Re-examining Syntactic, Semantic and Pragmatic Properties of Long-Distance Bound *Caki-casin* in Korean: An Experimental Study

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Abstract

The present study investigated the syntactic, semantic and pragmatic properties of Korean Long-Distance Binding of anaphor *caki-casin*. Based on some previous experimental studies on this matter, we attempted to re-examine the properties of LD-bound local anaphor *caki-casin* as understood by Korean native speakers. A type of replication and modifications from some previous studies were made for the current study in terms of experimental design and statistical analyses using the data of the responses from 43 Korean native speakers. The results mostly reconfirmed the findings of previous studies, showing that Korean local anaphor *caki-casin* can be LD-bound with relevant syntactic/semantic/pragmatic properties. Detailed discussions will follow.

1 Introduction: Exempt Anaphor and Long-Distance Binding in Korean

In Standard Binding Theory (Chomsky 1981, 1986), the Binding Domain (BD) where reflexives should find their antecedents was defined as conjunction of Tensed S Condition (TSC) and Specified Subject Condition (SSC). As shown in (1) below, binding outside a finite clause (cf. 1b) as well as binding across a specified Subject (cf. 1c) yield ungrammaticality, compared to (1a).

(1)
a. John$_i$ blamed himself$_i$.
b.*John$_i$ said [that himself$_i$ was to blame].
c. *John$_i$ saw [Bill$_j$'s article about himself$_i$].
d. John$_i$ said [that the article about himself$_i$ was published in Times].

However, Pollard & Sag (1992) argued that TSC did not necessarily define the Binding Domain (BD) in English, while SSC still did. According to Pollard & Sag (1992), (1b) is ungrammatical because nominative anaphors are not allowed in English, since TSC-violation in (1d) above is still acceptable. While Chomsky (1986) tried to allow TSC violation like (1d) with the notion of 'Accessible Subject', Pollard and Sag (1992) explained the case by using the term 'exempt anaphors' – a term that is distinguished from core anaphors (i.e., grammatical anaphors that are constrained by syntactic properties). They claimed that TSC-violating reflexive in (1d) is exempt from syntactic Binding Theory, and is licensed extra-grammatically.

The properties of exempt anaphors introduced by Pollard & Sag (1992) are the following: i) they can be bound Long-Distance (LD) outside the local domain or be discourse-bound (cf. 2a, b); ii) they do not need c-commanding antecedents (cf. 2c).

(2)
a. Bill$_i$ remembered that [the Times had printed [a picture of himself$_i$] in its Sunday edition].
b. Physicists like yourself$_i$ are a godsend.
c. [Incriminating pictures of himself$_i$ published in the Times] worry Bill$_i$.

(Pollard & Sag 1992)

Claiming the distinction between core vs. exempt anaphors are necessary, Pollard & Sag (1992) explained as follows: anaphors that have a potential antecedent within the BD are constrained by syntactic Binding Theory, whereas anaphors that do not have potential antecedent within the BD are exempt from syntactic Binding Theory. This

can be interpreted that exempt binding is applied exclusively for the anaphors without a potential antecedent within a local domain.

The definition of BD (e.g., TSC & SSC) and core vs. exempt anaphor distinction were originally for languages like English; however, Korean is a language different from English, in that the anaphor inventory is composed of multiple anaphors. There are morphologically simple anaphors – *caki*, and *casin* – which have been known as Long-Distance Anaphors (LDAs), and complex anaphors – *caki-casin* and *pronoun-casin* – which have been discussed predominatly as locally bound anaphors (Moon 1995, Kang 1998, J-M Yoon 1989, etc.). Another difference is that in Korean both local and LD anaphors can violate TSC (cf. 3a), unlike in English. Furthermore, LDAs in Korean can even violate SSC as well (cf. 3b).

(3)
a. John$_i$-un [caki$_i$/casin$_i$/caki-casin$_i$-ka(i)
J-TOP   self-NOM
choyko-la]-ko   sayngkakhan-ta.
the best-be-REL-COMP   think-DECL
 'John$_i$ thinks that self$_i$ is the best.'
b. John$_i$-un [Mary-ka caki$_i$/casin$_i$/caki-casin$_i$ –ul
J-TOP   M-NOM   self-ACC
silhehanta]-ko   sayngkakhan-ta.
hate-COMP   think-DECL
 'John$_i$ thinks that Mary does not like self$_i$.'

The cross-linguistic differences in BD and types of anaphors mentioned above were explained earlier in terms of GC-parametrization (Yang 1983, Manzini & Wexler 1987) as follows. While SSC defines the BD for local anaphors in Korean, LDAs has different BD – which is, the root clause. As for TSC, it is ineffective for defining Korean BD.

However, such analysis of dichotomy between local vs. LD anaphors in Korean were later challenged to be revised - by a series of experimental syntactic studies conducted sequentially. Kim & Yoon (2008) and Kim, Montrul & Yoon (2009) reported that Korean native speakers did not completely reject the sentences with LD-bound *caki-casin*; though less in degree compared to the other LDAs in Korean, the native speakers considered LD-bound *caki-casin* acceptable – even in the presence of a local antecedent. In addition, Kim & Yoon (2009), with their experimental results with Korean native speakers, demonstrated that the local anaphor *caki-casin* could be bound violating SSC as exempt anaphor when the anaphor was forced to be LD-bound; and when they were LD-bound, they behaved like exempt anaphors. Kim & Yoon (2013) and Kim (2013), with follow-up experimental studies including both LDAs and local anaphors in Korean, further discussed the possibility that even TSC-violating Korean anaphors – both local and LDAs – could be bound as exempt anaphors. This seems to support Exempt Binding approach over standard Binding Theory or GC-parameterization approach.

However, those previous studies mentioned had some limitations with respect to experimental design as well as methodological limitations in statistical analyses; and this calls for another study with revisions and proper methods of dealing with experimental data. Recently, E. Kim & Yoon (forthcoming) reconfirmed the findings of Kim & Yoon (2009) by using different experimental methods covering up some design flaws of the previous study. This means, despite the methodological weaknesses in experimental design or analyses in the series of previous studies, what seems still obvious is the possibility LD-binding of Korean local anaphor *caki-casin*.

Therefore, setting aside some unsolved theoretical issues in Korean binding (e.g., what comprises BD, etc.), the current study attempts to focus merely on apparent cases of LD-binding of *caki-casin* that violates SSC, to re-examine properties of LD-bound *caki-casin* in different linguistic levels – syntax, semantics and pragmatics. The study is based on the original study of Kim and Yoon (2009) by modifying their materials and changing the method of result analysis under more proper statistical methods that have not been covered in the previous experimental studies. The research questions of the current study are the following:

1)   Does Korean LD-bound *caki-casin* show preference for Subject antecedent compared to non-Subject antecedent?
2)   Is Korean LD-bound local anaphor *caki-casin* interpreted more like a co-referential pronoun than locally bound anaphor?

3)   Does Korean LD-bound local anaphor *caki-casin* show preference for logophoric antecedents compared to those with less logophoricity?

The following several sub-sections will briefly introduce syntactic, semantic as well as pragmatic properties of LD-bound *caki-casin* that are tested in the present study.

1.1   Syntactic Properties of LD-bound *caki-casin*

Though the issue as to whether the Binding Domain of Korean local anaphors is TSC or SSC was debatable (Kim & Yoon 2009, 2013, Kim 2013), what is still undebatable is that Korean anaphors – be local or LDAs – can violate SSC and be bound LD as exempt anaphor. The sentences in (4) show the examples of SSC-violating exempt anaphors in English (cf. 4a) and Korean (cf. 4b).

(4)
a. John$_i$ believes that Mary despises [everyone but himself$_i$]
b. John$_i$-un [tongchanghoy-ka   caki-casin$_i$ –lul
     J-TOP alumni association-NOM   self-ACC
sokyessta]-ko   sayngkakhan-ta.
deceived-COMP   think-DECL
'John$_i$ thinks that the alumni association deceived self$_i$.'

When anaphors are bound violating SSC, another related issue that has often come up to the discussion is the structural properties of the antecedents. It is well-known that the antecedent's structural prominence plays an important role in the well-formedness of LD-binding. O'Grady (1987) and Kim (2000) proposed structural hierarchy of the LD-antecedent focusing on Korean LDA *caki*, suggesting that structurally prominent antecedent such as Subject or Topic makes sentences with LDAs more well-formed. Choi and Kim (2007), in their experimental study of Korean anaphor processing with *caki* and *casin,* demonstrated that sentences where *caki* was bound by the matrix Subject were preferred by Korean native speakers. Han & Storoshenko (2012) viewed *caki* as both local and LDAs by applying core vs. exempt anaphor analysis and mentioned about Subject orientation of the antecedent. E. Kim et al (2013) conducted a sentence processing study with Korean multiple anaphors and reported that *caki-casin* showed preference for local Subject, rather than the matrix Subject with bi-clausal sentences. However, their study did not provide contextual information and presented the local Subject as a potential binder for *caki-casin*, thus resulted in investigating *caki-casin* as core anaphor only. Though the issue of Subject orientation has been discussed mostly for LDAs like *caki*, we also wanted to test whether LD-bound *caki-casin* also shows sensitivity to such structural factors.

As for the LD-binding of local anaphors, Cole et al. (2001) argued that Chinese local phrasal anaphor *ziji* can turn into exempt anaphors (logophors) and showed Subject-oriented property. Likewise, Kim & Yoon (2009) showed that grammatical–structural factors (subject vs. non-subject antecedents) also affected the acceptability of the long-distance binding of Korean local anaphor *caki-casin*. That is, though exempt anaphors are judged not to be constrained by structural factors such as grammatical relation, such structural factors may also influence determining the well-formedness of exempt binding. In line with those previous studies, the present study also tests whether the structural prominence of the LD- antecedent - such as being a Subject can facilitate the acceptability of LD-bound *caki-casin,* when compared to the sentences with non-Subject antecedent. The relevant pair of the sentences contrasted with Subject vs. non-Subject are shown in (5) below.

(5)
a. **John$_i$**-un [tongchanghoy-ka **caki-casin$_i$**–i
     J-TOP   alumni-NOM   self-NOM
swumki-n pimil-ul   alanayssta-ko]
hid-REL   secret-ACC found-out- COMP
malhayss-ta.
said- DECL   (Subject antecedent)
'John$_i$ said that the alumni found out the secret that self$_i$ hid.'
b. Na-nun **John$_i$**-hantheyse [tongchanghoy-ka
     I-TOP   John-from   alumni-NOM

caki-casin$_i$–i swumki-n pimil-ul
self-NOM   hid-REL   secret-ACC
alanayssta-ko]   tuless-ta.
found-out- COMP   heard- DECL
'I heard from John$_i$ that the alumni found out the secret that self$_i$ hid.' (Non-subject antecedent)

1.2 Semantic Properties of LD-bound *caki-casin*

According to Pollard & Sag (1992), exempt anaphors are co-referential rather than referentially dependent on the antecedent, as shown in (6). In (6a) below, the anaphor *himself* is bound within the local BD and the underlined elliptical VP in the sentence *Bill did (so), too* is interpreted sloppily (i.e. Bill defended Bill…) in neutral contexts without special pragmatic information. On the other hand, in case of exempt binding as in (6b), the possibility of sloppy reading is considerably reduced; instead, the strict reading (i.e. Bill thinks that an article written by John…) becomes more possible and even preferred, compared to the cases like (6a). Huang and Liu (2001) argued that this can serve as a diagnostic for discriminating core vs. exempt anaphor; Runner et al. (2006) verified this in their experimental study of anaphor processing.

(6)
a. John$_i$ defended himself$_i$ against the committee's accusations.
   Bill did (so), too (=Bill defended Bill >John…).
b. John$_i$ thinks [that an article written by himself$_i$ caused the uproar].
   Bill does (so), too (= Bill thinks that an article written by John >Bill…).
                              (Kim & Yoon 2009)
c. **John$_i$**-un [tongchanghoy-ka **caki-casin$_i$**-i
   J-TOP   alumni-NOM   self-NOM
   swumki-n pimil-ul   alanayssta-ko]
   hid-REL   secret-ACC found-out-COMP
   malhayss-ta.
   said-DECL
   'John$_i$ said that the alumni found out the secret that self$_i$ hid.'
   Bill-to kulessta.
   B- too   so-DECL
   'Bill does (so), too.'

The underlined part of the sentence in (6c) shows the elliptical VP in Korean with LD-bound *caki-casin*. Kim and Yoon (2009) originally found that the rate of strict readings were significantly higher than sloppy readings in such case of LD-bound *caki-casin*. However, given that local binding dominantly yields sloppy readings rather than strict readings, we have to check if the sloppy vs. strict reading decreases/increases as the possibility of LD-binding increases. Therefore, in the present study, within-speaker responses between acceptability scores and the choice of sloppy vs. strict readings will be measured related to each other to find decreasing vs. increasing patterns of sloppy vs. strict readings according to their acceptability of LD-bound *caki-casin*.

1.3 Pragmatics of LD-bound *caki-casin*

It is well-known that LD-bound exempt anaphors are sensitive to pragmatic/logophoric factors (Kuno 1987, Sells 1987, Huang & Liu 2001, Oshima 2007, etc.). Instead of being constrained by syntactic binding conditions, exempt anaphors should meet pragmatic conditions to be considered legitimate. For example, exempt binding is well-formed if the LD-antecedent has a canonical role in a discourse context. In the theory of logophoricity proposed in Sells (1987), logophoricity is divided into three component roles as follows: i) SOURCE: the agent communicating the propositional content; ii) SELF: one whose mental state or attitude the content of the proposition describes; iii) PIVOT: one with respect to whose (space-time) location the content of the proposition is evaluated.

Sells (1987) further claimed that canonical order for the above three roles are the following: SOURCE>SELF>PIVOT. This can be shown in (7) below: The structural distance between the antecedent and anaphor and structural relation between them (i.e., no c-command) are identical in (7a) and (7b), but there is a clear degree of contrast in terms of acceptability of the sentences.

(7)
a. [Incriminating pictures of himself published in the Times] have been worrying John for some time.
b.*? [Incriminating pictures of himself published in the Times] accidentally fell on John's head.

The judgments in (7) reflect that *John* can be identified as a logophoric center – by being a SELF (and thus also a PIVOT) - in (7a), whereas in (7b) it can only be a PIVOT.

As for the canonical order among the three logophoric centers, it has been reported differently across languages: Huang & Liu (2001) argued that SELF seemed to play more crucial role than the others in Chinese, while Kim & Yoon (2009)

reported that the similar hierarchy as in Sells (1987) was found in Korean. However, the later study of Kim & Yoon (2013b) demonstrated that SELF got a slightly higher acceptability than SOURCE. Since previous experiments yielded conflicting results, this study pursues to re-examine the logophoric hierarchy of different logophoric centers with LD-bound *caki-casin*. The test sentences representing different logophoric roles[1] in Korean are shown in (8).

(8)

a. **John$_i$**-un [tongchanghoy-ka **caki-casin$_i$**–i
　　J-TOP　alumni-NOM　　self-NOM
swumki-n　pimil-ul　alanayssta-ko]
hid-REL　　secret-ACC　found-out-COMP
malhayss-ta.
said-DECL
'John$_i$ said that the alumni found out the secret that self$_i$ hid.'　　(SOURCE)

b. **John$_i$**-un [tochanghoy-ka **caki-casin$_i$**–i
　　J-TOP　alumni-NOM　　self-NOM
swumki-n　pimil-ul　alanayssta-ko]
hid-REL　　secret-ACC　found-out-COMP
sayngkakhayss-ta.
thought-DECL
'John$_i$ thought that the alumni found out the secret that self$_i$ hid.'　(SELF)

c. [Mary-ka **caki-casin$_i$**-ul　chaca oass-ul ttay],
　　M-NOM　self-ACC　search-come-REL when
John$_i$-un (pro -ul)　pankapkey　maca cwuess-ta.
J-TOP　　　　gladly　　greeted-DECL
'When Mary came to see self, John greeted (her) gladly.'　　(PIVOT)

2　Research Method

2.1　Hypotheses & Predictions

Our specific hypotheses and predictions based on the research questions introduced earlier are the following:

1) Korean native speakers will regard the sentences where LD-bound *caki-casin* has Subject antecedent more acceptable than those with non-Subject antecedent.
2) Korean native speakers will interpret elliptical VPs with more preference for strict readings compared to sloppy readings, as LD-bound *caki-casin* is considered more acceptable.
3) Korean native speakers will regard sentences with LD-bound *caki-casin* more acceptable, especially when the LD antecedent has canonical logophoric roles compared with the cases of less logophoric antecedents.

2.2　Participants

Forty-three Korean native speakers (Age range = 36~57) residing in and near Seoul, South Korea, who were raised monolingually, participated in the experiment.

2.3　Task, Materials, and Procedure

The main task was an acceptability judgment task using 5-point Likert scales, accompanied by preferential interpretation task. The stimuli for the acceptability judgment was constructed based on 4 logophoric conditions (SOURCE, SELF, PIVOT, less logophoric antecedent) and 2 GRs of the LD antecedents (Subject, non-Subject)[2], composed of 100 Korean sentences - 40 target items representing LD-bound *caki-casin* and 60 fillers (35 ungrammatical distractors and 25 sentences with other purposive fillers (e.g., local binding, TSC-only violation, multiple potential antecedents, backward binding, etc.)).

Each test sentence was presented with immediately following paired-elliptical VP (marked with underline); and the participants had to judge the acceptability of the given test sentence and then choose the preferred interpretation of the underlined elliptical VP.[3] For the elliptical VP,

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[1] The sentences with PIVOT were constructed following Kim & Yoon (2009). Also, the sentences with distinct logophoric antecedents were compared to those with less logophoric antecedent which has a similar form as (8c), but with a matrix Subject that has different logophoric role from the Subject in the adjunct clause, as Kim & Yoon (2009) originally constructed. This type of sentences yielded significantly less acceptability scores than the sentences with canonical roles shown in (8).

[2] For constructing the sentences with non-Subject antecedents, we designed the sentences violating SSC that represent SOURCE and SELF only for logophoric roles. Other types of sentences with different logophoric roles were not counted for the comparison of GRs, so as to avoid further influence from confounding factors and interactions.
[3] We asked them to respond to VP ellipsis regardless of the acceptability, since we wanted to see whether and how the participants' responses with acceptability and those with the interpretations under VP ellipsis are consistent to each other.

three interpretation choices (A: Sloppy reading, B: Strict reading, C: Neither) were provided for the participants. The test items have the basic format of the following.

(9)　Test Item Format
The Target sentence with LD-bound *caki-casin*
[Unaccceptable 1　2　3　4　5 Acceptable]

<u>John-to Kulessta (The sentence with VP-ellipsis)</u>

Interpretation of the underlined part:
(A) The sentence representing sloppy reading
(B) The sentence representing strict reading
(C) Neither

Though there were other trials in the previous studies asking for possibility of strict vs. sloppy interpretations in VP-ellipsis or sometimes asking possibilities together with preferential choice in each items (Kim & Yoon 2013, 2013b, Kim 2013), we stick to the method of preferential choice, since preferential choice can represent stronger interpretation pattern out of ambiguity among dual or multiple possibilities - without confusing the participants.

2.4　Statistical Analysis

In order to investigate acceptability of the sentences with GRs of the antecedent as well as with distinct logophoric roles, the ordered logistic regressions[4] were conducted. As for the frequency of responses from the preferential choices (sloppy vs. strict) and their relation to the acceptability score of each item, a χ^2-Test and Rank Biserial Correlation were conducted. For the responses of acceptability with sloppy vs. strict readings, the acceptability scores 1 and 2 were coded as 'Low', while the scores 4 and 5 were coded as 'High' to see the correlation with sloppy vs. strict reading preference. The responses with medial acceptability (score 3) were dropped for the correlational analysis, since the responses with neutral (or uncertain) acceptability of the target

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[4] The acceptability scores (from 1 to 5) are ordinal, but the variables such as logophoric roles, GRs of the antecedents are categorical. Therefore, it is unreasonable to use parametric tests (such as *t*-tests or ANOVAs). That is why we chose the ordered logistic regressions, χ^2-Test and Rank Biserial Correlation for the analysis.

sentences do not represent relevant interpretations in the elliptical VP.

3　Results

Overall results with the sentences of LD-bound *caki-casin* are the following: First of all, the sentences with LD-bound SSC-violating *caki-casin* were regarded as acceptable in majority of cases. Out of 1464 responses, the frequency of responses for each score was as follows:　Score 1 = 109, Score 2 = 87, Score 3 = 125, Score 4 = 253, and Score 5 = 900). This seems to show that even the local anaphor *caki-casin* in Korean can have LD-antecedent if necessary. The details of the results related to properties of distinct linguistic levels are presented in the following several sub-sections.

3.1　Syntax of LD-bound *caki-casin*: Subject vs. Non-subject Antecedent

The results with different GRs for the LD-antecedent of *caki-casin* demonstrated the following. The sentences with Subject antecedent got more responses with higher acceptability scores, compared to those with non-Subject antecedent. The pattern of the results with Subject vs. non-Subject antecedents is shown in Table 1 and Figure 1 below.

Score / Antecedent	1	2	3	4	5
Subject	138	122	165	327	1139
Non-Subject	19	18	26	86	274
Total	157	140	191	413	1413

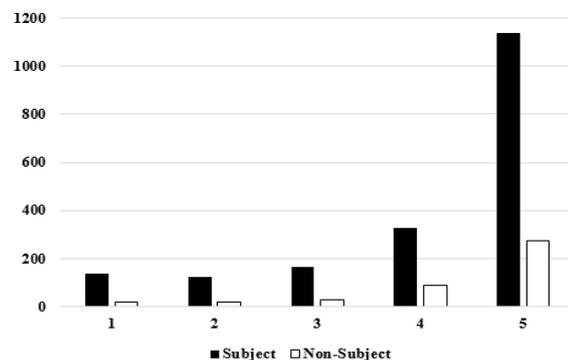**Table 1:** Acceptability by GRs of Antecedent

Figure 1: Acceptability by GRs of Antecedent

The ordered logistic regressions revealed that the Subject vs. non-Subject differences significantly influenced the acceptability scores (t=25.501, p<1.9×10^{-143}).

3.2 Semantics of LD-bound *caki-casin*: Interpretation with VP-ellipsis

The results with sloppy vs. strict readings in the elliptical VP showed that the responses with high acceptability scores (4 and 5) showed more responses of strict reading preference (Responses for sloppy reading: 445/1153, Responses for strict reading: 708/1153). On the other hand, those with low acceptability scores (1 and 2) showed more responses for sloppy reading preference overall (Responses for sloppy reading: 104/196; Strict reading: 92/196).

The result of χ^2-test revealed that the relation between the frequency of sloppy-strict readings and acceptability scores is significant (χ^2=10.484, df=1, p<0.00121). Ranked Biserial Correlation analysis further demonstrated that the relation between the two factors was significant (R=0.07812, p<0.0011). The mosaic plot from the correlation analysis is given in Figure 2.
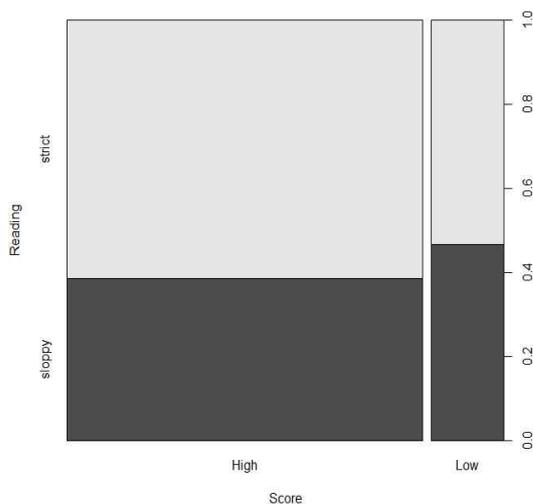

Figure 2: Preferential Interpretations in VP-ellipsis by Acceptability scores

As shown in Figure 2 above, the sentences with LD-bound *caki-casin* got much more high scores than low scores (as the width of the bars between High and Low shows). When the sentences got 4 and 5 for acceptability (i.e., High), strict reading choice was dominant, compared to the sentences with Low acceptability scores (1 and 2). However, it is notable that even with the highly acceptable sentences, there were still robust portion of sloppy readings. Also, even with low scores, strict reading rate seems not lower than that of sloppy readings.

3.3 Pragmatics of LD-bound *caki-casin*: Logophoric Roles of the Antecedents

As for logophoric roles of the LD-antecedents, the results patterned with those of Kim & Yoon (2009). The sentences with canonical logophoric roles got significantly higher frequency of higher acceptability scores than those with less logophoric antecedents. Furthermore, the canonical hierarchy of Sells (1987) was reconfirmed with SOURCE getting the highest frequency of the responses for higher acceptability scores than the other roles, while PIVOT getting the lowest among the three logophoric roles. The frequency of acceptability scores by different logophoric roles is shown in Table 2 and Figure 3 below.

Score \ Logophoric roles	1	2	3	4	5
SOURCE	23	18	45	113	433
SELF	45	45	49	103	392
PIVOT	51	36	42	75	216
Less logophoric	25	27	22	50	84
Total	144	126	158	341	1125

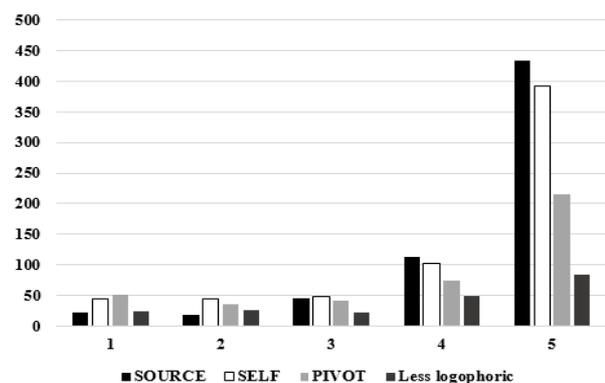**Table 2:** Acceptability by Logophoric Roles

Figure 3: Acceptability by Logophoric Roles

The analysis using ordered logistic regressions showed that the differences found in the comparisons of between-logophoric roles in terms of acceptability scores were all significant (t=10.313, p<2.611×10^{-13}).

4   Discussion

Through the result patterns of our experiment, the first hypothesis about syntactic properties of LD-bound *caki-casin* was supported: Korean native speakers indeed considered the sentences where *caki-casin* is LD-bound; and the sentences with Subject antecedent were regarded as more acceptable than those with non-Subject antecedent. Though *caki-casin* is not a typical LDA such as *caki* or *casin*, syntactic properties such as structural prominence of the LD-antecedent facilitated acceptability of the sentences.

Secondly, Korean native speakers interpret elliptical VPs with more preference for strict readings, compared to sloppy readings, especially when *caki-casin* is bound LD and considered more well-formed. However, though choice of the strict readings was more dominant with higher acceptability scores, it is noteworthy that the choice for sloppy readings was also found to a robust degree. This result seems to imply that we may have to reconsider our assumption about sloppy vs. strict readings in VP-ellipsis as a valid diagnostic that distinguish exempt anaphors from core anaphors. Charnavel and Sportiche (2016) noted that using diagnostic properties to argue for exempt status is risky, since there are few properties that actually distinguish core and exempt anaphors categorically. If this is true, we should seek for alternative ways to figure out types of binding the native speakers apply in each item.

On the other hand, we can interpret the result in such a way that the domain for core vs. exempt binding may overlap in Korean. In other words, regardless whether the anaphor is bound within the BD or outside the legitimate BD, Korean native speakers are open to the possibilities of interpreting the anaphor either using syntactic constraints or pragmatic conditions. If this chances to be the case, the explanation seems to go with the argument by Pollard & Xue (2001) for Chinese anaphor. However, to verify this claim, we need another follow-up experiment that include test materials testing core and exempt binding possibilities in one sentence simultaneously – with dual potential antecedents – one resolved by core binding and the other by exempt binding. Further discussions and applications should follow for this matter in the future study.

Finally, Korean native speakers considered sentences with LD-bound *caki-casin* with more responses of higher acceptability when the LD antecedent has canonical logophoric roles compared to the cases with less logophoric antecedent (i.e., where the antecedent in the matrix clause and the Subject in the embedded clause had different logophoric roles). Also, the hierarchy proposed by Sells (1987) was again reconfirmed as in Kim and Yoon (2009). This seems to support our third hypothesis.

5   Conclusion

The current study investigated what comprises the syntactic, semantic and pragmatic properties of LD-binding of Korean local anaphor *caki-casin*. Throughout the results of the current study, we can tentatively conclude that despite all the weak points found in the previous studies with respect to experimental designs as well as methodological problems in the analysis of the results, it is true that local anaphor *caki-casin* in Korean can be bound LD if extra-grammatical conditions are met.

The current study reconfirmed the findings of Kim and Yoon (2009) by recapitulating the results that acceptability of LD-bound *caki-casin* is affected syntactically by different GRs and pragmatically by distinct logophoric roles. Finally, when LD-bound with highly acceptable degree, more coreferential readings seem to be involved as if it indicates that the anaphor is bound outside the domain of syntax.

Nevertheless, due to some unexpected pattern of the results (e.g., robust degree of sloppy readings found with highly acceptable cases of LD-binding), we need to re-consider and re-examine the issue as to whether sloppy vs. strict readings in the elliptical VP can still be a valid diagnostic for the discrimination between core vs. exempt binding; and if not, we have to seek for what can be an alternative diagnostic that can work for the core vs. exempt distinction. Furthermore, it is not enough to investigate the exempt binding of local anaphor after the resolution of the antecedents: We need more studies of examining sentence processing patterns of the native speakers that can show us the resolution procedures of various properties of the antecedents (e.g., in terms of logophoricity) and how the participants respond to such sentences.

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