square design. Thus, eight experimental lists were created in total, but each list included only four conditions, and no list contained both *kendi* and *kendisi* condition items. In addition to reducing the minimum required trial number, this approach can also prevent participants from developing (semi-)conscious strategies about how they interpret *kendi* and *kendisi* during the experiment.

Co nd.	Refl. form	Subj. role	Word order	Stimuli (1= subject, 2= non-subject)
1	kendi	perc.	canonical	Ali ₁ Ahmetten ₂ [hocanın kendini tebrik ettiğini] duydu. Ali Ahmet-abl teacher self congr. do hear-pst
2	kendi	source	canonical	Ali ₁ Ahmete ₂ [hocanın kendini tebrik ettiğini] söyledi. Ali Ahmet-dat teacher self congr. do tell-pst
3	kendi	perc.	non-can.	Ahmetten ₂ [hocanın kendini tebrik ettiğini] Ali ₁ duydu. Ahmet-abl teacher self congr. do Ali hear-pst
4	kendi	source	non-can.	Ahmete ₂ [hocanın kendini tebrik ettiğini] Ali ₁ söyledi. Ahmet-dat teacher self congr. do Ali tell-pst
5	kendisi	perc.	canonical	Ali ₁ Ahmetten ₂ [hocanın kendisini tebrik ettiğini] duydu. Ali Ahmet-abl teacher self congr. do hear-pst
6	kendisi	source	canonical	Ali ₁ Ahmete ₂ [hocanın kendisini tebrik ettiğini] söyledi. Ali Ahmet-dat teacher self congr. do tell-pst
7	kendisi	perc.	non-can.	Ahmetten ₂ [hocanın kendisini tebrik ettiğini] Ali ₁ duydu. Ahmet-abl teacher self congr. do Ali hear-pst
8	kendisi	source	non-can.	Ahmete ₂ [hocanın kendisini tebrik ettiğini] Ali ₁ söyledi. Ahmet-dat teacher self congr. do Ali tell-pst
Stimuli translation: “Ali ₁ {heard from/told} Ahmet ₂ that the teacher congratulated self.”				

Table 1. Summary of experimental conditions.

The study included 24 targets (6 per condition) as well as 48 fillers. Because targets involved referential ambiguity, fillers were also constructed to involve (a different kind of) referential ambiguity: Fillers included a Possessive Phrase (PossP) in which the possessor DP was null, which usually caused ambiguities about which DP had the possessor role. Examples (4-6) demonstrate various types of fillers used in the study.

- (4) Fırat₁ Deniz-e₂ öğretmen-in₃ *pro*_{1/2/3} ödev-i-ni beğen-diğ-i-ni söyle-di.
F. D.-dat teacher-gen hw-3sg.pos-acc like-nmlz-3sg-acc tell-pst
“Fırat₁ told Deniz₂ that the teacher₃ liked *pro*’s_{1/2/#3} homework.”
- (5) Metin₁ Ahmet-in₂ *pro*_{1/2} araba-sı-na vur-duğu-nu gör-dü.
M. A.-gen car-3sg.pos-dat hit-nmlz-3sg-acc see-pst
“Metin₁ saw that Ahmet₂ hit *pro*’s_{1/2} car.”

- (6) Salih₁ Yunus-un₂ *pro*_{1/2} sevgili-si-ni aldat-tıgı-nı bil-iyor-du.
 S. Y.-gen lover-3sg.pos-acc cheat-nmlz-3sg-acc know-prog-pst
 “Salih₁ knew that Yunus₂ cheated on *pro*’s_{1/2} girlfriend.”

Fillers like (6) had two possible antecedents in principle, but only one of these antecedents was semantically felicitous. Similar to the experimental items, half of the filler sentences were also in non-canonical word order.

2.3. PROCEDURE. The experiment was conducted online, using PCIBex (Zehr & Schwarz, 2018). Participants followed the study link to start the experiment in their computer’s browser. They saw a welcome message and an information sheet, and were asked to hit a “continue” button to confirm that they were at least 18 years old and they wished to participate. On the next page they received the instructions to the experiment, telling them that they were going to see some sentences and questions asking them to choose the best option that answers the question. A short practice session preceded the experimental session.

On each trial, the target sentence appeared on the top of the screen, and the question – which on target trials probed the interpretation of the reflexive – appeared below it. At the same time, two answer options (the names of two non-local DPs) appeared on the two sides of the screen. The participants pressed “F” to choose the answer on the left, and “J” to choose the answer on the right (Figure 1). The answer on the left was constantly the leftmost DP of the two non-local DPs (subject DP in canonical conditions, and indirect object in non-canonical conditions). Considering that half of the items had canonical word order, there is no concern for a left-right bias (also see Kaiser 2015 for evidence that counterbalancing answer choices yields the same results with keeping answer choices constant). Response times (RTs) and answer choices were recorded. (RT data was used to check whether participants skipped some trials without reading.)

Ali Ahmet'ten hocanın kendini tebrik ettiğini duydu. <i>“Ali heard from Ahmet that the teacher celebrated self.”</i>	
Hoca kimi tebrik etmiş? <i>“Who did the teacher celebrate?”</i>	
Ali (F)	Ahmet (J)

Figure 1: Sample target trial (English translations are for demonstration purposes only)

2.4. PREDICTIONS. The predictions of the current study are based on the theoretical properties attributed to logophors, long-distance reflexives (LDRs), and pronouns. As explained above, interpretation of logophors is generally assumed to be restricted by semantic factors (i.e. semantic role), and they tend to refer to the entity with the *source* semantic role (Sells, 1987; Park, 2018; a.o.). On the other hand, LDRs are assumed to be restricted by syntactic factors such as subjecthood, and tend to be interpreted as referring to the subject of the sentence (Rudnev,

2008 and references therein). Additionally, earlier work suggests that pronouns are sensitive to semantic factors. For example, it's been noted that in contexts where pronouns and reflexives are not in complementary distribution, pronouns prefer *perceivers*, while reflexives prefer *sources* (e.g. Tenny, 2003; Kaiser & Trueswell, 2008; Kaiser et al., 2009).

In light of these findings, if Turkish reflexive anaphors are logophors, as suggested in the literature (Sezer, 1980 and Yakut, 2015 for *kendi*, İşsever, 2015 for *kendisi*), we predict that they should be affected by the semantic role of the non-local DPs and refer to the DPs with *source* semantic role. However, if they are strictly LDRs without any logophoric function, we predict that they should mostly refer to sentence subject without any effects of semantic role. Alternatively, if the reflexive anaphors function as free pronouns in non-local contexts, as suggested by Kornfilt (2001) and Rudnev (2011) for *kendisi*, we predict that the interpretation of these anaphors is affected by semantic roles such that they should tend to refer to DPs with the *perceiver* semantic role.

As mentioned earlier, previous studies mainly focused on the differences between *kendi* and *kendisi*, and they concluded that the two forms behaved differently (Enç, 1989; Kornfilt, 2001; Özbek & Kahraman, 2016, Gračanin-Yüksek et al., 2017; a.o.). If this research is on the right track, we predict that the two forms will show different patterns, and will be affected by different factors (i.e. syntactic, semantic) to different magnitudes. For example, *kendi* might be restricted by syntactic factors with no sensitivity to semantic roles, which would suggest it is a strict LDR, while *kendisi* might be affected mainly by semantic roles, which would suggest that it is a logophor. This would support a form-specific account of pronoun resolution, which suggests that interpretation of different anaphoric forms can be affected by different factors (Kaiser & Trueswell, 2008). However, it could also be the case that *kendi* and *kendisi* have the same properties, which would suggest that they are anaphors of the same type. For example, they might both be logophors. In that case, we predict that the two forms will pattern together, and their interpretation will be affected by the same factors.

2.5 DATA TRIMMING AND ANALYSIS. The task required participants to carefully read the sentences and the comprehension questions, which asked which DP the reflexive anaphor in the sentences referred to. Thus, it was very important that the participants followed the instructions and read both the sentence and the comprehension question. As mentioned earlier, Reading Times (RTs) – showing how long participants spent reading the sentence and the question before they made a selection – were measured on each trial. RTs faster than 2500ms were assumed to indicate that the participant might not have read the sentence and/or the question fully. The 12 participants who had more than 24 occurrences of fast RTs (~30% of trials) were considered to be uncooperative and their data was removed from further analyses. The mean RT for the remaining trials was 11,043ms. The data for the *kendi* and *kendisi* groups were analyzed individually to see what factors affect the interpretation of each form. Later, a combined analysis was conducted to see if the two anaphor types differ. Data analysis was conducted using R Software (R Core Team, 2013). As the dependent variable, we analyzed how often participants interpreted the reflexive as referring to the non-local (matrix) subject DP. The choice was coded as 1 if the participant chose the non-local subject DP, and as 0 if they chose the non-local indirect object DP. The best fitting Logistic Regression models were built by starting with the most complex model and removing factors one-by-one and comparing the two model versions

using ANOVA test (Baayen et al., 2008).

3. Results.

3.1 *KENDI* RESULTS. Figure 2 shows the proportion of subject DP choices for *kendi* conditions. On average, participants interpreted *kendi* as referring to the subject DP on 68% of trials, which points to a subject preference.

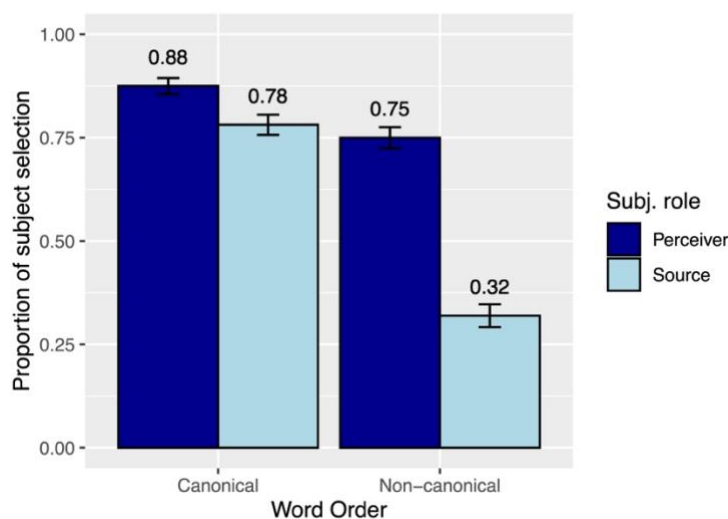


Figure 2: Mean proportion of subject choices across *kendi* conditions

To see whether the proportion of subject interpretations for *kendi* is influenced by Subject Role, Word Order or their Interaction, we used logistic regression. As shown in Table 2, we find effects of Subject Role ($p < .01$), revealing that *kendi* was interpreted as referring to the subject DP more often when the subject DP had the *perceiver* semantic role (81%), compared to when the subject DP had the *source* semantic role (55%). This suggests that *kendi* has a perceiver preference.

In addition, the model shows effects of Word Order ($p < .001$): participants interpreted *kendi* as referring to the subject DP more often in canonical word order (83%) than non-canonical word order (53%). This suggests that *kendi* prefers the preceding (most recent) DP as its antecedent.

The model also reveals a Subject Role by Word Order interaction ($p < .001$): the interpretation of *kendi* is affected by Subject Role more in non-canonical than in canonical word order. In both word orders, *kendi* was interpreted as referring to the *perceiver* more often than to the *source*. Thus, the interaction suggests that non-canonical word order weakens the subject preference of *kendi*, and demonstrates a larger impact of Subject Role.

	Est.	SE	z-value	Pr(> z)
(Intercept)	1.946	0.178	10.92	<.001
Subj. Role	-0.673	0.2282	-2.95	<.01
Word Ord.	-0.847	0.2242	-3.78	<.001
Subj. Role x Word Ord.	-1.182	0.2942	-4.018	<.001

Table 2. Summary of statistics for *kendi* conditions ('x' denotes interaction)

To summarize, the results show that *kendi* has a subject DP preference (syntactic subjecthood effect), but also shows sensitivity to semantic role, preferring DPs with the *perceiver* role. Word order also had a significant effect, which seems to weaken the subject DP preference and boost effects of semantic role.

3.2 *KENDISI* RESULTS. Figure 3 shows the proportion of subject DP choices across conditions for sentences with *kendisi*. The results for *kendisi* are similar to those for *kendi*. On average, participants interpreted *kendisi* as referring to the subject DP on 63% of trials, again pointing to a subject preference.

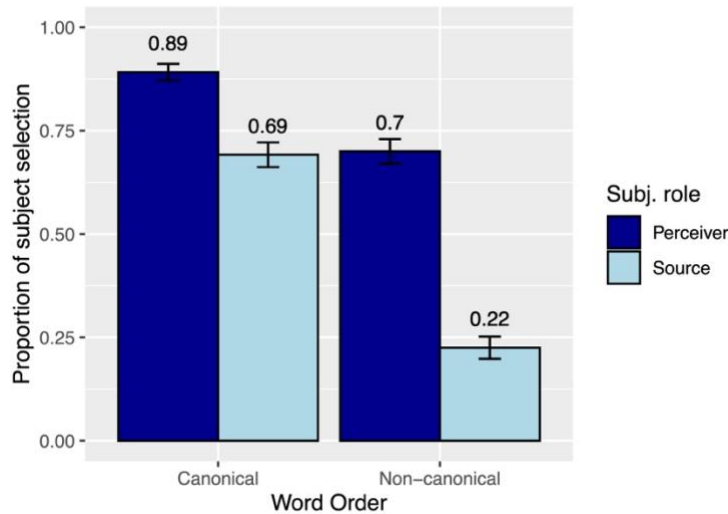


Figure 3: Mean proportion of subject choices across *kendisi* conditions

To see whether the proportion of subject interpretations for *kendisi* is influenced by Subject Role, Word Order or their Interaction, we used logistic regression. As shown in Table 3, we find effects of Subject Role ($p < .01$), revealing that *kendisi* was interpreted as referring to the subject DP more often when the subject DP had the *perceiver* semantic role (79.5%), compared to when the subject DP had the *source* semantic role (45%). This suggests that *kendisi* had a perceiver preference, similar to *kendi*. We also find effects of Word Order ($p < 0.001$): *kendisi* was interpreted as the subject DP more often in the canonical word order (79%) than in non-canonical word order (46%), similar to *kendi*. Moreover, we again find a Subject Role by Word Order interaction ($p < 0.001$): interpretation of *kendisi* was more sensitive to Subject Role in non-canonical word order, echoing what we found for *kendi*.

	Est.	SE	z-value	Pr(> z)
(Intercept)	2.107	0.207	10.15	<.001
Subj. Role	-1.3	0.2503	-5.193	<.01
Word Ord.	-1.26	0.2509	-5.023	<.001
Subj. Role x Word Ord.	-0.78	0.3262	-2.404	<.001

Table 3. Summary of statistics for *kendisi* conditions ('x' denotes interaction)

Thus, the results for *kendisi* match those for *kendi*: both forms exhibit (i) a subject DP preference as well as (ii) a perceiver preference which is further boosted in noncanonical word order configurations.

3.3 COMPARISON OF *KENDI* AND *KENDISI*. As the previous subsections illustrated, *kendi* and *kendisi* followed similar patterns, being affected by the same factors. To assess this statistically, we conducted statistical analyses directly comparing the two reflexive forms to test if Anaphor Form influences participants' interpretations. We tested for effects of Anaphor Form, Subject Role, Word Order, and any interactions between these factors. Any interactions between Anaphor Form and any other predictors would be particularly interesting for our purposes, as any interaction effects between Anaphor Form and another predictor would mean that one anaphor form would be more or less sensitive to the effects of that other predictor.

The results of this statistical comparison are provided in Table 4.

	Est.	SE	z-value	Pr(> z)
(Intercept)	1.777	0.1594	11.147	<.001
Anaph. Form	0.21	0.2426	0.865	.553
Subj. Role	-0.62	0.2067	-2.99	<.01
Word Ord.	-0.8	0.2031	-3.94	<.001
Anaph. Form x Subj. Role	-0.56	0.3046	-1.84	.064
Anaph. Form x Word Ord.	-0.44	0.3015	-1.47	.219
Subj. Role x Word Ord.	-1.04	0.2695	-3.84	<.001
Anaph. Form x Subj. Role x Word Ord.	0.42	0.3967	1.07	>.365

Table 4. Summary of statistics for combined data set ('x' denotes interaction)

The results showed the main effects of Subject Role ($p < .01$), and Word Order ($p < .001$), and an interaction effect between the two ($p < .001$). This is not surprising, considering that each of these effects was also observed with both the *kendi* and *kendisi* data sets, as discussed above. Crucially, we found no main effects of Anaphor Form ($p > .05$) or its interactions with any other predictors (p 's $> .05$). The interaction between Anaphor Form and Subject Role is marginal ($p = .064$), but fails to reach significance. This indicates that *kendi* and *kendisi* pattern alike, and their interpretations are affected by the same factors, in similar magnitudes.

4. Discussion. The current study investigated whether and to what extent the interpretation of two reflexive forms in Turkish is affected by syntactic factors (subjecthood) and/or semantic factors (source vs. perceiver status), focusing on configurations with two potential non-local antecedents. In addition, the current study tested whether or not the two reflexive forms pattern similarly. We used an offline antecedent choice task to test whether participants' likelihood of selecting a non-local subject or indirect object as the antecedent of *kendi* or *kendisi* is influenced by that referent's semantic role (*source* vs. *perceiver*) and its linear position (word order: *preceding* or *following the reflexive*).

In light of previous work on *kendi* and *kendisi* concluding that they have different properties (i.e. Kornfilt, 2001; Gračanin-Yüksek et al., 2017), and other previous work showing that anaphors with morphologically distinct forms can show different patterns (e.g. Kaiser & Trueswell, 2008; Kaiser et al., 2009), we predicted that the two anaphoric forms might be sensitive to different factors. However, the results of the research reported in this paper reveal that *kendi* and *kendisi* pattern alike, are affected by the same factors to similar extents. These results contrast with the conclusions of prior theoretical (Enç, 1989; Kornfilt, 2001; İşsever, 2015; a.o.) and experimental (Yakut, 2015; Özbek & Kahraman, 2016; Gračanin-Yüksek et al., 2017; a.o.) work. However, as mentioned above, earlier work has not systematically explored contexts with two potential non-local antecedents. We return to this in Section 4.1.

Our results showed that both reflexive forms have a slight *subject-orientation*, being interpreted as referring to the subject DP 63-68% of the time. This suggests that syntactic factors (namely subjecthood) are at play during the interpretation of the reflexive forms. However, both reflexive forms also show sensitivity to the antecedents' semantic role, and are *perceiver-oriented*. This suggests that semantic factors (semantic role), in addition to syntactic factors, affect the interpretation of the reflexive forms. This supports the body of research which suggests that the interpretation of anaphoric forms can be affected by multiple factors (e.g. syntactic, semantic) at the same time, rather than one factor dominantly determining the interpretation (i.e. Arnold et al., 2000; Badecker & Straub, 2002; Järviö et al., 2005; Kaiser, 2005; Kaiser & Trueswell, 2008; a.o.).

Word order also had interesting effects on the interpretation of the anaphors. Our results showed that both *kendi* and *kendisi* prefer the subject DP more when the subject DP precedes the anaphor (canonical word order). This might be due to a *saliency effect*, such that the subject DP gets a special boost when it precedes the anaphor (along with the indirect object DP). Another way of characterizing these results, though, is in terms of the anaphors' *subject-orientation* weakening when word order is non-canonical. In essence, with non-canonical word order, interpretation of the reflexives is more affected by semantic role. This could perhaps be attributed to effects of scrambling on syntactic structure, suggesting that scrambling changes how syntactic factors (i.e. subjecthood) affect the interpretation of anaphors.

4.1. SIMILARITY OF *KENDI* AND *KENDISI*: CONTRAST WITH PREVIOUS RESEARCH. As explained in Section 1, previous research mostly focused on the difference between *kendi* and *kendisi*, and suggested that the two behave differently. In theoretical work, they have been proposed to be different types of anaphoric elements (Enç, 1989; Kornfilt, 2001; İşsever, 2015; a.o.), and in experimental work, researchers have shown that *kendi* and *kendisi* show different distributions on picking up their antecedents (Yakut, 2015; Gračanin-Yüksek et al., 2017; Bakay & Dillon,

2022; a.o.). Our results diverge from these studies by revealing that, in certain contexts, *kendi* and *kendisi* show similar behaviors. In particular, our results suggest that in syntactic configurations with two potential non-local antecedents, these two anaphoric forms pattern alike.

Previous studies use sentences like (1), repeated below as (7), where there is one local and one non-local possible antecedent for the reflexive in the embedded clause (e.g. Yakut, 2015; Özbek & Kahraman, 2016; Gračanin-Yüksek et al., 2017). It is typically reported that both antecedents in sentences like (1) are judged as acceptable antecedents for the embedded reflexive (e.g. Özbek & Kahraman, 2016; Gračanin-Yüksek et al., 2017; Bakay & Dillon, 2022). Moreover, it is reported that participants interpret *kendi* mostly as referring to the local antecedent, while there is no such strong preference for *kendisi* (e.g. Gračanin-Yüksek et al., 2017; Bakay & Dillon, 2022).

- (7) a. Ali [Can-ın *kendi*-ni sev-diğ-i-ni] bil-iyor.
 A. C.-gen self-acc like-nmlz-3sg-acc know-pres
 “Ali₁ knows that Can₂ likes him_{1/2}.”
- b. Ali [Can-ın *kendisi*-ni sev-diğ-i-ni] bil-iyor.
 A. C.-gen self-acc like-nmlz-3sg-acc know-pres
 “Ali₁ knows that Can₂ likes him_{1/2}.”

We take these results as providing important evidence that *kendi* and *kendisi* have different locality preferences. While *kendi* strictly prefers a local interpretation (when available), *kendisi* does not have such a preference.

However, this does not inform us about how *kendi* and *kendisi* would behave in non-local contexts – in other words, in contexts where there are two possible non-local antecedents. This is what we tested directly in our study, by asking participants to indicate which of two long-distance antecedents the anaphoric form refers to. (As mentioned above, the items were created so that non-local interpretations are plausible, by the use of other-directed verbs in the embedded clause.) Using contexts with two possible non-local antecedents allows us to tap into the referential preferences of *kendi* and *kendisi* in a situation where their locality preferences are ‘neutralized.’

Indeed, even though *kendi* and *kendisi* have different locality preferences, as shown by previous studies, our results show that the two forms behave very similarly to each other when they refer to non-local antecedents.

4.2. THE STATUS OF TURKISH REFLEXIVES: LOGOPHORS AND/OR PRONOUNS? Our results show that the interpretation of Turkish reflexive anaphors is sensitive to semantic factors (source vs. perceiver). Even though both *kendi* and *kendisi* show a slight subject orientation, we also found clear effects of semantic role on their interpretation. This suggests that these reflexive anaphors are not *strictly* long-distance reflexives, if by the term ‘long-distance reflexive’ we mean forms whose interpretation is controlled mainly by syntactic factors (see e.g. Rudnev, 2008 and references therein). The finding that *kendi* and *kendisi* are sensitive to semantic roles suggests that the two anaphoric forms may have some logophoric or pronominal properties.

Considering that both *kendi* (Sezer, 1980; Yakut, 2015) and *kendisi* (İşsever, 2015) have been independently suggested to have logophoric properties, it would not be surprising to see

that these forms behaved like logophoric reflexives. From a crosslinguistic perspective, it is well known that the interpretation of logophors in general is sensitive to semantic information, and they usually refer to the source of information, the DP with the *source* semantic role (Clements, 1975; Sells, 1987; Park, 2018; a.o.). However, in our experiments, both *kendi* and *kendisi* prefer the perceiver, not the source. Thus, at first glance, it may seem that our findings are incompatible with the idea that *kendi* and *kendisi* are logophoric reflexives. However, it has been reported in the typological literature that there are also perceiver-oriented – not only source-oriented – logophoric pronouns: Frajzyngier (1985) reports that Chadic languages like Angas, Goemai, and Pero have logophoric anaphors that specifically refer to the *perceiver* (addressee) of reported speech. Thus, if we analyze *kendi* and *kendisi* as being reflexives and having the typologically rare-but-attested property of referring to the *perceiver* of the reported speech/thought, then the perceiver preference that we observed is still compatible with them being logophoric reflexives. However, Ameka (2017) suggests that many languages with *perceiver*-referring logophors also have *source*-referring logophoric forms. Considering that Turkish does not have other logophoric forms, we suggest that it is not very feasible assume that *kendi* and *kendisi* are logophoric reflexives that refer to the *perceiver* DP.

Previous research suggested that in some contexts where pronouns and reflexives are not in complementary distribution, pronouns show *perceiver orientation* (Tenny, 2003, 2004; Kaiser & Trueswell, 2008; Kaiser et al., 2009; a.o.), echoing what we observe with the Turkish anaphors *kendi* and *kendisi*. This implies that the two anaphoric forms might have some pronominal properties. Indeed, there is a precedent for this in the literature: Even though both anaphoric forms are generally considered to be reflexive anaphors, Kornfilt (2001) suggests that *kendisi* is derived by combination of a null *pro* with the DP *kendi* “self” to create a phrase like “his/her self”, and the third person possessee marker *-sI* attaches the possessed DP (*kendi*) (by a regular grammatical process). According to this analysis, *kendisi* is not a reflexive when it is bound non-locally, but rather a regular possessive phrase with a null pronoun in the possessor position. (8) demonstrates the similarity between *kendisi* and a regular possessive structure in Turkish.

- | | |
|---|---|
| <p>(8) a. <i>pro kendi-si</i>
 self-3.sg.poss
 “His/her self”</p> | <p>b. <i>pro araba-sı</i>
 car-3.sg.poss
 “His/her car”</p> |
|---|---|

(from Kornfilt, 2001, pp. 207)

According to Kornfilt, the possessor *pro* gets its referent just like a regular pronoun, which does not need to be locally bound, and thus *kendisi* can pick up a non-local antecedent as its reference without any violation of the Binding Theory (Chomsky, 1981).

Our results support Kornfilt’s treatment of *kendisi*, showing that it exhibits behaviors that are generally attributed to pronouns. Interestingly, our results reveal that *kendi* shows the same behavior as *kendisi*. The main difference between *kendisi* and *kendi* for Kornfilt (2001) is the third person possessee agreement that attaches to *kendisi*. According to Kornfilt, *kendisi* can be a possessive phrase (*onun kendi-si*, “his self”), while *kendi* is a pure anaphoric element. However, it is also known that in Turkish the possessee agreement in possessive phrases can optionally be dropped (e.g. Öztürk & Erguvanlı-Taylan, 2016). As (9) illustrates, the possessee agreement *-sI* can be dropped in a regular possessive phrase without a noticeable change in the meaning.

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