Interpretations of Korean Reflexive Binding by Late L2 learners of Korean with English and Chinese L1

Ji-Hye Kim*†
SungKyunKwan University

Ji-Hye Kim. 2010. Interpretations of Korean Reflexive Binding by Late L2 learners of Korean with English and Chinese L1. *Language and Information 14.1*, 67–91. Present study examines L1 transfer effect and UG involvement in the acquisition of binding properties of Korean as second language (L2). The study especially investigates i) whether knowledge from different L1s (English and Chinese) affect the interpretation of binding in Korean as L2 and ii) whether L2 learners of Korean differentiate two Korean anaphors like Korean monolinguals do, based on their knowledge of universal form-function correlation of anaphors. 53 post-puberty L2 learners of Korean with English or Chinese L1, together with 30 Korean monolinguals, were tested over Truth Value Judgment Task with stories, composed of Korean sentences representing various types of binding with two Korean reflexives - *caki* and *caki-casin*. The results showed some effect of L1 transfer, though not always. Overall, late L2 learners of Korean seem to know the difference between the two anaphors in their properties related to form-function correlation, though their performance level was lower compared to Korean monolinguals. Detailed pattern of the results and the role of UG in the interpretations of Korean reflexives are also discussed. (**SungKyunKwan University**)

Key words: Korean binding, L2 acquisition, Governing Category (GC), TSC violation, SSC violation, sub-command, L1 transfer, English L1, Chinese L1

1. Introduction

It is well known that the first language (L1) of bilinguals can affect the acquisition of the second language (L2) in various ways (White 2002, Schwartz & Sprouse

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† Corresponding author at: Department of English Literature and Language, SungKyunKwan University, Myungryundong 3-53, Chongno-gu, Seoul. Tel.: 010 4536 2731, E-mail addresses: jkim38ster@gmail.com (Ji-Hye Kim)

1994, 1996, 2000, Kim & Montrul 2004, Kim, Montrul & Yoon 2009 etc.). It is not surprising therefore that previous studies have shown that there is apparent L1 transfer in the acquisition of L2 binding in different languages (Hirakawa 1990, Yuan 1998, Hamilton 1997, Thomas 1995, 1998, etc.).

This study takes an approach from the theoretical perspective of Generative Grammar. Since Chomksy (1979) proposed the "Poverty of the Stimulus" argument, many researchers posits specialized mechanism predisposed to language acquisition that is called Universal Grammar (UG). Though the theory of UG was originally for L1 acquisition, many researchers pointed out that L2 acquisition also involve same poverty of the stimulus problem that is originally suggested in child L1 acquisition. Researchers in this line of approach argue that while many errors found in L2 acquisition are transfer-driven, other types of errors that the learners make are very similar to the developmental errors that children make in their L1 acquisition, suggesting UG involvements in these situations (White 1989, 2003). The acquisition of binding has also drawn significant attention within generative approaches to both L1 and L2 acquisitions (Grimshaw & Rosen 1990, Thomas 1995, 1998, White et al 1996, Christie & Lantolf 1998, Hamilton 1997, Lee & Wexler 1989, Yuan 1998, Gűrel 2002, 2004, 2007, Kim & Montrul 2004, Kim et al 2005, 2009).

The present study investigates how the grammar of English and Chinese as L1 might influence the acquisition of binding properties in Korean as L2. The study deals with two different Korean anaphors - *caki*, a long-distance anaphor and *caki-casin*, a local anaphor (J-M Yoon 1988). The anaphors were tested in various structural conditions to see: i) whether transfer from L1 (English or Chinese) is attested when structural domains for binding differ across languages; ii) whether such effects are uniform within and across groups, and iii) whether Korean L2 learners are able to understand extra-grammatical conditions on felicitous anaphor binding in Korean.

The organization of this paper is as follows: Next section introduces the theoretical background on anaphor binding, focusing on the inventory of Korean anaphors and the binding differences among the investigated languages (i.e. Korean, Chinese and English). The following section provides an explanation of the methodology of the present study. Finally, I will conclude the last section with further discussion of the results and their implications.

2. Theoretical Background

2.1 Binding theory and cross-linguistic differences

2.1.1 Binding theory and Governing Category. While the Binding Theory put forth in Chomsky (1981, 1986) assumes an invariant notion of Governing Category (GC), a domain where anaphors need to be bound and only pronouns cannot, it is well known that languages like Chinese and Korean have anaphors that are bound outside the GC as defined in Chomsky (1981). This is shown in (1). The anaphor *himself* cannot be bound by *Bill* in (1a) because the latter is outside the GC (roughly, the minimal clause that contains *himself*). However, the anaphor *caki* in Korean and *ziji* in Mandarin can be bound by antecedents that are outside the

minimal clause, as seen respectively in (1b) and (1c) below.

(1) a. *Bill$_i$ said that Mary hates himself$_i$. (English)

b. Bill$_i$-un Mary$_j$-ka caki$_i$-lul silhehanta-ko malhayssta.
Bill-top Mary-nom self-acc hate-comp said.
'Bill said that Mary hates him.' (Korean)

c. Zhangsan$_i$ yiwei Lisi$_j$ hui ba XiaoMing$_k$ dai hui ziji$_{i/j/k}$de home
Zhangsan thought L ill BA XM take back self-gen jia.
'Zhangsan thought that Lisi would take Xiao Ming back to self's home.'
(Chinese)

A variety of proposals are available that try to address the issue of how to understand the variation among languages with respect to the size of the Governing Category for anaphors. They range from attempts to directly parameterize the size of the GC in different languages (Manzini & Wexler 1987, Yang 1983), to attempts that try to maintain an invariant GC by relocating Binding Theory to LF after certain anaphors (parametrically) undergo LF-movement (Cole 1989, Cole, Hermon and Sung 1990), and to those that try to tease apart the relative contributions of grammar and discourse in anaphor binding, with the result that certain instances of LD-bound anaphors fall under discourse binding, thus obviating the need for a radical parameterization of GC within grammar (Pollard & Sag 1992, Reinhart & Reuland 1993, Huang & Liu 2001, Pollard & Xue 2001, Cole, Hermon and Huang 2001, 2006).

The approaches all agree that there has to be some parameterization across languages in the grammar of anaphor binding. The second (LF-movement) approach tries to locate the parameter in the availability of LF-movement of a given anaphor, while the others posit parameterizations of GC. Given the well-known problems with the LF-movement approach to LD-binding (Huang and Liu 2001)[1], I assume that it is the GC for anaphor binding that varies across languages, as assumed in the first and third approaches.

In particular, Korean and Chinese on one hand and English on the other differ with respect to the size of the domain that constitutes the GC – the GC in English is defined by the conjunction of the TSC (Tensed-S Condition) and the SSC (Specified Subject Condition) (Chomsky 1980), whereas the TSC is ineffective in defining the GC for all anaphors in languages like Korean and Chinese.

The question of whether the SSC is operative in defining the GC in languages like Korean and Chinese is a bit more involved. The languages possess LDAs that can clearly be bound across an intervening subject (e.g., *caki* in Korean and *ziji* in Chinese), as well as anaphors that cannot be bound across an intervening subject, such as *caki-casin* for Korean and *pronoun-ziji* in Chinese. However, this does not necessarily mean that the SSC is ineffective in languages like Korean and Chinese.

[1] For example, Huang and Liu (2001) argued that LF movement analysis cannot explain binding phenomena such as the Blocking Effect. The Blocking Effect is found in Chinese binding, in which 1st/2nd person intervening subject NPs make long-distance binding impossible. According to LF movement analysis, the Blocking Effect should be shown only with subject NPs. However, this is not true, since non-subject intervening NPs can also trigger the Blocking Effect, indeed.

This is because the languages might allow LD-binding across an intervening subject for *exempt anaphors* (Huang and Liu 2001).

Exempt anaphors are recognized in certain approaches to anaphor binding (Pollard & Sag 1992, Huang & Liu 2001) where a principled division is made between anaphors that need to be bound by grammar-internal principles (*grammatical*, or *core*, anaphors) and anaphors whose binding properties are governed by non-syntactic factors, including processing and discourse constraints (*exempt*, or *logophoric*, anaphors). One of the main properties of exempt anaphors is their ability to be bound outside the GC for core anaphors. Therefore, the possibility arises that LDAs in languages like Korean and Chinese might actually be exempt anaphors.

If this is the case, then we cannot draw the inference that the GC for these anaphors is larger than that of local anaphors, if the LDAs in question (*caki*, *ziji*) are in fact exempt anaphors. It may simply be that for some reason the LDAs admit exempt binding more easily than the locally bound anaphors. Indeed, the position maintaining that LD-bound (that is, SSC-violating) *ziji* in Mandarin might be an exempt anaphor was defended in Huang and Liu (2001), though there are also some dissenting voices (Pollard and Xue 2001), who take LD-bound *ziji* to be a core anaphor, and hence, for its GC to be constrained neither by the TSC nor the SSC.

No proposal that I am aware of has taken LD-bound *caki* in Korean to be an exempt anaphor, though Kim and Yoon (2009) argue that LD-bound *caki-casin* is an exempt anaphor. The sentences tested in this paper do not allow us to determine the answer to the question either.[2] Therefore, in this paper, following Kim and Yoon (2009), I will assume that the GC for the locally bound core anaphor *caki-casin* is subject to the SSC[3], but will not attempt to decide as to whether the GC for *caki*

[2] This is so because of the following. In order to determine that a LD-bound anaphor is an exempt anaphor, additional diagnostics, such as the availability of strict readings in contexts of VP-ellipsis, must be investigated. Simple LD-binding by itself does not tell us whether the anaphor with LD antecedents is a core or exempt anaphor.

Nonetheless, there is one factor that favors viewing LD-bound *caki* as a core anaphor. The consideration in question comes from the observation that cross-linguistically LDAs are simple forms while local anaphors are complex. This observation, which I shall dub the **Form-Function Correlation**, is supported by the difference between *caki* and *caki-casin* in Korean, where the former is simple and admits LD-binding easily, while the latter is complex and resists LD-binding (except as an exempt anaphor). I shall return to the relevance of the Form-Function Correlation in section 2.1.3.

[3] The examples of the core vs. exempt usage of *caki-casin* are shown below.
In (a), the anaphor *caki-casin* is bound by a clause-mate antecedent 'John' (i.e. core binding). On the other hand, in (b), the anaphor *caki-casin* is bound across the intervening subject 'tongchanghoy' (i.e. SSC violation – exempt binding).

(a) **John$_i$-i** iywu epsi **caki-casin$_i$**-ul iwehanta-ko (na-nun tul-ess-ta)
J-nom reason without self-acc hate-comp (I-top hear-pst-decl)
'(I heard that) John hates self without reason.'

(b) **Heera$_i$-nun** [tongchanghoy$_j$-ka [**caki-casin$_i$-i** taumcwu-ey kyelhonhana-nun
Heera-top alumni.assoc-nom self-nom next week get-married-rel
sasil]-ul imi palphyohayssta]-ko malhayssta
fact-acc already announced-comp said
'Heera said that the alumni association already announced the fact that she (self) would get married next week.'

is constrained by SSC. If LD-bound *caki* is a core anaphor, then the SSC must not be operative in defining the GC for *caki*, while it is in force for *caki-casin*. If on the other hand LD-bound *caki* is an exempt anaphor, then the SSC will be relevant in defining the GC for *caki* in its core usage.

Now, to the extent that languages differ in the GC for anaphor binding, it seems reasonable to attribute the variation in the size of GCs to UG, specifically, to parametric variation (Manzini & Wexler 1987, Yang 1983). The variation in the size of GC for anaphors shows the signature properties of parameters, such as the fact that not all logical possibilities of variation are attested, that the variation does not cluster along genetic-typological lines, and that parameterization has a system-wide effect (i.e., it holds for the entire grammar, rather than for specific lexical items.).

2.1.2 C-commanding vs. sub-commanding antecedents. In addition to the difference in the size of the GC, another difference between English and Korean/Chinese anaphor binding is found in the structural conditions on the antecedent-anaphor relation. In English, antecedents must strictly c-command anaphors. If not, the sentence is ungrammatical, as shown in (2a). However, in Korean and Chinese, a sub-commanding antecedent of anaphors (Tang 1989), where sub-command is defined as in (2e) below, is allowed as shown in (2b) and (2d).

(2) a. *Silvia's pride tortures herself. (English)

b. Silvia-uy casonsim-i caki-lul koylophinta. (Korean)
Silvia-gen pride-nom self-acc tortures
'Silvia's pride tortures self (=Silvia).'

c. *Silvia-uy tongsayng-i caki-lul koylophinta.
Silvia-gen brother-nom self-acc tortures
'Silvia's brother tortures self (=*Silvia).'

d. Zhangsan-de jiaoao lai-le ziji. (Chinese)
Zhangsan-DE arrogance hurt-perf. self
'Zhangsan's arrogance harmed self (=Zhangsan).'
(Huang and Liu 2001)

e. A constituent α sub-commands β when a larger constituent that contains α c-commands β and features of the containing constituent are not identical to α.

The feature in question involved in the definition of sub-command given above is animacy. Since anaphors in Korean and Chinese require animate antecedents, a c-commanding NP headed by an inanimate noun allows its animate Possessor to bind the anaphor, even for the Possessor does not c-command the anaphor. This is the configuration called sub-command.

While the variation in the size of GC is plausibly a UG-determined difference, as discussed earlier, the difference in the permissible structural relations between antecedents and anaphors (i.e., c-command vs. sub-command) appears to be a

language-specific difference, which is not from UG. This is suggested strongly by the fact that in English, while bound variable readings can arise under conditions of sub-command, as in (3a), anaphoric binding can not, as shown in (3b).

(3) a. Every boy's mother thought that his performance was the best.

b. *John's car accidentally hit himself

Such a state of affairs suggests that the impossibility of sub-command for anaphoric binding has to be learned specifically for anaphors but not bound pronouns. In other words, whether or not a dependency allows sub-command is not a system-wide property. In Korean and Chinese, what allows anaphors to be bound under sub-command is the fact that anaphors require animate antecedents, which is a lexical property that has to be learned. When the containing phrase is headed by an animate noun (as in 2c), sub-command fails.

2.1.3 Distribution of different anaphors. In addition to the difference in the ease with which different anaphors can be LD-bound (*caki* lending itself to LD-binding much more easily than *caki-casin*), there are other differences between the anaphors.

B-M Kang's (1998) corpus study investigated a number of properties of different Korean anaphors—*caki*, *caki-casin*, and *casin*—such as the preference for LD-binding and the preferred thematic roles of antecedents. The results regarding the tendency for LD binding of different anaphors largely coincided with intuition-based studies, with *caki* preferring LD to local antecedents and *caki-casin* showing the opposite preference. *Casin* does not display any pronounced preference for either local or LD binding.

The pattern of results regarding LD-binding in Korean is consistent with a putative universal about LDAs across languages, the Form-Function Correlation, mentioned earlier in footnote 2. We know that there is a strong cross-linguistic tendency for LDAs to be morphologically simple forms, while morphologically complex anaphors do not participate in LD-binding, except as exempt anaphors (Pollard and Sag 1991; Kim and Yoon 2009). The LDA *caki* is simple, while *caki-casin*, the anaphor with the preference for local binding, is complex.

Kang (1998) also found that different anaphors have distinct preferences for the thematic roles of antecedents. For example, *caki* takes more antecedents whose thematic role is agent than experiencer. *Casin* can take both agent and experiencer as its antecedent. When the antecedent of an anaphor is experiencer, more chance is that the anaphor would be *casin* rather than *caki*.

The result is reminiscent of the proposal in Oshima (2006), who makes a fine-grained distinction among the logophoric, or exempt, uses of anaphors. *Caki* seems to be governed more by Pivot (Sells 1987), or Point of View (hence, a *POV-ophor*, in the words of Oshima 2006) than *casin*-based anaphors, which seem sensitive to Source or Self (Sells 1987). The difference is admittedly subtle, but native speakers seem to be aware of the preferences associated with the different anaphors.

2.2 Motivation of the present study

Based on the differences among Korean, Chinese and English, the research questions that motivated the present study are as follows:

i) How does the knowledge from different L1s (English and Chinese) affect the interpretation of binding in Korean as L2? In other words, is there transfer when L1 differs from L2 in terms of structural conditions on anaphor binding? If so, are such effects uniform within and across groups with different L1s?

ii) Will L2 learners differentiate *caki* and *caki-casin* in their binding properties in the same manner as Korean monolinguals? That is, will they differentiate the two in terms of the preference for LD-binding and the properties of antecedents (i.e. grammatical relation, thematic roles, etc.)?

The hypotheses motivated by the research questions relevant to sentence types shown above are as follows:

Hypothesis 1: L1-Transfer
Korean learners with English L1, but not those with Chinese L1, will show transfer when there are structural differences between English and Korean in terms of the size of GC and the permissible structural relations between antecedent and anaphor.

Hypothesis 2: Form-Function Correlation
L2 learners of Korean will be able to differentiate *caki* and *caki-casin* with regard to their respective availability for LD-binding, if they resort to the knowledge of Form-Function Correlation, which by hypothesis is rooted in UG.

Hypothesis 3: Properties of Antecedents
L2 learners of Korean will have difficulty with other differences between *caki* and *caki-casin*, such as the preferred semantic roles of antecedents, the choice between subject and non-subject antecedents[4], or the interpretation of exempt binding.

In (4) are the sentences representing different types of Korean binding tested in this paper[5]. The sentences shown in (4) contain the anaphor *caki*. The same sentences were also tested with *caki-casin* in place of *caki*.

(4) a. Na-nun [Sandy$_i$-ka caki$_i$ tongsayng-ul ttayliessta]-ko tulessta.
I-top Sandy-nom self sister-acc hitl-comp heard.
'I heard that Sandy hit self's (her own) sister.'

[4] The anaphors in Korean allow both subject and non-subject antecedents, despite occasional claims to the contrary in the literature. When both subject and non-subject are available as antecedents, the choice between the two will be governed by context and the preferred semantic roles of antecedents of anaphors.

[5] The sentences illustrating core binding of *caki/caki-casin* included an additional embedding of a clause, to balance the length across different types of the test sentences. In such sentences, the 1st person NP was used to be matrix subject, as in (4a, c, d), since *caki* and *caki-casin* do not usually take 1st person antecedent. This was to avoid possibility of long-distance binding by the matrix subject outside the clause.

b. Christine$_i$-un Tom$_j$-ulopwuthe [caki$_i$ tongsayng-i
C-top Tom-from self brother-nom
cheypho-tang-han iywu]-lul tulessta.
got-arrested-rel reason]-acc heard.
'Christine learned from Tom the reason self's (her) brother got arrested.'

c. Na-nun [Silvia$_i$-uy [caconsim]]-i caki$_i$-lul koylophinta]-ko.
I-top Silvia-gen pride-nom self-acc torture-comp.
sayngkakhanta.
think.
'I think that Silvia's pride tortures herself.'

d. Na-nun [Sandy$_i$-ka Mary$_j$-lul caki$_j$ pang-ulo tollye ponayssta-ko]
I-top Sandy-nom Mary-acc self room-to back sent-comp
tulessta.
heard.
'I heard that Sandy had sent Mary back to her (Mary's) room.'

e. Kicwu$_i$-nun [nay-ka [caki$_i$-ka swumkiko iss-ten pimil]-ul
K-top I-nom self-nom was hiding-rel secret-acc
sangtayphyen hoysa-ey phoklohayssta-ko] mitko issta.
rival firm-dat revealed-comp believe.
'Kicwu believes that I revealed the secret self (=Kicwu) had been hiding to the rival firm.'

The sentence in (4a) shown above involves no violation of TSC or SSC, while (4b) violates the TSC but not the SSC. The type of binding illustrated in (4a) is acceptable in all the investigated languages (English[6], Chinese and Korean), in that the anaphor is bound within the local GC of all three languages.

The binding shown in (4b) differs among the investigated languages. Because the anaphor *caki* (or *caki-casin*) is bound outside the English GC, as it violates TSC, the corresponding sentence in English is ill-formed, unless the anaphor is licensed as an exempt anaphor. However, the corresponding sentence in Chinese is acceptable, since Chinese is like Korean in that TSC is inoperative in defining the GC for all anaphors, including core anaphors.

An example of a sentence with sub-commanding antecedents is shown in (4c). The counterpart of this sentence in English is unacceptable, while that in Chinese is acceptable.

(4d) contrasts with (4a) in terms of the grammatical relation of the antecedent. While both subject and non-subject are potential antecedents, the overall context the sentence is provided with makes the non-subject a likely antecedent of the anaphor. In this case, the factors dictating the choice between the two readings are non-structural. In addition, *caki* and *caki-casin* may not be equal in terms of the ease with which non-subject antecedents are allowed. To the extent that there is L1

[6] However, English does not have possessive forms of anaphors. Possessive reciprocals, which are also anaphors, are acceptable in English.

transfer, speakers with Chinese L1 might have greater difficulty with non-subject antecedents, as it is commonly assumed that Chinese anaphors (in their core usage at least) are subject-oriented. Speakers of English may not have the same degree of difficulty with this sentence type since we know that English anaphors are not subject-oriented.

(4e) consists of Korean sentences with both TSC and SSC violations, licensed only as exempt binding in the case of *caki-casin*, but possibly as core binding in the case of *caki*. In English, the anaphors that occur in similar configuration can only be exempt anaphors, while in Mandarin, *ziji* in this configuration is an exempt anaphor, according to Huang and Liu (2001) (though Pollard and Xue 2001 disagree).

The predictions following from the hypotheses are as follows. In deducing these predictions, I shall be assuming that LD-bound (SSC-violating) *caki* is a core anaphor:

Predictions 1: L1 transfer

Korean learners with English L1 will show less acceptability than Korean speakers with sentences where Korean core anaphors are bound i) outside the core-binding domain of English (i.e. GC size difference - Types *b*) and ii) by a sub-commanding antecedents (i.e. Type *c*).

Therefore, the predicted pattern of the subjects' responses can be the following:

i) L2 learners with English L1 (English group) will show less acceptability with Type *b* than with Type *a* sentences.

ii) English group will show less acceptability with sentences containing sub-commanded *caki/caki-casin* (Type *c*) than c-commanded *caki/caki-casin* (Type *a*).

iii) Chinese group will not differ from Korean monolinguals with Type *b* and *c*, due to the similarity between Korean and Chinese in the given structures.

Predictions 2: Form and Function correlation

Though L2 learners will perform below native speakers with respect to sentence Type *b* and *c*, they will nevertheless have knowledge of the form-function correlation. That is, the way the L2 learners treat *caki* and *caki-casin* will be similar overall in pattern compared to the monolinguals. The speakers will treat *caki* as primarily an LDA while employing *caki-casin* for local binding. Since *caki-casin* resembles English reflexive structure, L2 learners will show even less acceptability with TSC-violating or sub-commanded *caki-casin* compared to the same case of *caki*. Therefore, the following pattern of the responses is expected.

i) Both English and Chinese groups will show less acceptability of Type *b* in case of *caki-casin* compared to the case of *caki*.

ii) Between *caki* and *caki-casin*, English group will reject more sub-commanding condition (i.e. Type *c*) in case of *caki-casin* than the case of *caki*.[7]

[7] This can be because *caki-casin* is similar to English anaphor in its complex form, which may lead the L2 learners to treat *caki-casin* more like English anaphor than *caki*.

iii) In addition, in case of SSC violation (i.e. possible LD binding - Type *e*), L2 learners will show less acceptability with sentences containing complex anaphor *caki-casin*, compared to those containing LDA *caki*.

Predictions 3: Understanding Korean non-structural binding
Korean L2 learners will behave differently with the Korean sentences exemplifying non-structural constraints (i.e. Type *d* for *caki*, *caki-casin* and Type *e* for *caki-casin*) by accepting fewer of these sentences compared to Korean monolinguals, since factors governing exempt binding in L2 are more difficult to acquire compared to properties of grammatical binding. The expected pattern of the responses can be the following:

i) L2 speakers of Korean with English L1 will show less acceptability with sentences containing non-subject antecedent (Type *d*) of *caki/caki-casin* and those containing SSC violating *caki* (Type *e*) compared to Korean monolinguals.

ii) With respect to sentence Type *d*, English speakers may allow non-subject antecedents more easily than Chinese speakers especially when the reflexive is LDA *caki*, since Chinese LD reflexives show tendency of preferring subject-antecedent over non-subject antecedent[8]. However, such pattern of the results may not be observed with the cases containing complex anaphor *caki-casin*.

3. Experiment

3.1 Method

[Table 1] Biographical Information and Korean Proficiency Scores

	Chinese group (n = 35) Mean (Range)	English group (n = 18) Mean (Range)
Age	23.4 (18-28)	31 (20-50)
Age of Korean Onset	15 (10-20 years)	23.4 (20-31 years)
Length of residence in Korea	(1-3 yrs)	(2 weeks to 6 years)
Korean instruction (Yes/No)	35 yes	12 yes; 3 no
Length of instruction	(6 months to 3 years)	(8 months to 3 years)
Mean % use of Korean	62% (25-100%)	32.3% (0 - 90%)
Korean Proficiency test score	70 (45-95) (S.D. 14.41)	69.23 (45-100) (S.D. 26.13)

3.1.1 Participants. A total of 83 adults participants (ages 18–50) were tested, divided into 3 groups: 53 post-puberty L2 learners of Korean (English L1: n=18,

[8] In other words, to both English and Chinese speakers, Type *d* is the case of non-structural binding. However, since Chinese anaphor shows subject orientation of the antecedent, they will reject non-subject antecedents more than English speakers.

Chinese L1: n=35) and 30 Korean monolingual speakers as the control group. Most of L2 learners of Korean were recruited from SungKyun language institute in SungKyunKwan university and the rest were contacted individually by the experimenter. All of them resided in Korea at the time of testing. The biographical information attained by Language Background Questionnaire and the mean score of the Korean proficiency test of the experimental groups are given in Table 1.

3.1.2 Task. The main task was a Truth Value Judgment Task (Crain and Thornton 1998) with stories, in which participants were required to read a short story and judge whether the following sentence is TRUE or FALSE in the context provided by the story. All stories were provided in the contact languages of each group (i.e. English, Chinese and Korean) and the test sentences were provided in Korean. In (5), examples of the test items are presented. (5a) below is an example of target items, in which binding between the antecedent *chinchektul* and the reflexive *caki* is acceptable, and the sentence is a true description of the preceding story. Therefore, TRUE response is expected. On the other hand, in (5b), though the binding between *Ji-Hye* and the reflexive *caki* is acceptable, the test sentence is not a true description of the preceding story, which leads FALSE response.

(5) a. Ji-Eun is good at designing webpages. She recently helped with designing webpages for all her computer-illiterate relatives. However, I heard that none of her relatives' webpages is accessible to the public. Only her relatives could see their own webpages.

Q: Na-nun Ji-Euni-ka chinchek-tul-eykey-man caki-uy
I-top Ji-Eun-nom relative-plural-dat-only self-gen
homepage-lul poyecwu-nta-ko alko iss-ta. (T) F
homepage-acc show-decl-comp knowbe-decl.
'I know that Ji-Eun shows self's webpage to only her relatives.'

b. Ji-Hye is a cheerful girl majoring in advertising at a university. She got elected as president of the student association this year. Yesterday, she complained in front of me that the student association never consults her about the advertising the activities of the association, possibly because they believe that they have no problem with that, without having to consult Ji-Hye.

Q: Ji-Hye-nun haksaynghoy-ka kwangko-ey kwanhayse
Ji-Hye-top s-association-nom advertising-about
caki-lul cinachikey mitkoissta-ko sayngkakhanta. T (F)
self-acc too much trust-comp think-pres.comp.
'Ji-Hye thinks that the student association relies on her too much about the advertising.'

3.1.3 Materials. The materials used were 5 different sentence types, shown earlier in (4). The sentences represent various types of binding with Korean anaphor *caki* and *caki-casin*. To control for length of the test items, all sentences were made bi-clausal. The task included 6 tokens of each sentence type for a total of 54 target

items, plus 18 fillers. These sentences appeared twice: once with stories leading to the TRUE responses, and the other time with stories leading to the FALSE responses. Filler items consisted of similar type of sentences with different anaphors (i.e. *pronoun-casin*) or included sentences testing other factors of binding.

3.1.4 Procedures and Data Analysis. Participants were required to complete the main task as well as Language Background Questionnaire and Korean Proficiency Task. In the main task, the subjects were asked to judge if the Korean sentence is a true description of the previous story given in their native languages. For instance, if a participant judges a target sentence true when an anaphor is co-referential with its antecedent in the sentence, the participant is deemed to accept the binding in that sentence. In contrast, if a participant judges the sentence as false, s/he is deemed to reject the possibility of the binding shown in the sentence. TRUE responses received a score '1' and FALSE responses a score '0'. Mean judgment scores for each subject and group were submitted to statistical analysis.

There was a screening procedure: the participants who provided less than 70% correct answers with filler items (from the Truth Value Judgment Task) were dropped from the analysis, since they did not seem to understand the main task. Therefore, 30 monolinguals, 30 out of 35 L2 learners with Chinese L1 and 15 out of 18 L2 learners with English L1 were retained in the data analysis.

Mean responses for the different sentence types on the Truth Value Judgment Task were compared by repeated measures ANOVAs (Sentence 7, Group 3, Anaphor 2, Alpha-level = .05). Post hoc procedure (Tukey HSD) and a set of one-way ANOVAs were also performed to investigate interactions by sentence type in each task, and by L1 group (Chinese vs. English). Also, data analysis among tasks to investigate different linguistic variables (i.e. Clause-mate binding vs. TSC vs. SSC, different structural/non-structural conditions of the antecedent, such as sub-commanding antecedent and non-subject antecedent etc.) was performed.

According to repeated measures ANOVA, there is a significant effect by sentence [$F(6, 432) = 58.927$, $p < .0001$], a significant effect by sentence by group [$F(12, 432) = 3.690$, $p < .0001$], and a significant effect by sentence by anaphor [$F(6, 432) = 9.627$, $p < .0001$]. The between-group effect was also significant [$F(2, 72) = 2162.315$, $p < .0001$].

4. Results

Overall results demonstrated that three groups showed distinct patterns of responses to the given sentence types, as shown in Table 2.

The summary of the results with Korean sentences along with the original predictions is the following:

Predictions 1: Hypothesis 1 (L1 transfer)

Prediction 1-i) expected L2 learners with English L1 (English group) will show less acceptability with Type *b* than with Type *a* sentences. This is not supported by the pattern of the results with both anaphors, since English group did not differ in their responses with the given sentence types. (*caki* in Type *a* – mean = 89,

[Table 2] Acceptability of Korean core binding sentences

Group	Monolinguals (n = 30) Mean (s.d.)		Chinese L1 (n = 30) Mean (s.d.)		English L1 (n = 15) Mean (s.d.)	
Reflexive / Sentence type	*caki*	*caki-casin*	*caki*	*caki-casin*	*caki*	*caki-casin*
Type a. No violation (subject & c-commanding antecedent)	.92 (.17)	.83 (.23)	.92 (.17)	.75 (.21)	.89 (.20)	.84 (.35)
Type b. TSC violation	.90 (.20)	.91 (.20)	.79 (.23)	.65* (.22)	.85 (.28)	.76 (.34)
Type c. Sub-commanding antecedent	.88 (.25)	.97 (.10)	.68* (.32)	.87* (.21)	.69* (.30)	.78* (.27)
Type d. Non-structural binding (non-subject ant.)	.69 (.26)	.53 (.33)	.58 (.30)	.34* (.33)	.42* (.37)	.27* (.26)
Type e. Non-structural binding(SSC violation)	.78 (.24)	.77 (.18)	.65* (.18)	.64 (.26)	.47* (.21)	.51* (.28)

Type *b* - mean = 85; *caki-casin* in Type *a* – mean = 84, Type *b* – mean = 76).

Prediction 1-ii) expected that English group will show less acceptability with sentences containing sub-commanded *caki/caki-casin* (Type *c*) than c-commanded *caki/caki-casin* (Type *a*), which is fully supported by the results of the experiment.

Prediction 1-iii) expected that Chinese group will not differ from Korean monolinguals with Type *b* or *c*. This is not supported from the results, since Chinese group showed significantly less acceptability with Type *b* in case of *caki-casin* (*caki-casin* in Type *b* – monolinguals: mean = 91, *Chinese group: mean = 65)*, though not in *caki* (*caki* in Type *b* - monolinguals: mean = 90, *Chinese group: mean = 79*). The difference between Korean and Chinese group calculated by statistical analysis was significant (p< .026). Also, Chinese group showed significantly less acceptability than Korean monolinguals with respect to Type *c*, in both cases with *caki* and *caki-casin*, which is not expected from the original hypotheses and predictions(*caki* in Type *c* - monolinguals: mean = 88, *Chinese group: mean = 68*; *caki-casin* in Type *c* – monolinguals: mean = 97, *Chinese group: mean = 87*)[9].

Predictions 2: Hypothesis concerning Form-Function correlation

Prediction 2-i) expected that both English and Chinese groups will show more acceptability of Type *b* in case of *caki* compared to the case of *caki-casin*. This is fully supported by the pattern of the results from the experiment (*caki* in Type *b* - monolinguals: mean = 90, English group: mean = 85, *Chinese group: mean =*

[9] It is difficult to explain why Chinese group did not perform better where binding properties between L1 and L2 are similar (i.e. where no transfer is expected). Further discussion is provided in the later section.

79; *caki-casin* in Type *b* – monolinguals: mean = 91, English group: mean = 76, *Chinese group: mean = 65*).

Prediction 2-ii) expected that between *caki* and *caki-casin*, English group will allow more sub-commanding condition (i.e. Type *c*) in case of *caki* than the case of *caki-casin*. This is rejected by the pattern of the results, since both English and Chinese group (and indeed even Korean monolinguals) showed opposite pattern by accepting sub-commanded *caki-casin* (*caki-casin* in Type *c* – monolinguals: mean = 97, English group: mean = 78, *Chinese group: mean = 87*) more, compared to the case of sub-commanded *caki* (*caki* in Type *c* - monolinguals: mean = 88, English group: mean = 69, *Chinese group: mean = 68*).

Finally, Prediction 2-iii) expected that in case of SSC violation (i.e. possible LD binding - Type *e*), L2 learners will show less acceptability with sentences containing complex anaphor *caki-casin*, compared to those containing LDA *caki*. It is true that L2 learners showed less acceptability with sentences containing SSC-violating *caki-casin* than with *caki*. However, such a pattern was also observed with monolingual group and there was no significant difference between monolinguals and L2 learners (Type *e* – monolinguals: *caki* - mean = 78; *caki-casin*– mean = 77, English group: *caki - mean = 47; caki-casin - mean = 51, Chinese group: caki - mean = 65*; *caki-casin - mean =64*).

Predictions 3: Hypothesis 3 - Understanding non-structural Korean binding

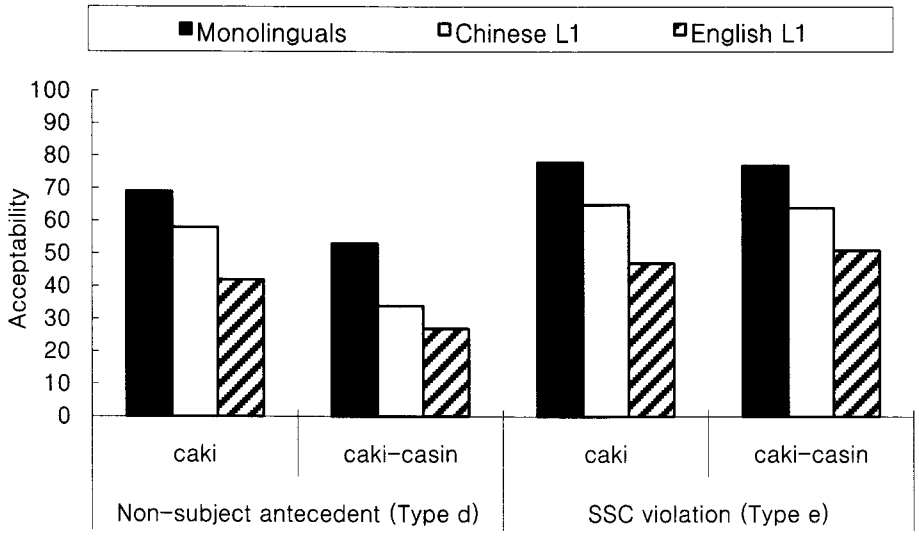
Prediction 3-i) expected that L2 speakers of Korean with English L1 will show less acceptability with sentences containing non-subject antecedent (Type *d*) and those containing SSC violation (Type *e*) compared to Korean monolinguals. This is supported by the results with sentence Type *d*, in that the monolinguals showed significantly more acceptability than the L2 learners with the given types of the sentences. Also, the results with Type *e* overall support this prediction, since the monolinguals accepted Type *e* sentences significantly more than the other two groups, except the case of *caki-casin* by Chinese group. The pattern of the results from the subjects' responses on the two types of non-structural binding is shown in Figure 1.

Prediction 3-ii) expected that with respect to sentence Type *d*, English speakers may allow non-subject antecedents more easily than Chinese speakers in case of *caki*. This is not supported since all three groups showed sharp contrast between subject antecedent and non-subject antecedents, preferring subject antecedents significantly more (*caki* in Type *d* - English group: subject antecedent - mean = 89/ non-subject antecedent - mean = 42, *Chinese group: subject antecedent - mean = 92/non-subject antecedent – mean = 58*).

5. Discussion

5.1 Results and Implications

The present study investigated L1 transfer effect and UG involvement in L2 binding interpretations. The original research questions were: i) whether knowledge from different L1s (English and Chinese) affect the interpretation of binding in Korean as L2 and ii) whether L2 learners of Korean differentiate two Korean anaphors



[Figure 1] Responses on Non-structural binding

like Korean monolinguals do, based on their knowledge of universal form-function correlation of anaphors.

As for the first research question, the results showed that Korean L2 learners did not differ from Korean monolinguals when there is no structural difference in binding properties of all three languages. When the properties between L1 and L2 are different, some transfer effects are shown. However, not all expected transfer was shown in the responses of the subjects with different L1s: English group showed expected L1 transfer effect with non-UG properties (i.e. sub-command), but not with UG properties (i.e. GC-size difference). On the other hand, Chinese group did not seem to use their knowledge from L1 in interpreting L2 even when the structure represent binding similarity between L1 and L2. Therefore, Hypothesis 1 is not fully supported.

As for the second research question (i.e. testing the learners' knowledge about Form-Function correlation), the results with TSC-violation (i.e. UG property) supported the related hypothesis (i.e. Hypothesis 2 - L2 learners will be able to differentiate *caki* and *caki-casin*), since L2 learners accepted TSC-violating *caki* more than the case of *caki-casin*, no matter what their L1 was. However, the results with sub-commanding antecedent (i.e. non-UG property) did not support the hypothesis. This may be because knowledge of sub-commanding antecedent is non-UG property, which is more difficult for the L2 learners to acquire and more complex for them to process.[10]

Finally, Hypothesis 3 about non-structural binding properties (i.e. Type *d* and

[10] Further discussion of the UG property (i.e. knowledge of L2 learners about Form-Function correlation) is provided in the next section.

e) was partially supported. That is, the monolinguals showed significantly more acceptance rates compared to the L2 learners with the given types of sentences, which supports the Hypothesis 3. On the other hand, Chinese group did not show more preference over subject antecedents than non-subject antecedents, contrary to the original prediction from the hypothesis.

The results of the present study provide us with several implications. First, it is not the case that L1 transfer is always shown in the expected area of L2 system. Second, though incomplete, L2 learners may acquire some knowledge related to the Form-Function correlation of different types of anaphors (i.e. knowledge available from access to UG), which enable them behave similarly with the native speakers with different anaphors. Third, UG-related properties (i.e. TSC violation and form-function correlation of the anaphors) should be acquired more easily than language-specific properties (i.e. sub-commanding and non-structural binding), since L2 learners performed better with the UG properties compared to the non-UG properties.

5.2 Further Discussion of the Results

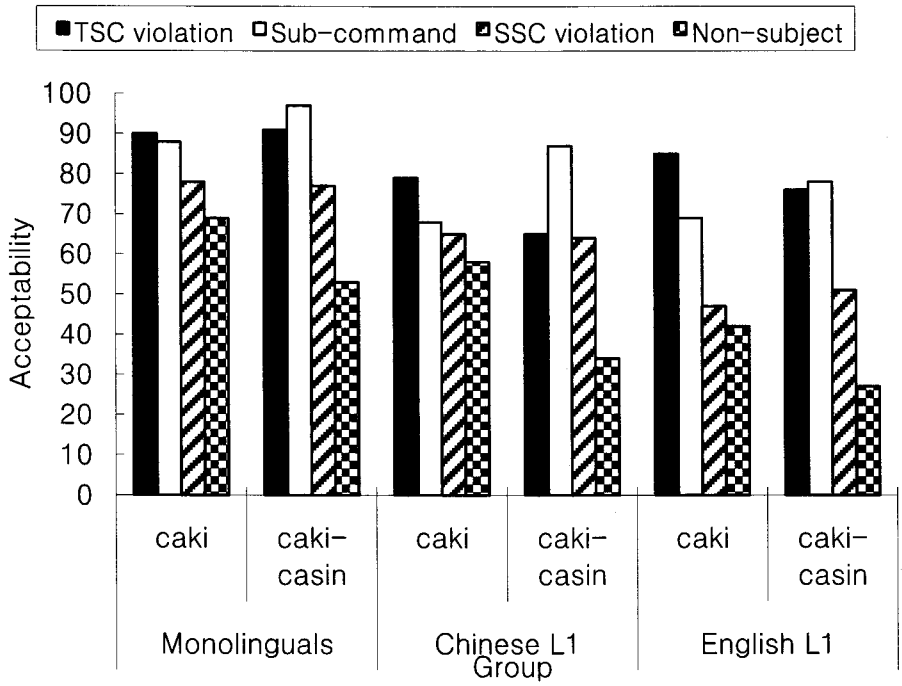
There are several patterns of the results which are worth being pointed out additionally. First, English group did not show transfer effect with *caki*, though they showed the expected transfer with *caki-casin* in the sentences representing TSC only violation (i.e. binding outside English GC). One possible explanation can be the following: English L1 group may have treated *caki* as an anaphor that does not exist in English. Due to its simplex form, they may guess that *caki* differs from English complex anaphor (i.e. *pronoun-self* form) and distinguish it from the typical properties of complex anaphors. That might lead them to accept *caki* to violate TSC and its antecedent to violate strict c-command condition.

On the other hand, English group may have treated *caki-casin* more like the anaphor in their L1, due to its complex form. Therefore, they showed lower acceptance rates consistently with sub-commanding antecedent, which is not possible with English complex anaphor in core binding. Also, it would be difficult for them to accept non-structural pragmatic binding of L2 anaphor *caki-casin*, when it is bound by a non-subject antecedent and bound violating SSC. Therefore, they may have kept showing lower acceptability with non-structural binding and long-distance binding, which are not very often in their L1 binding. This pattern of the results can reflect the discussion of the Form-Function correlation and provide indirect support for Hypothesis 2.

Second, Chinese group showed significantly less acceptance rates even with the sentences where no transfer effect is expected (i.e. TSC violation, sub-commanding etc.). This is hard to explain, but Chinese L1 group strangely showed lower acceptability with overall sentence types, compared to the English group. Since the subjects' proficiency in Korean language may have affected the significance of the result pattern in comparison of Korean monolinguals and English group, I attempted to compare overall pattern of the results among groups, regardless of the statistical significance.

The comparison of the pattern of the responses with *caki* and *caki-casin* among three groups showed an interesting pattern. That is, even though the rates of ac-

ceptability are different among three groups, the pattern drawn from the responses of the three groups is very similar. The pattern of the responses in each group by different sentence types is shown in Figure 2.



[Figure 2] Group responses with *caki* and *caki-casin*

As we can see from Figure 2, though the L2 groups show different rates of acceptances compared to monolinguals in each sentence type, similar patterns of the results are shown. For example, i) higher acceptability of sub-commanding antecedent with *caki-casin* compared to *caki* (i.e. the pattern represented by white bars in the graph) , ii) similar degree of acceptance between *caki* and *caki-casin* when they are bound long-distance (i.e. SSC violation, the pattern represented by striped bars), iii) relative drop of acceptability with *caki-casin* compared to *caki*, when they are bound by non-subject antecedent (i.e. the pattern represented by the bars with checker board) are consistently shown across different groups.

This pattern of results seems to provide us important understanding of how L2 learners acquire binding properties of L2 anaphors. It seems that L2 learners may have some understanding of form-function correlation of anaphors, which may results in the similar responses between the monolinguals and the L2 learners. However, their understanding is incomplete, partially because of L1 transfer and incomplete acquisition of L2 binding system. This can also provide additional support to Hypothesis 2 concerning form-function correlation.

Finally, there are some limitations of the present study. First of all, the number of subjects in each group is not balanced, since it was difficult to find late L2

learners of English L1 speakers whose proficiency in Korean was at least or higher than the intermediate level. In addition, there was age-difference between Korean monolinguals and the L2 groups: While Korean monolingual group was recruited mostly from the group of people in their 40s, most of the L2 learners were younger and in their 20s -30s.

Further studies should be designed to minimize these types of experimental limitations to attain more valid interpretations of the test results. Also, similar studies with the other types of anaphors such as *casin* and *pronoun-casin* should also be conducted to see if their properties are similar to *caki* or *caki-casin* tested in the present study.

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APPENDIX. LIST OF SENTENCES USED IN THE TASK

A. Sentence types (72 sentences total)

1) No TSC violation:1

a. Caki

True 3

나는 [철수가 영호에게 자기의 숙제를 보여주었다]고 생각한다.
나는 영미가 신희에게 자기의 일기장을 보여주었다고 생각한다
나는 용준이가 지우에게 자기의 마음을 표현했다고 생각한다

False 3 (Provided with a false story to elicit FALSE responses)
나는 국진이가 미경이에게서 자기의 책을 돌려받았다고 알고 있다
나는 현숙이가 종수에게 자기의 입장을 이해시켰다고 알고 있다
나는 혜석이가 혜연이에게서 자기의 사진들을 돌려받았다고 알고 있다

b. Caki-casin

True 3

나는 영선이가 남규에게 자기자신의 사진을 보여주었다고 들었다
나는 병국이가 훼린이에게 자기자신의 비밀을 알려주었다고 들었다
나는 상훈이가 현미에게 자기자신의 과거를 이야기 해 주었다고 들었다

False 3 (Provided with a false story to elicit FALSE responses)
나는 지은이가 가족에게만 자기자신의 홈페이지를 공개한다고 알고 있다
나는 지혜가 한 학생에게만 자기자신의 경험을 이야기 했다고 알고 있다
나는 원정이가 가족에게만 자기자신의 생각을 이야기 한다고 알고 있다

[Total: 12]

2-1) TSC-only violation 1

a. Caki

True 3

- [영희가 수미에게 [이번 게임에서 자기가 우승할 것이라고] 말했다.
용대가 지은이에게 이번 시험에는 자기가 꼭 1등을 할 거라고 말했다
대성이가 갑성이에게 지난 주에 있던 가창대회에서 자기가 우승했다고 말했다

False 3 (Provided with a false story to elicit FALSE responses)

대성이가 정현이에게 지난번 대회에서는 자기가 가장 노래를 잘 했다고 말했다
영신이가 창현이에게 이 마을에서는 자기가 가장 똑똑하다고 말했다
상화가 상현이에게 군대에 대해서 자기가 가장 많이 알고 있다고 말했다.

b. Caki-casin

True 3
- [영수가 철이에게 [이번 대회에서는 자기자신이 우승할 것이라고 말했다.
지은이가 상훈이에게 이번 학기에는 자기자신이 꼭 1등을 할 거라고 말했다
현미가 영선이에게 지난 주에 있던 요리대회에서 자기자신이 우승했다고 말했다

False 3 (Provided with a false story to elicit FALSE responses)
남규가 병국이에게 이번 겨울에는 자기자신이 꼭 교회 주차장을 살 거라고 말했다
혜영이가 정호에게 이번 봄에는 자기자신이 꼭 거실 분위기를 바꾸겠다고 약속했다
은혜가 지은이에게 이번 방학에는 자기자신이 꼭 중국에 나갈거라고 말했다

2-2) TSC-only -violation 2.

a. Caki

True 3
영희가 수미에게 [어제밤에 자기 동생이 길거리에서 체포되었다]고 말했다.
지현이가 남주에게 어제밤에 자기 어머님이 시골에서 오셨다고 말했다.
현준이가 석규에게 내일 자기 여자친구가 모임에 나올 거라고 말했다

False 3 (Provided with a false story to elicit FALSE responses)
하균이가 준호에게 일주일 전에 자기 애인이 다른 남자를 만난다고 말했다
석준이가 지은이에게 내일 자기 누나가 미국으로 떠난다고 말했다
원정이가 효진이에게 지난번 시험에서 자기 성적이 제일 좋았다고 말했다

b. Caki-casin

True 3
영주가 수정이에게 월요일밤에 자기자신의 동생이 체포되었다고 말했다.
지민이가 현주에게 어제밤에 자기자신의 친구가 학교로 찾아왔다고 말했다.
현진이가 석균이에게 내일 자기자신의 어머니가 학교에 오실 거라고 말했다

False 3 (Provided with a false story to elicit FALSE responses)
영선이가 현미에게 이번 학기에 자기자신의 남편이 공부를 열심히 한다고 말했다
병국이가 창현이에게 어제 자기자신의 아내가 무척 화가 났다고 말했다
소영이가 시라에게 오늘 자기자신의 남자친구가 약속시간에 늦었다고 말했다

[Total: 24]

3) Sub-commanding antecedents

a. Caki

True 3

나는돈에 대한 현희의 지나친 욕심이 자기를 더욱 가난하게 만든다고 생각한다

나는남편에 대한 영자의 헌신적인 사랑이 그 상황에서는 자기를 더욱 비참하게 만들었다고 생각한다

나는 외모에 대한 경현이의 열등감이 자기를 더욱 미워하게 만든다고 생각한다

False 3 (Provided with a false story to elicit FALSE responses)

나는 현지의 동생이 자기를 더욱 화가 나게 만들었다고 생각한다

나는 미자의 남자친구가 자기를 더욱 자신감이 없게 만든 장본인이라고 생각한다

나는 경훈이의 아내가 자기를 더욱 좋은 남편으로 만들고 있다고 생각한다

b. Caki-casin

True 3

나는 물질에 대한 연희의 터무니 없는 욕심이 자기자신을 더욱 비참하게 만든다고 생각한다

나는 하나밖에 없는 동생에 대한 영준이의 무조건적인 사랑이 자기자신을 매우 불리한 상황으로 몰고 가고 있다고 생각한다

나는 외모에 대한 경희의 지나친 자신감이 자기자신을 더욱 고집스럽게 만든다고 생각한다

False 3 (sub-commanding by animate NP)

나는 연정이의 남편이 요즘 자기자신을 매우 짜증나게 만든다고 생각한다

나는 평수의 여자친구가 요즘 자기자신을 아주 무력하게 만든다고 생각한다

나는 우연이의 딸이 자기자신을 더욱 참을성이 많은 엄마로 만든다고 생각한다

[Total: 12]

4) Non-subject antecedent

a. Caki

True 3

나는 [원희가 창열이를 자기의 부모님에게로 데려다 주었다]고 알고 있다

나는 지은이가 정현이를 자기의 방으로 돌려보내 주었다고 알고 있다

나는 혜화가 일영이를 자기의 친구들에게로 보내 주었다고 들었다

False 3 (fillers): split binding
영희는 (1) *철수에게 (2)* **자기가 (1)** 소개시켜준 친구가 *자기자신의 (2)* 가방을 훔쳐갔느냐고 물어보았다
영희는 (1) *철수에게 (2)* **자기자신이 (1) 그린 그림이** 파리에 있는 *자기 (2) 가* 경영하는 박물관에 아직도 전시되어 있냐고 물어보았다
영희는 (1) *철수에게 (2)* **그 자신이 (1) 제출한 작품이** *자기자신이 (2)* 유럽으로 가져갈 작품들 중에 포함되어있냐고 물어보았다

b. Caki-casin
True 3
나는 원정이가 효진이를 자기자신의 언니에게로 데려다 주었다고 알고 있다
나는 대성이가 갑성이를 자기자신의 방으로 돌려보내 주었다고 알고 있다
나는 혜선이가 보영이를 자기자신의 친구들에게로 보내 주었다고 들었다

False 3 (fillers): split binding
영희는 (1) *철수에게 (2)* **자기가 (1)** 소개시켜준 친구가 *자기자신의 (2)* 가방을 훔쳐갔느냐고 물어보았다
영희는 (1) *철수에게 (2)* **자기자신이 (1) 그린 그림이** 파리에 있는 *자기 (2) 가* 경영하는 박물관에 아직도 전시되어 있냐고 물어보았다
영희는 (1) *철수에게 (2)* **그 자신이 (1) 제출한 작품이** *자기자신이 (2)* 유럽으로 가져갈 작품들 중에 포함되어있냐고 물어보았다

[Total: 12]

5) SSC-violation
a. Caki
True 3
희라는 동창회가 자기가 다음주에 결혼한다는 사실을 이미 발표했다고 말했다.
은호는 학생회가 재정에 관해서는 자기를 지나치게 믿고있다고 생각한다.
동수가 자기를 도둑이라고 신고했을 때, 민수는 아무것도 모르고 동생들과 놀고 있었다.

False 3 (Provided with a false story to elicit FALSE responses)
선우는 학생회가 자기가 다음주에 한국을 떠난다는 사실을 이미 발표했다고 말했다.
세희는 학생회가 광고선전에 관해서는 자기를 지나치게 믿고있다고 생각한다.

세준이가 자기를 도둑이라고 신고했을 때, 혜련이는 아무것도 모르고 잠을 자고 있었다.

b. Caki-casin

True 3

희연이는 여선교회가 자기자신이 다음주에 미국으로 간다는 사실을 이미 발표했다고 말했다

영석이는 청년회가 돈 문제에 관해서는 자기자신을 지나치게 믿고있다고 생각한다.

석주가 자기자신을 도둑이라고 신고했을 때, 정연이는 아무것도 모르고 방에서 숙제를 하고 있었다.

False 3 (Provided with a false story to elicit FALSE responses)

선혜는 문화부가 자기자신이 다음주에 연극을 한다는 사실을 이미 발표했다고 말했다.

예호는 여성복지회가 대외관계에 관해서는 자기자신을 지나치게 믿고있다고 생각한다.

내가 자기자신을 도둑이라고 신고했을 때, 정민이는 아무것도 모르고 학회에서 발표를 하고 있었다.

[Total: 12]

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