# Challenging a Single-Factor Analysis of Case Drop in Korean

Eun Seon Chung * †

Sungkyunkwan University

**Eun Seon Chung. 2015. Challenging a Single-Factor Analysis of Case Drop in Korean.** *Language and Information 19.1*, 1–18. Korean marks case for subjects and objects, but it is well known that case-markers can be dropped in certain contexts. Kwon and Zribi-Hertz (2008) establishes the phenomenon of Korean case drop on a single factor of f(ocus)-structure visibility and claims that both subject and object case drop can fall under a single linguistic generalization of information structure. However, the supporting data is not empirically substantiated and the tenability of the f-structure analysis is still under question. In this paper, an experiment was conducted to show that the specific claims of Kwon and Zribi-Hertz's analysis that places exclusive importance on information structure cannot be adequately supported by empirical evidence. In addition, the present study examines H. Lee's (2006a, 2006c) multi-factor analysis of object case drop and investigates whether this approach can subsume both subject and object case drop under a unified analysis. The present findings indicate that the multi-factor analysis that involves the interaction of independent factors (Focus, Animacy, and Definiteness) is also compatible with subject case drop, and that judgments on case drop are not categorical but form gradient statistical preferences. (**Sungkyunkwan University**)

**Key words:** Korean case drop, case marking, syntax, semantics, information structure, multi-factor analysis

## 1. Introduction

In a free-order language like Korean, case is seen to play a central role in argument licensing, in the signaling of grammatical functions, and also in marking properties

* I would like to thank the audience of The 2010 Seoul International Conference on Linguistics (SICOL 2010) who gave helpful feedback on the study as well as the participants in the experiments. I also thank Dr. Hye Suk James Yoon for his comments and guidance on this study. All remaining errors are my own.

† Sungkyunkwan University. TESOL Center, 53 Myeongnyun-dong 3-ga, Jongno-gu, Seoul 110-745, Korea, E-mail: prolingesc@gmail.com

of information structure. Korean is a language that marks nominative case for subjects (*-ka/-i*) and accusative case for objects (*-lul/-ul*) and also allows optional case-marking in which the case-marker can be dropped in certain contexts. The following sentences in (1) demonstrate this phenomenon of case drop in Korean.

(1) a. Na- Ø pap-Ø an-mek-e
I- Ø food-Ø not-eat-Ind
'I don't want to eat'

b. Mary-*ka* sakwa-Ø mek-nun-ta.
Mary-Nom apple-Ø eat-Nonpst-Dec
'Mary is eating an apple'

c. Onul Minsu-Ø hakyo-ey ka-ss-e
Today Minsu-Ø school-Loc go-Pst-Ind
'Minsu went to school today'

As (1) shows, both subjects and objects can appear without case marking, and this phenomenon can be frequently found in colloquial speech. Case drop in Korean bears many similarities with case drop in Japanese and has been extensively investigated. Both linguistic and non-linguistic factors were found to play a role in the phenomenon: Stylistic factors such as formality of the extralinguistic context and familiarity among interlocuters (Ko 2000; Lee and Thompson 1985), pragmatic factors in which idiomatic, figurative/metaphorical meanings are triggered by case drop (S. Lee 2006), discourse/semantic factors such as specificity and definiteness (Enc 1991; D. Lee 2002; D. Kim 1993), focus and information status (Kwon and Zribi-Hertz 2008; Ko 2000), syntactic factors such as the adjacency of the noun phrase (NP) to the predicate (Fry 2001), and morphological or syntactical weight of the object NP (Mori and Givón 1987). Despite the various descriptions of the phenomenon, its exact nature still remains elusive and the relationship between these factors is not clearly established. Such a variety of proposals suggests that case drop hinges on a number of different factors, but few works have provided a systematic analysis that simultaneously examines these factors together.

Among the many previous works above, this paper will closely inspect two different analyses put forth under distinctive frameworks and evaluate their tenability by presenting new experimental data. The present study will especially examine the claims of Kwon and Zribi-Hertz's (2008) single-factor analysis that place exclusive importance on information structure. Kwon and Zribi-Hertz's (2008) bold proposal establishes the phenomenon on a single factor of focus-structure visibility and disclaims the systematic correlations between semantic markedness and morphological marking that is predicted by Aissen's (2003) theory of differential marking. While previous works (Lee 2006a; Ko 2000) have already shown that information structure and focus play an important role in determining case drop, the authors are the first to place exclusive importance on information structure. Their analysis suggests that judgments on case-marked and bare forms will be categorical in nature, and that both subject and object case drop can fall under this framework. As intriguing as this analysis sounds, it faces problems as the supporting data and

its interpretations are not empirically tested and may not be systematically agreed upon by other native speakers of Korean. The claims of a single-factor analysis must be supported by appropriate empirical evidence, and the present study will test their claims using experimental data. In contrast to the single-factor analysis, Lee (2006a) proposes a multi-factor analysis in which a combination of independent factors of information status and markedness interact to determine the alternation between case marking and case drop. Lee provides robust empirical support for this analysis through a series of corpus and experimental studies (2006a, 2006c), but while such analysis has been attested for object NPs, it is unclear whether such analysis can be extended to subject case drop. Therefore, Lee's analysis of case drop based on the interaction of multiple independent factors will be reexamined in light of subject case drop through an elicitation experiment similar to what has been previously conducted for object case drop (Lee 2006a).

In sum, the goals of this paper are twofold. First, I will test a single-factor analysis of Korean case drop using experimental data and show that a framework in which only one factor determines categorical distinction between case-marked vs. case-dropped forms is not tenable. The second goal is to re-evalute a multi-factor analysis of object case drop by extending its claims to subject case drop and to discuss the implications for a unified explanation. The remainder of this article is organized as follows: Section 2 introduces the main tenets of the two analyses and their relevance to the present study. Section 3 describes the experimental studies and presents the results. Lastly, section 4 discusses, and section 5 concludes.

## 2. Background

### 2.1 Single-factor Analysis of Case Drop

Kwon and Zribi-Hertz's (2008) employ Erteschik-Shir's (1997) theory of focus-structure in which foci (new information) and topics (presupposed or old discourse referents) are always paired up, linked by either (neutral) predication or the restriction relation that "involves selection of an entity out of a topical set" (Kwon and Zribi-Hertz, 2008:266) with contrastive effects. In this framework, no clause can be made up solely of a focus (i.e., must always be paired up with a topic), and topics can only be assigned to syntactic constituents that are nominal by nature. Using various f(ocus)-structure patterns, the authors examine the interpretive properties of Korean case drop using different contrasts. The leading assumptions under this framework are restated as follows:

(2) a. NPs that support functional markers [1](i.e. case-markers) indicating structural positions in syntax are visible in f-structure

[1] The authors include the topic marker -*nun* in their categorization of "functional markers": They claim that -*nun* does not relate to topichood in the same fashion as the subject marker -*ka*, as they always stand as matrix f-structure topics regardless of their embedded f-structure. I will keep the scope of the present paper to the authors' arguments regarding the nominative and accusative case markers only, for the inclusion of the topic marker in the assumptions of an information structure analysis is more or less evident.

b. NPs that fail to support such markers are not visible in f-structure, unless some other type of marking guarantees their visibility as f-structure constituents.
(Kwon and Zribi-Hertz, 2008:279)

Put more simply, the authors argue that bare subjects and objects are not visible at the level of f-structure and can never be construed as topics or foci while case-marked NP can stand as f-structure constituents. For example, a bare object is not visible in f-structure and would fail to be a felicitous response to a wh-question bearing on the object. Wh-phrases call for new information that can receive focus, and therefore, (3b) would not be a felicitous answer to the question 'What is Minsu looking for?' in the example below.

(3) (What is Minsu looking for?)

a. Minsu-ka kawi-lul chac-ko-iss-ta.
Minsu-Nom scissors-Acc look.for-Prog-Decl.

b. *Minsu-ka kawi-Ø chac-ko-iss-ta.
Minsu-Nom scissors-Ø look.for-Prog-Decl.

As such, the authors compare and contrast the interpretive effects of case-marked vs. bare NPs throughout the paper aligning the sample data (the source for which is not clear) with their theory of f-structure visibility. According to their analysis, bare and case-marked objects display differences in semantic incorporation, the type of reading they receive, and the ability to support modifiers, activate topics, and be a felicitous response to wh-questions bearing on the object. The authors' main claims about object case drop are summarized in Table 1 below.

[Table 1] Properties of case-marked vs. bare oubjects

| **Properties** | **Case-marked** | **Bare** |
|---|---|---|
| Semantic incorporation | NO | YES |
| Type of Reading | Compositional/ Literal | Metaphorical/ Idiomatic |
| Modifiers | YES | NO |
| Response to Wh-Q bearing on obj | YES | NO |
| Activates topics | YES | NO |

In addition to such contrasts, the authors introduce two types of bare objects—'internally restricted' and 'internally unrestricted' bare objects (IRO and IUO respectively, henceforth) —that have different interpretive properties. While the IROs generally display the bare-object characteristics in Table 1 above, IUOs are less restricted in their internal syntactic make-up as the name suggests and can

support modifiers, refer to proper names and relativized NPs, and form clauses granted that they do not form f-structure constituents on their own. That is, IUOs are allowed in more diverse contexts than the IROs, but they must undergo f-structure incorporation into a larger f-structure constituent by being either left out of the f-structure or incorporated within the focus of a thetic (event-reporting or presentational) clause.

Similarly, the authors claim that the differences in f-structure visibility status of bare and case-marked subjects lead to differences in the type of reading they receive, and the ability to support different tenses, modifiers, and stage-level predicates. Bare subjects always occur in tense-deficient clauses anchored to speech time and receive a definite or thetic interpretation that is included within the matrix focus. The authors' main claims about subject case drop are summarized in Table 2 below.

[Table 2] Properties of case-marked vs. bare subjects

| Properties | Case-marked | Bare |
|---|---|---|
| Reading | Both indefinite and definite readings | Definite/accessible reading only |
| Tense | Unrestricted | Present tense only |
| Modifiers | YES | Restricted |
| Stage-level predicates | YES | Restricted |

As illustrated above, the authors suggest that both object and subject case drop can be characterized under a unified analysis of f-structure. However, the authors do not explicitly mention the source of their data, and it remains to be seen whether or not their claims and interpretations can be supported by empirical evidence.

### 2.2 Multi-factor Analysis of Case Drop

Lee (2006a, 2006c) conducted a series of corpus and experimental studies and found that independent factors of Focus, Animacy, and Definiteness simultaneously determine Korean case drop. Lee describes the patterns of case drop in terms of Aissen (2003)'s animacy and definiteness hierarchies in differential marking whereby prototypical objects with inanimate and indefinite features will undergo case drop more frequently than those with features that are less frequently associated to objecthood. Likewise, prototypical subjects with animate and definite features will undergo case drop more frequently than those with features that are less frequently associated to subjecthood. These predictions have been borne out in the data drawn from the CallFriend Korean (CFK) corpus (Lee 2006c) as well as in subsequent experimental studies (Lee 2006a), and Lee observes that such quantitative patterns reflect "the cross-linguistic tendency to mark more marked or less prototypical types of arguments" (Lee 2006c: 214). Here, Lee uses the term 'Markedness' to refer to the parameters of Animacy and Definiteness of arguments that determine how marked those arguments are as subjects or objects. Taken together, it seems

quite uncontroversial to say that Animacy and Definiteness have a significant effect on the alternation between case-marked vs. unmarked forms.

In addition to the effects of Animacy and Definiteness, Lee also integrates the effects of information structure in her analysis. Previous research claims focus to be one of the most prominent factors affecting case drop, and numerous studies have argued that contrastively focused NPs cannot undergo case drop (Ko 2000; K. Kim 1990; Choi 1995). Similarly, Lee examines how different types of focus (i.e., completive vs. contrastive) affect rate of case-drop in Korean. [2] Completive focus involves new information such as a response to a yes-no or WH-question, while contrastive focus involves an explicit choice among the limited set of contextually given alternatives. Being 'counter-presuppositional', contrastive focus introduces the notion of complexity and is predicted to incur a higher rate of case-marking than completive focus.

In an elicitation experimental study with 132 native speakers of Korean, Lee (2006a) found that Focus, Animacy, and Definiteness simultaneously and independently determine object case-marking with Focus having a greater effect than Markedness, and Animacy having a greater effect than Definiteness. As predicted, conditions with high features in all three factors (i.e., Contrastive Focus, Human, Definite) favored overt case-marking whereas conditions with low features (i.e., Non-contrastive Focus, Inanimate, Indefinite) favored case drop. Speakers' judgment patterns of case drop in this study formed a gradient cline leading to the conclusion that judgments on case drop are not categorical but are statistical preferences.

Lee initially describes the workings of the three factors in terms of iconicity of complexity (Lee 2006b) in which structural complexity is correlated with conceptual complexity: Nominals are case-marked when they are conceptually complex and marked, and bare when they are natural and unmarked. However, Lee (2010) admits that this proposal cannot account for certain patterns in case drop and proposes an alternative account that is probability-based (i.e., usage-based) and is explained in terms of economy. In this proposal, the more predictable and frequent an argument is, the more likely it is to be case-dropped. There is an inverse relationship between probability/frequency and linguistic form, and case-markers signal infrequent and less predictable arguments. This account of case drop is corroborated in Lee's subsequent works of contrastively focused arguments (2011a) and subject-object asymmetry (2012). As such, Lee successfully ties the three factors of information status and markedness together into a unified account to describe the phenomenon of Korean case drop. While it is implied that this proposal can account for both objects and subjects, the elicitation experiment that has been done for objects in Lee (2006a) has not been conducted for subjects, and it remains

[2] In her more recent work, Lee (2011b) found that different subtypes of contrastive ('replacing focus' and 'selecting focus') and non-contrastive ('informational focus') focus have different preferences for case marking and case drop. Lee concludes that rather than the distinction between contrastive and non-contrastive focus, it is the interaction of the strength of contrastiveness and the degree of the accessibility of an object that determine the different patterns in case variation.

unexamined whether or not the three factors also have the same effect on subject case drop.

In the following section, I present an experimental study that 1) tests the interpretive effects of Kwon and Zribi-Hertz's f-structure analysis and 2) replicates Lee's previous elicitation task with subject NPs. I will show that empirical problems render a single-factor analysis untenable and provide further empirical evidence for Lee's multi-factor analysis by extending its claims to subject case drop.

## 3. The Study

### 3.1 Experiment 1: Acceptability Judgment Task

**3.1.1 Method.** To test the interpretative effects of the single-factor f-structure analysis, an Acceptability Judgment Task (AJT) was conducted with three different age groups of native Korean speakers to control for possible generational differences in dialect and judgment in case drop: Group A consisted of 18 year-old students in their last year of high school in Korea, Group B consisted of people in their 20-30s, and Group C in their 40-50s. A total of 60 participants participated with 20 in each group. All participants were recruited and tested in Korea with a few exceptions in Group B who were recruited in the US. Those recruited in the US were graduate students who had never been to an English-speaking country before adolescence.

The experimental conditions reflected the distinct claims of Kwon and Zribi-Hertz's analysis: The experimental design for object case drop crossed two different types of focus (Neutral vs. Restrictive focus) with two different types of bare objects (Internally Restricted vs. Internally Unrestricted). Neutral focus has a typical argument-focus reading while Restrictive focus involves an explicit choice among alternatives. The effects of modifiers, anaphor topics, as well as the Wh-question operator were also examined within these conditions as shown in Table 3[3] below. A total of 18 items on object case drop were included in the AJT.

For subject case drop, the factors of focus types and topichood were crossed while varying in animacy. Focus was categorized into three different types: 1) Neutral focus with a typical argument-focus reading, 2) Restrictive focus, which involves an explicit choice among alternatives, and 3) Thetic focus where no argument focus is present. Topichood was divided into topical subject vs. non-topical subject, and $3^{rd}$ person was examined independently from $1^{st}$ and $2^{nd}$ person subject NPs. In each condition, the effects of animacy (Human vs. Inanimate) were also examined. For the [+Thetic, -Topic] condition, not only animacy but also effects of definiteness, tense, modifiers, and stage predicates were examined in order to accurately test the claims of Kwon and Zribi-Hertz's analysis. There was a total

[3] The number in parenthesis denotes the number of items for each condition. While it would be ideal to have more than one or two test items per condition to test whether or not the parameters in question indeed have an effect on case drop, having a small number of items is not a problem for the present purpose of refuting the specific claims of Kwon and Zribi-Hertz's f-structure analysis. (Abbreviations: [Human3]= $3^{rd}$ person, [Human1/2]=$1^{st}$ or $2^{nd}$ person, [S.Pred]= Stage Predicate, [Pst] = Past, [+/-Def.]= Definite/Indefinite, [+/-Sing.]= Singular/Plural)

[Table 3] AJT Experimental design for object case drop

| | **Neutral Focus [N.Foc]** | **Restrictive Focus [R.Foc]** |
|---|---|---|
| **Internally Restricted Objects [IRO]** | [+Modifier] (1)<br>[+Wh-Q] (1)<br>[+Modifier, +Wh-Q] (1) | [+Modifier] (1)<br>[+Wh-Q] (1)<br>[+Modifier, +Wh-Q] (1) |
| | [Human3, +Wh-Q] (1)<br>[Inanimate, +Wh-Q] (1)<br>[Human3, +Anaphor Topic] (1)<br>[Inanimate, +Anaphor Topic] (1) | [Human3, +Wh-Q] (1)<br>[Inanimate, +Wh-Q] (1) |
| **Internally Unrestricted Objects [IUO]** | Modified focused *–ka* subj<br>1. [Human3] (1)<br>2. [Inanimate] (1) | Referential bare objects<br>1. Proper name (1)<br>2. Relativized NP (1) |
| | Clausal bare object<br>1. Assumption (1)<br>2. Knowledge (1) | |

of 24 items for subject case drop as shown in Table 4 below.

[Table 4] AJT Experimental design for subject case drop

| | **[N.Foc]** | **[R.Foc]** | **[Thetic]** |
|---|---|---|---|
| **[+Topic]** | [Human3] (1)<br>[Inanimate] (1) | [Human3] (1)<br>[Inanimate] (1) | N/A |
| **[-Topic]** | [Human3] (1)<br>[Inanimate] (1) | [Human3] (1)<br>[Inanimate] (1) | [Human3] (1)<br>[Inanimate] (1)<br>[Human3, -Def, +Pst,] (1)<br>[Inanimate, -Def, +Pst] (1)<br>[Human3, +Def, +Pst] (1)<br>[Inanimate, +Def, +Pst] (1)<br>[Human3, +Modifier] (1)<br>[Inanimate, +Modifier] (1)<br>[Human3, +S.Pred] (1)<br>[Inanimate, +S.Pred] (1) |
| **[Human1/2]** | (1) | (1) | [+Sing.] (1)<br>[-Sing.] (1)<br>[+Pst] (2) |

In the AJT, each participant was given a questionnaire in paper-and-pencil format that contains short casual conversations between two speakers. They were asked to decide whether the sentences sound "natural/acceptable" or "unnatural/unacceptable" in the context of the conversation. If they circled "unacceptable", they were asked to mark the word/s in the sentence that made it awkward.

The number of bare vs. case-marked NPs was counterbalanced, and two different scripts were created. Each participant only saw one script. In addition to the 42 test items in subject and object case drop above, 18 filler items were included. Since it was predicted that the participants will judge most test items as sounding "natural" in the given contexts, the fillers were all unacceptable cases so as to balance out the possible number of acceptable vs. unacceptable cases. A translated sample item from the questionnaire is provided in (4) below.

(4) Subject: [+Thetic, -Topic, Human3, -Def, +Pst]

A. Mwusun sayngkak-hay?
What thought-do?
'What are you thinking?'

B. Caknyen-eynun salam-tul-**i**(Script 1)/salam-tul-**Ø**(Script 2)
last year-TEMP people-PL-**NOM**(Script 1)/people-PL-**Ø**(Script 2)
congkang-moim-ey mani wa-ss-nun-tey
end-of-the-year-party-LOC many come-PST-CONJ
ipen-ey-nun nemu an wa-ss-e.
this time-TEMP-FOC very NEG come-PST-DECL.
'Many people-NOM/-Ø came to the end-of-the-year party last year, but hardly anyone came this year.'

In (4), the f-structure analysis would predict that speakers would judge the bare NP in B2 unacceptable, for bare subjects are only allowed in definite readings and present tense and are unable to support modifiers (i.e., many). Some target sentences were taken directly from the authors' supporting data to test the specific claims. For example, the sentence with a clausal bare object in (5) was taken directly from their example sentence (Kwon and Zribi-Hertz, 2008:281) that was used to contrast the interpretive effects of case drop in a nominalized object clause (assumption vs. knowledge).

(5) Object: [+IUO, Clausal bare object: Assumption]

A. Kay-ka tto cuin-i on-cul-**ul**(Script 1)/-**Ø**(Script 2)
dog-NOM again master-NOM come-REL-**ACC**(Script 1)/-**Ø**(Script2)
al-ko cic-ney.
think-COM bark-DECL.
'The dog is barking because it knows [that the owner is back]-ACC /[that the owner is back]-Ø.'

B. A sikkulewe! Ku ttong-kay-nun cuin-i oci-to
Ah so annoying! That darn-dog-TOP master-NOM come-COM

anh-ass-nun-tey hangsang wass-ta-ko sayngkak-ha-ko
NEG-PST-COMP always come-PST-DECL-COM think-do-COM
cic-e.
bark-DECL.
'So annoying! That darn dog never guesses right. The owner's not even here!'

According to the authors, in a context where the dog does not *know* for sure ('knowledge') but *thinks* ('assumption') that its owner came home as in (5), the speakers would accept A2 but reject A1. Their account predicts that the 'assumption' interpretation can only be brought out when the nominalized object clause is bare and undergoes incorporation with the verb *know*. As such, I examined the authors' specific claims using their sample data as well as my own.

The responses on the AJT were coded 1 for "acceptable/natural" and 0 for "unacceptable/unnatural". The corrections for sentences that were judged to be unacceptable were coded either [s] or [d] to indicate "unacceptable due to the *same* interpretive reasons put forth by Kwon and Zribi-Hertz" or "unacceptable due to reasons *different* from those of Kwon and Zribi-Hertz" respectively. Since the present study is only interested in looking at the interpretive effects of case-marking or case-drop that are relevant to Kwon and Zribi-Hertz's f-structure analysis, sentences that were judged to be incorrect due to different reasons (i.e., 0[d]) were treated as equivalent to 1. That is, factors other than parameters relevant to the f-structure analysis of case drop that influenced subjects' judgments on the acceptability of the target sentences were disregarded.

**3.1.2 Results.** The results of the AJT made clear that the specific claims of the f-structure analysis cannot be adequately supported by empirical evidence. The majority of the test items that should be ruled out as unacceptable under the f-structure analysis were judged to be acceptable as can be seen in Table 5 below. Overall, 89.7 % of sentences that were said to contain unacceptable interpretive effects of case marking or case drop were marked "acceptable/natural" or "unacceptable due to reasons *different* from those of Kwon and Zribi-Hertz", and only 9.4% of these sentences were marked "unacceptable due to the *same* interpretive reasons put forth by Kwon and Zribi-Hertz".

In addition, none of the items that are argued to be unacceptable had more than 33% of participants answer 0[s]. In fact, the test items that had the highest rate of 0[s] responses were judged so by merely 20∼33% of participants (see Table 6 below). The rest of the unacceptable conditions in the f-structure analysis were judged to be acceptable by more than 90% of the participants. It is also worth noting that some participants preferred the bare subject for an interpretation that should only be possible with case-marked subjects in the f-structure analysis and instead marked the case-marked subject as making the sentence sound awkward or unnatural. For sentences that Kwon and Zribi-Hertz deem acceptable, almost all participants answered "Acceptable/Natural". [4]

[4] We will not concern ourselves of the acceptable cases, for the nature of the empirical problem

[Table 5] Responses for "unacceptable" items in the f-structure analysis

| | Group A | Group B | Group C | **Average** |
|---|---|---|---|---|
| Acceptable/Natural (1) | 67.8% | 83.1% | 84.7% | **78.53%** |
| Unacceptable for different interpretive reasons (0[d]) | 14% | 9.5% | 10.2% | **11.23%** |
| Unacceptable for same interpretive reasons f(0[s]) | 16% | 7.1% | 5.1% | **9.40%** |
| Misc. or missing responses | 2.2% | 0.2% | 0% | **0.80%** |

[Table 6] Test items with the highest rate of 0[s] responses

| **Subject** | | **Object** | |
|---|---|---|---|
| Parameters | % | Parameters | % |
| [-Topic, +N.Foc, Human] | 20 | [+Wh-Q, +N.Foc, Human] | 30 |
| [-Topic, +N.Foc, Inanimate] | 20 | [+Wh-Q, +R.Foc, Human] | 23 |
| [-Topic, +R.Foc, Human] | 23 | [+IRO, +N.Foc, +Modifier] | 20 |
| [+Thetic, -Def, +Pst] | 23 | | |
| [+H1&2, +Thetic, Plural] | 23 | | |
| [+Topic, +R.Foc, Human] | 27 | | |
| [+Topic, +R.Foc, Inanimate] | 33 | | |

The results in Table 6 suggest that subject case drop may be somewhat influenced by topichood and the type of focus, and object case drop by the presence of a wh-Question operator and a modifier. However, the small number of 0[s] responses overall and the absence of a systematic pattern of judgments indicate that the focus structure of an NP does not exert *exclusive* influence on case marking or case drop as claimed by Kwon and Zribi-Hertz.

Group A (18-year-olds) provided the highest number of 0[s] responses overall and behaved in the most prescriptive manner among the three groups tested as can be seen in Table 5. Groups B (20-30s) and C (40-50s) never had more than half of the participants answer 0[s] on any single item, but the majority of the participants in Group A answered 0[s] on two test items in particular ([Subject: +Topic, +R.Foc, Inanimate] and [Object: +Wh-Q, +N.Foc, Human]). The two older groups did not show much difference in their judgments. While the difference in behavior by the youngest group could indicate generational differences in the usage of case, their prescriptive manner is speculated to have risen from the testing

in Kwon and Zribi-Hertz's paper that goes against native speaker intuition is that it deems acceptable cases to be 'unacceptable' but not vice versa.

environment. They were tested in a classroom setting unlike the two other groups who were tested individually by the experimenter. The classroom setting could have created a testing environment in which participants were consciously employing their knowledge of formal standard speech where case drop does not occur as frequently as in casual informal speech. Therefore, we speculate that Group A's responses reflect the different testing environment rather than a heightened sensitivity to the interpretive effects of the f-structure analysis. Notwithstanding the more frequent 0[s] responses by the youngest group than the two older groups, the percentage of these responses still remain insignificant compared to the responses of 1 and 0[d] and thus does not constitute adequate empirical evidence for Kwon and Zribi-Hertz's f-structure analysis.

### 3.2 Experiment 2: Elicited Production Task

**3.2.1 Method.** The same participants in the first experiment participated in the second task. In this task, H. Lee's (2006a) elicited production task with object NPs was replicated with subject NPs. As in Lee's previous study, three variables of 1) Focus (contrastive focus vs. non-contrastive focus), 2) Animacy (Human vs. Inanimate), and 3) Definiteness (definite vs. Indefinite) generated 8 experimental conditions in Table 7.

[Table 7] Elicited Production: Experimental Conditions

| Contrastive Focus | | | | Non-contrastive focus | | | |
|---|---|---|---|---|---|---|---|
| Human | | Inanimate | | Human | | Inanimate | |
| Def | Indef | Def | Indef | Def | Indef | Def | Indef |

Whereas Lee's study had 10 items per condition, the present study was smaller in scale and had 5 items per condition, 40 items altogether. Each participant was given a questionnaire that contained short conversations between two speakers. The choice of case-marked or unmarked forms of a subject was given within the conversations, and the participants were asked to choose one form that sounds more natural in the context of the conversation as intuitively and spontaneously as possible. A sample item from the questionnaire is provided in (6) below:

(6) [+Contrastive focus, Human, Definite] Condition

A. Cip-ey ssuleyki-ka kutaylo i-ss-ney.
house-LOC trash-NOM still be-PST-DECL.
Way an pelye-ss-e?
Why NEG throw-out-PST-DECL?
'Hey, the trash is still here. Why didn't you take out the trash?'

B. Tangsin-**i**/Tangsin-**Ø** pelin-ta-ko hay-ss-canh-a!
You-you-**NOM**/you-**Ø** throw-out-DECL-COMP say-PST-DECL!
'You said **you-NOM/you-Ø** were going to!'

**3.2.2 Results.** As in Lee's (2006a) experimental study with object NPs, the elicited production in this study analyzed the relationship among Focus, Animacy, and Definiteness to case drop by submitting the data to stepwise logistic regression using SPSS 17.0. According to Lee, binary logistic regression is an adequate statistical method to analyze the relationship between a binary dependent/response variable (selection of a bare or case-marked subject) and a set of independent/explanatory variables. As with object NPs, statistical analyses by means of logistic regression showed that the three factors are all significant predictors of case drop for subjects ($p < .001$, $p < .001$, $p < .001$, respectively). Therefore, the three distinct factors all simultaneously influence subject case drop as has been found for object case drop.

The relative frequency of bare subjects in (7) below shows how the two subject forms (i.e., case-marked vs. bare) are distributed over each factor. Similar to objects, bare forms were more frequent in the Non-contrastive focus condition than in the Contrastive focus condition. In accordance with the markedness reversals in the effects of Animacy and Definiteness hierarchies in differential marking (Aissen 2003), bare forms of subject NPs were more frequent in the Human condition than in the Inanimate condition and in the Definite condition than in the Indefinite condition.

(7) Relative distribution of bare subjects within the single factors

- Contrastive focus (18%) < Non-contrastive focus (82%)
- Human (65%) > Inanimate (35%)
- Definite (74%) > Indefinite (26%)

Focus exerted the strongest influence on the choice of subject forms, and Animacy seemed to have the least impact on the choice of subject forms. Overall, bare subjects were found most frequently in the [Non-contrastive Focus, Human, Definite] condition and least frequently in the [Contrastive focus, Inanimate, Indefinite] condition, which resonates with the predictions of Lee's multi-factor analysis. The frequency and percentage of bare subjects in each condition are displayed in Table 8.

[Table 8] Frequency and percentage of bare subjects

| Contrastive Focus | | | | Non-contrastive focus | | | |
|---|---|---|---|---|---|---|---|
| Definite | | Indefinite | | Definite | | Indefinite | |
| Hum | Inanim | Hum | Inanim | Hum | Inanim | Hum | Inanim |
| 20 (7%) | 19 (6%) | 27 (9%) | 2 (1%) | 157 (52%) | 90 (30%) | 49 (16%) | 23 (8%) |

When the frequency of bare subjects in each category shown in Table 8 was used

to predict the relative strength of the three factors using the chi-square test [5], significant strength relationships surfaced only when the factor in control was favorable to subject case drop (i.e., Non-contrastive focus, Human, Definite). That is, Focus had a stronger effect than Definiteness when the subject was human but not when it was inanimate. Similarly, Focus was stronger than Animacy when the subject was definite, but no significant relationship could be found when the subject was indefinite. Definiteness had a greater effect than Animacy when the subject was in non-contrastive focus, but no significant relationship could be found when the subject was in contrastive focus. These results are summarized in Table 9.

[Table 9] Strength Relationships of Each Factor

| **Factor in Control** | **Relative Strength** |
|---|---|
| Human | Focus > Definiteness*** ($X^2$=13.77, p < .001) |
| Inanimate | Focus > Definiteness ($X^2$=.41, p = .522) |
| Definite | Focus > Animacy*** ($X^2$=54.55, p < .001) |
| Indefinite | Animacy > Focus ($X^2$=.35, p = .555) |
| Contrastive Focus | Animacy > Definiteness ($X^2$=1.51, p = .220) |
| Non-contrastive Focus | Definiteness > Animacy*** ($X^2$=15.74, p < .001) |

Unlike what has been found for object case drop in which the relative strength of the three factors were significant in all comparisons (Lee 2006a), the relative strength of each factor in subject case drop hinged on the factor that is being controlled. The relative strength between the two factors in question was found to be significant when the control variable is favorable to subject case drop but insignificant when it is not. Nevertheless, the results of the significant relationships suggest that Focus is the strongest factor followed by Definiteness and then Animacy.

In order to compare across the three age groups, a One-way ANOVA was conducted on SPSS with group as a between-subjects factor. There was a significant main effect of group ($F(2) = 14.227$, $p < .001$), and post-hoc comparisons in Tukey HSD indicated that Group A's responses were significantly different from those of

[5] Following Lee's (2006a) logic of evaluating the strength of the three factors, the contexts in which one factor favors case drop and the other does not can tell much about which factor has precedence over the other. The logic of the predictions goes as the following: if, for example, contrastive focus is more important than definiteness in subject case drop, then bare subjects would be more frequent in the [-**Contrastive focus**][indefinite] condition than in the [+Contrastive focus][**definite**] condition (factors that favor case drop are in bold) when controlled for animacy. Using this logic and the frequency counts of bare subjects in each category/context, the difference between the expected frequencies and the observed frequencies in the chi-square test were used to determine the relative strength of each factor.

Group B and Group C ($p = .002$, $p < .001$ respectively). Groups B and C were not significantly different from each other ($p = .156$). Group A was least likely to use the bare form of subject NPs, which is speculated to have resulted from the different testing environment as aforementioned in the results for the AJT.

In sum, the results of the elicitation task found that the factors of Focus, Animacy, and Definiteness simultaneously determine subject case drop with Focus having a greater effect than Animacy and Definiteness as has been found for object case drop. However, the relative strength of Animacy and Definiteness was reversed, with Definiteness having a greater effect than Animacy. While the reason for such reversal is not clear, these results suggest that Definiteness may be a better predictor than Animacy for determining the prototypicality of subjects, while Animacy is a better predictor than Definiteness for determining the prototypicality of objects. Moreover, unlike the case of object case drop where the three factors were shown to *independently* determine case drop (i.e., independent effect), the factors were found to hinge on one another in subject case drop (i.e., dependent effect), as the relative strength between two different factors depended on the third factor that is being controlled. Despite such differences, the overall results of the experiment support Lee's analysis of case drop, and both object and subject case drop can be subsumed under Lee's multi-factor account. The similarities and differences between object and subject case drop are summarized in Table 10.

[Table 10] Object vs. Subject Case Drop

| | **Objects** | **Subjects** |
|---|---|---|
| Similarities | Focus > Markedness | |
| Differences | Animacy > Definiteness | Definiteness > Animacy |
| | Independent Effect | Dependent Effect |

## 4. Discussion

By providing empirical evidence against Kwon and Zribi-Hertz's f-structure analysis and reevaluating Lee H-J's multi-factor account of case drop with subjects, the present paper has found that case drop in Korean is not determined by a single factor but by the interaction of multiple factors. Kwon and Zribi-Hertz's analysis that crucially depends on information structure could not be substantiated by empirical data, as the interpretive effects of case drop could not be agreed upon by three groups of Korean native speakers. The participants not only allowed the interpretation that should not be possible under the f-structure analysis but also sometimes rejected the interpretations that should be acceptable in the f-structure analysis. The results of the AJT thus prove that case drop in Korean is subject to statistical preferences instead of being based on categorical distinctions. While several parameters put forth by Kwon and Zribi-Hertz such as non-topical contexts,

restrictive focus, and Wh-Q operator may indeed exert some influence in determining case drop, the number of responses matching the authors' predictions was too small to adequately validate their claims. Even Group A that was most prescriptive among the three groups provided answers that are favorable to the f-structure analysis in only a small insignificant number of test items. This study managed to counter the claims of Kwon and Zribi-Hertz by providing empirical evidence that minimizes the role of information structure, but the present data is insufficient to delve into the question of whether some f-structure related parameters do indeed have an effect on case drop. Several factors have been found to allow case drop more than others, but would need to be further confirmed in future studies due to the small number of test items in the present test design.

The results of the elicited production task found that Lee's analysis of case drop as involving the interaction of multiple factors can be extended to subject case drop. The three factors of Focus, Animacy, and Definiteness all had a significant effect on subject case drop with Focus having the strongest effect as has been found for object case drop. The more predictable and prototypical a subject is in Animacy (Human) and Definiteness (Definite) the more likely it was to be case-dropped. Also, subjects that are contrastively focused are less predictable than non-contrastively focused counterparts and were much more likely to be case-marked. As such, the present results provide further empirical evidence for Lee's multi-factor analysis and confirm that the factors of information status and markedness can be tied together into a unified account to describe the phenomenon of Korean case drop.

The participants were divided into three age groups in anticipation of generational differences in their judgments of case drop. No significant difference could be found between Group B (20-30s) and Group C (40-50s), but Group A's (18-year-olds) behavior was significantly different from the other two. Group A had a tendency to disallow bare NPs much more than others contrary to initial predictions that younger people would be more tolerant of case-drop in more diverse contexts. However, it is speculated that the testing environment had an effect on the results, for Group A was tested in a classroom while Groups B and C were tested individually. Being tested in a classroom context may have made the participants more conscious of the formal standard speech in which case markers are rarely omitted. Thus, for it to be a fair comparison, the testing environment for Group A would also need to be in a more casual context.

Despite numerous investigations in Korean case drop, much still needs to be examined to further understand the complicated nature of the phenomenon. The role of modifiers, classifiers, and theta-roles (prototypicality) in Korean case drop has not yet been thoroughly examined and can be pursued in future studies. Moreover, patterns of case drop in multiple subject or object constructions can be explored. While the present paper has provided evidence against a unified f-structure analysis of Korean case drop and has found similarities and differences between subject and object case drop within Lee's framework, further work is needed to determine what additional factors other than Focus, Animacy, and Definiteness have a systematic effect on Korean case drop.

## 5. Conclusion

The present paper has countered the claims of Kwon and Zribi-Hertz (2008) that Korean case drop can be determined by a single factor of focus-structure by presenting experimental data. Interpretations of bare or case-marked nominals that are infelicitous and thus unacceptable in the f-structure analysis were frequently accepted by all three groups of participants. This experiment successfully shows that while the parameters related to f-structure visibility may play a role in native speaker judgments of case marking or case drop, it cannot be the only factor that determines this alternation. Instead, we find Lee's (2006a) multi-factor proposal in which Focus, Animacy, and Definiteness determine case drop to be a more appropriate approach to the present phenomenon. While Focus is still the most dominant factor that outweighs other semantic/syntactic factors and has the strongest influence on case-marking, both information status and markedness of arguments are integrated into a unified account in Lee's analysis. Moreover, the analysis is supported by robust empirical findings that display gradient statistical preferences in native speaker judgments instead of the categorical judgments that would be predicted by Kwon and Zribi-Hertz's single-factor analysis. To conclude, we have tested the interpretive effects of Kwon and Zribi-Hertz's specific claims in our experimental study, and have found that their analysis that places exclusive importance on f-structure visibility cannot be upheld in light of empirical evidence.

**<References>**

Aissen, Judith. 2003. Differential object marking: Iconicity vs. economy. *Natural Language and Linguistic Theory* 21: 435-483.

Choi, Hye-Won. 1995. Topic and focus in Korean: The information partition by phrase structure and morphology. *Japanese/Korean Linguistics* 6: 545-561.

Enc, Mürvet. 1991. The semantics of specificity. *Linguistic Inquiry* 18: 633-657.

Erteschik-Shir, N. 1997. *The dynamics of focus structure* (Vol. 84). Cambridge: Cambridge University Press.

Fry, John. 2001. *Ellipsis and 'wa'-marking in Japanese conversation.* Stanford University.

Kim, Dae-Bin. 1993. *The specificity/non-specificity distinction and scrambling theory.* Seoul: Thaehaksa.

Kim, Kwang-sup. 1990. Where do the contrastive and focus readings come from? *Japanese/Korean Linguistics* 1: 395-412.

Ko, Eon-Suk. 2000. A discourse analysis of the realization of objects in Korean. *Japanese/Korean Linguistics* 9: 195-208.

Kwon, Song Nim. and A. Zribi-Hertz 2008. Differential Function Marking, Case, and Information Structure: Evidence from Korean. *Language* 84(2): 258-299.

Lee, Duck-young. 2002. The function of the zero particle with special reference to spoken Japanese. *Journal of Pragmatics* 34: 645-682.

Lee, Hanjung. 2006a. Effects of Focus and Markedness Hierarchies on Object Case Ellipses in Korean. *Discourse and Cognition* 13(2): 205-231.

Lee, Hanjung. 2006b. Iconicity and Variation in the Choice of Object Forms in Korean. *Language Research* 42(2): 323-355.

Lee, Hanjung. 2006c. Parallel Optimization in Case Systems: Evidence from Case Ellipses in Korean. *Journal of East Asian Linguistics* 15: 69-96.

Lee, Hanjung. 2010. Explaining variation in Korean case ellipsis: Economy versus iconicity. *Journal of East Asian Linguistics* 19: 291-318.

Lee, Hanjung. 2011a. Contrastive Focus, Usage Probability and Gradients in Korean Case Ellipsis. *Discourse and Cognition* 18(3): 219-244.

Lee, Hanjung. 2011b. Gradients in Korean case ellipsis: An experimental investigation. *Lingua* 121: 20-34.

Lee, Hanjung. 2012. Context, Non-Canonical Order and Subject-Object Asymmetry in Korean Case Ellipsis. *Discourse and Cognition* 19(2): 57-80.

Lee, Hyo-Sang and Sandra A. Thompson 1985. A discourse account of the Korean accusative marker. *Studies in Language* 13: 105-128.

Lee, Sung-Bom. 2006. A Pragmatic Analysis of Accusative Case-Marker Deletion. *Discourse and Cognition* 13(3): 69-89.

Mori, Toshiro and Talmy Givón 1987. *Zero object-marking in colloquial Japanese: The pragmatics of optional deletion.* University of Oregon.

Submitted on: April 21, 2015
Revised on: June 11, 2015
Accepted on: June 12, 2015