

## Two Types of Multiple Subject Constructions (MSCs) in Korean

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### Abstract

Although Multiple Subject Constructions in Korean have received significant attention in theoretical literature, few experimental investigations of various syntactic and semantic properties of these constructions have been conducted. In this study, we administered a Magnitude Estimation (ME) experiment in order to compare the acceptability of Multiple Subject and related Single Subject Constructions (MSCs vs. SSCs) and that of two types of MSCs (Possessor-type vs. Adjunct-type MSCs). The results showed that MSCs received lower acceptability than SSCs. In addition, the Adjunct-type MSCs received higher acceptability scores than the Possessor-type MSCs. Possible reasons for these results are discussed.

### 1 Introduction

Korean has a type of sentence where more than one nominative-marked NP occurs in a single clause, as shown in (1). These sentences are called Multiple Nominative Constructions (MNCs) or Multiple Subject Constructions (MSCs): (1a) and (1c) show a sentence with two nom-marked NPs, and (1b) and (1d) show a sentence with more than two nom-marked NPs.

- (1) a. Cheli-**ka**      kho-**ka**      khu-ta  
 Cheli-nom      nose-nom      is-big-decl  
 ‘It is Cheli whose nose is big.’

- b. Cheli-**ka**      apeci-**ka**      kho-**ka**  
 Cheli-nom      father-nom      nose-nom  
 khu-ta  
 is-big-decl  
 ‘It is Cheli whose father’s nose is big.’  
 c. Yelum-**i**      maykcwu-**ka**      coh-ta  
 summer-nom      beer-nom      good-decl  
 ‘In summer, beer is good.’  
 d. I      cip-**i**      kyewul-**i**  
 this      house-nom      winter-nom  
 ohwu-**ka**      ttattusha-ta  
 afternoon-nom      is-warm-decl  
 ‘This house is warm in winter afternoon.’

In the literature, MSCs have been classified according to certain interpretive relationships between the multiple nom-marked NPs. For example, the two NPs in (1a, b) stand in a Possessor-Possessee (Part-Whole relation) as indicated by the paraphrases (2a, b), whereas the first NP in (1c, d) functions as a scene-setting or temporal Adjunct with respect to which the event denoted by the second NP and its predicate is interpreted.

- (2) a. Cheli-**ka/uy**      kho-**ka**      khu-ta  
 Cheli-nom/gen      nose-nom      is-big-decl  
 ‘It is Cheli whose nose is big.’  
 b. Cheli-**ka/uy**      apeci-**ka/uy**      kho-**ka**  
 Cheli-nom/gen      father-nom/gen      nose-nom  
 khu-ta  
 is-big-decl  
 ‘It is Cheli whose father’s nose is big.’  
 c. Yelum-**i/ey**      maykcwu-**ka**      coh-ta  
 summer-nom/gen      beer-nom      good-decl  
 ‘In summer, beer is good.’

- d. I cip-i/eyse(-nun) kyewul-i/ey  
 this house-nom/loc(-top) winter-nom/loc  
 ohwu.sikan-i ttattusha-ta  
 afternoon-nom is-warm- decl  
 ‘This house is warm in winter afternoon.’

Based on the possible paraphrases, the first type of MSCs (cf. 1a, b) is called ‘Possessor-type MSCs’, while the second (cf. 1c, d) is dubbed ‘Adjunct-type MSCs’. Whether or not this classification is theoretically significant depends on a host of interrelated questions.<sup>1</sup>

In this paper, we follow the view on MSCs that Yoon (2004, 2007, 2009, 2015) endorsed, where MSCs are viewed as containing multiple Subjects, with the rightmost NP functioning as the Grammatical Subject that takes the VP as predicate, and the outer NPs functioning as Major Subjects that take a Sentential Predicate (SP) constituted of the Grammatical Subject and its predicate (Teng, 1974; B-S Park, 1973, 2001; I-H Lee, 1987; Heycock and Lee, 1989; Chae and Kim, 2008<sup>2</sup>; Yoon, 2004, 2007, 2009, 2015).

According to Yoon (2004, 2007, 2009, 2015), the licensing conditions on MSCs are as follows:

- (3) Properties of MSCs
  - a. Outer nom-marked NPs in MSCs are licensed syntactically by being assigned nominative case, as multiple Case assignment is possible in Korean.
  - b. Outer nom-marked NPs in MSCs are licensed semantically through predication from the Sentential Predicate (SP) as Major Subject (MS), by binding a predicate variable within the SP.
  - c. MS and SP in MSCs have restricted interpretive properties compared to Grammatical Subjects (GS) and VP.
  - d. Sentential Predicates (SPs) are felicitous if they can be construed as denoting a salient

characteristic property of the referent of the MS.

- e. MSs are felicitous if they can be construed denoting a newsworthy entity.

In particular, the properties (3c-e) distinguish MSCs from single subject constructions (SSCs).<sup>3</sup> In this approach to MSCs, all MSCs are licensed in the same way. Thus, classificatory distinctions such as P-type vs. A-type do not carry theoretical significance. This is an important point that we return to in the discussion.

Though there is a great deal of previous research on MSCs in Korean and other languages (Teng, 1974; B-S Park, 1973, 2001; I-H Lee, 1987; Heycock and Lee, 1989; Heycock, 1993; Chae and Kim, 2008; Yoon, 2004, 2007, 2009, 2015; Ryu, 2010, 2013, 2014, etc.), they were based on the intuition of researchers, and not validated through experimental investigation. The current study is one of the few studies that adopt experimental methods to investigate the properties of MSCs. In particular, this study focuses on two different types of MSCs mentioned in the literature – Possessor-type and Adjunct-type MSCs. Using Magnitude Estimation (ME), we examined native Korean speakers’ knowledge of these two types of constructions.

The organization of the paper is as follows. The next section will introduce some relevant previous studies done on the matter. The following section will explain the methodology of our experiment and present the results. Finally, we will discuss the results and conclude with the future direction of the study.

## 2 Previous Studies

One reason we decided to distinguish P-type vs. A-type MSCs is because many previous studies have posited different analyses for the two. As mentioned in footnote 1, many researchers assume that P-type MSCs can be explained through the Possessor Raising (PR) (Chun, 1985; Yoon, 1990). The idea is that the P-type MSC in (4b) is derived

<sup>1</sup> Possessor vs. adjunct classification is theoretically meaningful if one derives the first NP in a P-type MSC through Possessor Raising (Chun, 1985; Yoon, 1990). Under this analysis, P-type MSCs have a unique subject (1<sup>st</sup>) NP, while in A-type MSCs, the unique subject is the 2<sup>nd</sup> NP, with the 1<sup>st</sup> NP functioning as topic/focus (Chun, 1985; Yoon, 1990). The distinction is without significance if the two types are licensed in the same way.

<sup>2</sup> Chae & Kim (2008) admitted the clausal analysis of MSCs, but did not agree on the distinct functions of MS and GS in MSCs.

<sup>3</sup> Most subjects in SSCs are nom-marked, so nom-marking of subjects does not differentiate MSCs from SSCs. The external argument of V in VP is the predicate variable in SSCs, so that the requirement of a predicate variable does not distinguish the two either, though the MSCs the predicate variable is not the external argument.

by PR from a single subject construction (SSC) where the first NP is licensed as a Possessor (cf. 4a).

- (4) a. [Cheli-**uy** khi-**ka**] khu-ta  
Cheli-gen height-nom is-tall-decl  
'Cheli is tall.'
- b. Cheli-**ka** khi-**ka** khu-ta  
Cheli-nom height-nom is-tall-decl  
'(It is) Cheli (who) is tall.'

The effect of PR is to demote the NP *Cheli-uy khi-ka* from subject status and create a new subject *Cheli-ka*.

PR cannot extend to A-type MSC in (5a, c), in which the first NP cannot be expressed as a Possessor of the second. Therefore, these MSCs must be licensed differently. Youn (1990) proposes that in A-type MSCs, the second NP is the subject, while the 1<sup>st</sup> NP is topic/focus, under the additional assumption that the nominative particle doubles as topic/focus particles (see also Yoon 1989; Schutze 2001).

- (5) a. ?\*Yelum-**uy** maykcwu-ka coh-ta  
summer-gen beer-nom good-decl  
'It is during the summer that beer is good.'
- b. Yelum-**i** maykcwu-**ka** coh-ta  
summer-nom beer-nom good-decl  
'In summer, beer is good. (=It is during the summer that beer is good.)'
- c. ?\*Pihayngki-**uy** 747-**i** khu-ta  
airplane-gen 747-nom big-decl  
'It is 747 that airplane is big.'
- d. Pihayngki-**ka** 747-**i** khu-ta  
airplane-nom 747-nom big-decl  
'As for airplanes, 747 is big.  
(=/?It is airplane that 747 is big)'

Since the analyses of the two types of MSCs are quite different, we examined whether native speakers distinguish between the two types in their acceptability judgments.

There have been only a few experimental studies conducted on various syntactic and semantic properties of MSCs. Kim (2015) conducted an acceptability judgment of MSC sentences, testing

whether the two interpretive conditions<sup>4</sup> mentioned above – characteristic property predication by SPs (cf. 3d) and the newsworthiness requirement on MSs (cf. 3e) – play a role in native speakers' judgments. The results demonstrated that the native speakers of Korean are sensitive to the two interpretive conditions. However, Kim (2015) focused on the Possessor-type MSCs only and did not examine the Adjunct-type MSCs in her study.

Lee (2014) tested the acceptability of different types of MSCs, adopting Ryu (2013)'s classifications of semantic relations which hold between the two nominative NPs in MSCs.<sup>5</sup> Although the focus of Lee (2014) was not the distinction between P-type vs. A-type MSCs, either, the materials of his study included both types of MSCs. Among his data sets, sentences such as (6b) are P-type MSCs, since (6b) can be paraphrased as (6a).

- (6) a. Thokki-**uy** kwi-**ka** kil-ta.  
Rabbit-gen ear-nom long-decl  
'The ears of rabbits are long.'
- b. Thokki-**ka** kwi-**ka** kil-ta.  
Rabbit-nom ear-nom long-decl  
'The ears of rabbits are long.'

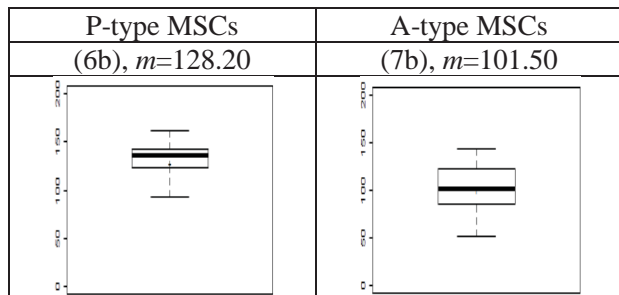
On the other hand, (7b) are A-type MSCs. Unlike (6b), (7b) cannot be analyzed as derived from a sentence with possessed-NP subject.

- (7) a. ?Yelum-**ey** maykcwu-ka  
summer-loc beer-nom  
masiss-ta  
tasty-decl  
'In summer, beer is tasty.'
- b. Yelum-**i** maykcwu-**ka** masiss-ta  
summer-nom beer-nom tasty-decl  
'It is during the summer that beer is tasty.'

Lee's (2014) results for P-type and A-type MSCs are as follows. He used line-drawing Magnitude Estimation in his experiment, and the range of score was 0mm-170mm.

<sup>4</sup> See Yoon (2004, 2007, 2009, 2015) and Kim (2015) for more detailed discussions of characteristic/characterizing properties of SP and newsworthiness of MS.

<sup>5</sup> Ryu (2013) proposed a unified analysis of Multiple Subject Constructions (MSCs) and Multiple Accusative Constructions (MACs) into Multiple Case Constructions (MCCs).



**Table 1.** P-type vs. A-type in Lee (2014)

As shown in this table, the acceptability of P-type MSCs was higher than that of A-type MSCs. Lee’s (2014) results suggest that P-type MSCs and A-type MSCs are judged differently by native speakers, perhaps because they are licensed in different ways, as posited under the theoretical analyses sketched in the previous section. It also seems that P-type MSCs are judged better than A-type MSCs. However, Lee’s (2014) study had different classification in the type of MSCs and there were not enough tokens for the clear division of the two types of MSCs. We therefore investigated whether the two types of MSCs are accepted differently by native speakers based on a larger data set.

### 3 Research Method

#### 3.1 Research Questions and Hypothesis

We conducted an experimental study investigating Korean native speakers’ acceptability of P-type and A-type MSCs, as well as the differences in acceptability between MSCs and closely related SSCs. The research question and hypothesis of this study are as follows:

**Research Question:** Between the Possessor-type (P-type) and the Adjunct-type (A-type) MSCs, which type is more acceptable?

**Hypothesis:** Korean speakers will regard P-type MSCs as more acceptable than A-type MSCs.

Our hypothesis was based on Lee’s (2014) results. This hypothesis is also not improbable given the theoretical analyses reviewed earlier: While P-type MSCs have been treated in terms of PR, A-type MSCs have been treated mostly as having a focused (or topic-like) initial NP. Since interpreting focused/topical NPs in a sentence

presented without a context is not easy, it is plausible that A-type MSCs would be considered as less acceptable than P-type MSCs.

The following sections will be dedicated to explanation of the methodology of our experiment. Presentation of the results and discussion will then follow.

#### 3.2 Participants

Seventy Korean native speakers (age range=21~45) residing in and near Seoul, who were either current university students or graduates of universities in Korea, participated in the experiment.

#### 3.3 Task, Materials & Procedures

The main task used in the experiment was an acceptability judgment task using Magnitude Estimation (ME) in which the participants were asked to draw different lengths of lines to indicate the naturalness (acceptability) of a given sentence (after reading the sentence).<sup>6</sup>

Test materials were composed of 80 Korean sentences: There were 40 target MSC sentences divided into 20 P-type MSCs and 20 A-type MSCs. The other 40 sentences were SSCs (single subject constructions), which were identical to the 40 target MSCs except for having a single subject. This was done to compare the acceptability ratings of SSC sentences and related MSC sentences. Examples of the experimental sentences are shown in (8). (8a) shows an example of P-type MSC, whereas (8b) shows an example of A-type MSC. (8c, d) are the examples of SSC sentences that are the counterparts of (8a, b).

- (8) a. Cheli-**ka**            apeci-**ka**            pwuca-ita.  
Cheli-nom            father-nom            rich-decl  
‘It is Cheli whose father is rich.’
- b. Chicago-**ka**        kenmwultul-**i**        nop-ta  
Chicago-nom        buildings-nom        high-decl  
‘In Chicago, buildings are tall.’
- c. Cheli-**uy**            apeci-**ka**            pwuca-ita.  
Cheli-gen            father-nom            rich-decl  
‘Cheli’s father is rich.’
- d. Chicago-**uy**        kenmwultul-**i**        nop-ta  
Chicago-gen/loc    buildings-nom        high-decl  
‘Chicago’s buildings are tall.’

<sup>6</sup> For more information about the Magnitude Estimation task used in this experiment and its rationale, see Kim, Lee and Kim (2015).

Participants were first given a brief questionnaire about biographical information such as age, gender and dialect(s) together with a consent form. They were then asked to take the main task. In the main task, participants were required to draw a line for each sentence, according to the degree of acceptability/naturalness of the given sentence.

### 3.4 Statistical Analysis

After the data collection, normality tests were first performed in order to check if the values followed normal distribution, so as to determine the applicability of parametric tests. If the distributions of the data follow normal distribution, parametric tests are applicable, such as a *t*-test, an ANOVA, or (ordinary) linear regression tests. However, if the distributions do not follow normal distribution, non-parametric tests must be applied such as a Wilcoxon test, a Friedman test, or generalized linear regression tests.

When normality tests were performed, it was found that most of the data sets did not follow normal distribution. Some were positively skewed, and others had a slightly bimodal distribution. Thus, a non-parametric test – a generalized linear regression test – was performed with a Gaussian distribution, in order to examine how the Possessor/Adjunct distinctions affected the acceptability of sentences.

## 4 Results

### 4.1 Descriptive Analysis

In our data set, two factors tested (SSC/MSC and Possessor/Adjunct). SentenceType is the variable which indicates whether the sentence is a Single Subject Construction (SSC) or a Multiple Subject Construction (MSC), and ConstType is the variable which indicates whether the sentence corresponds to a Possessor type (P-type) or an Adjunct type (A-type).

We first compared the acceptability of SSC with that of MSC. Figure 1 below illustrates the degree of acceptability of SSCs and MSCs.

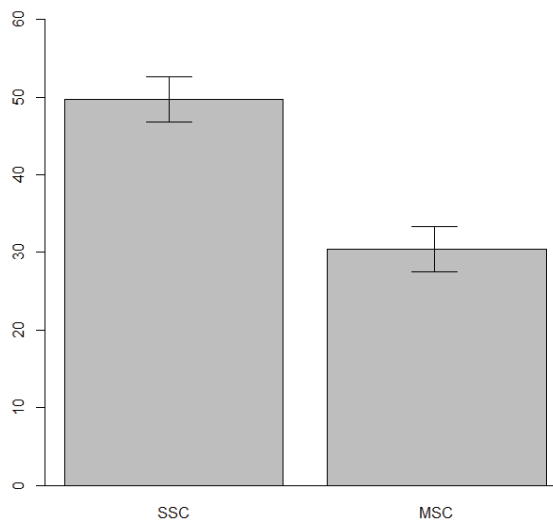


Figure 1. Bar Plots for the SSC vs. MSC

Figure 1 demonstrates that the mean values for SSCs are much higher than those of MSCs. That is, the participants considered MSCs less acceptable than SSCs.

Secondly, we compared the acceptability of P-type MSCs with that of A-type MSCs. The pattern of results is shown in Figure 2.

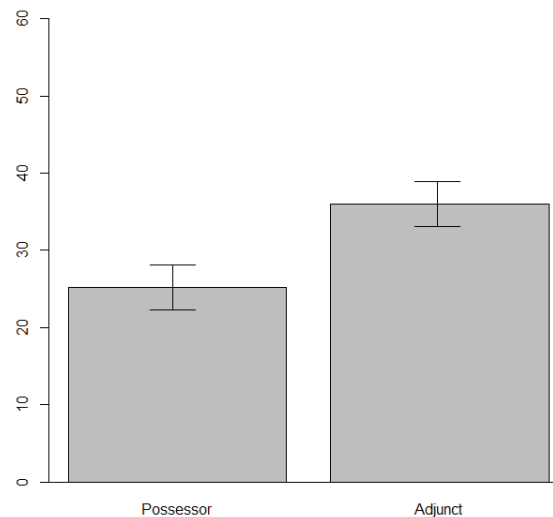


Figure 2. Bar Plots for the P-type vs. A-type MSC

As shown in this figure, among the MSC sentences, A-type MSCs received higher acceptability than P-type MSCs. This pattern of results is different from Lee (2014).

### 4.2 Inferential Analysis

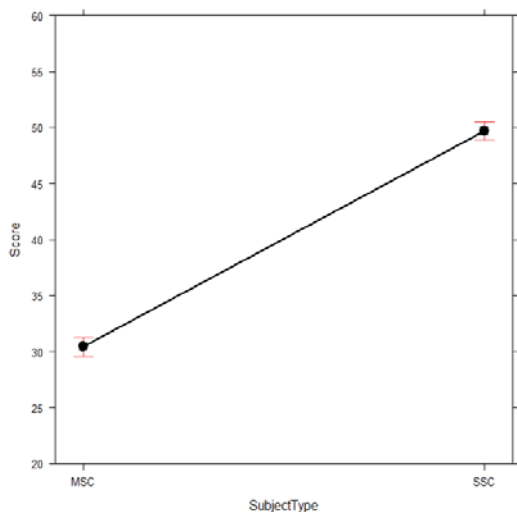
In order to examine how two factors (SentenceType and ConstType) affected the acceptability of sentences, a generalized regression test was performed. The following table illustrates the results.

	Estimate	sd	t	p
(Intercept)	40.058	0.3073	130.364	<<<<.001
SentenceType	-9.634	0.3073	-31.353	<<<<.001
ConstType	3.988	0.3073	12.977	<<<<.001
SentenceType: ConstType	2.243	0.3073	7.298	<<<<.001

**Table 2.** Results of Regression Tests

As this table shows, both factors (SentenceType and ConstType) significantly influenced the acceptability of the sentences ( $p < .001$ , highly significant). There is also an interaction between two factors, as the  $p$ -value of SentenceType:ConstType indicates ( $p < .001$ ).

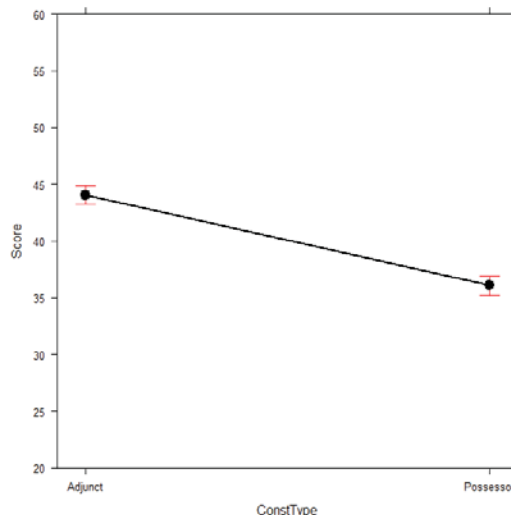
To graphically examine the effects of the factors and their interactions, the effect plots were drawn for the data set. Figure 3 has the effect plot for the factor SentenceType.



**Figure 3.** Effect Plot for SentenceType

In this figure, the mean score of SSCs is much higher than that of MSCs. Furthermore, 95% CIs (Confidence Interval) are clearly distinguished. This implies that native speakers clearly prefer SSC to MSC.

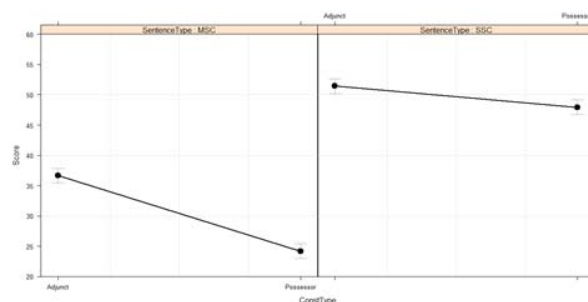
Figure 4 has the effect plot for the factor ConstType.



**Figure 4.** Effect Plot for ConstType

As shown earlier in Figure 2, the average score of Adjunct is much higher than that of Possessor, and the 95% CIs do not overlap, suggesting that native speakers prefer the A-type MSCs to P-type MSCs.

Figure 5 has the effect plot for the interactions between two factors SentenceType and ConstType.<sup>7</sup>



**Figure 5.** Effect Plot for SentenceType:ConstType

The effect plot in this figure demonstrates that there is an interaction between the two factors SentenceType and ConstType. If there is no interaction between two factors, the two lines in MSC and SSC have to be parallel. If there is an interaction, however, the two lines will not be parallel. Note that the two lines in Figure 5 are not parallel. This means that there is an interaction between two factors SentenceType and ConstType.

In this figure, note that the differences in MSCs are much bigger than those in SSCs. This suggests

<sup>7</sup>Since the comparison of the two types of MSCs is meaningful in MSC sentences rather than SSC sentences, we can focus on the pattern of the results represented on the left side.

that the Possessor vs. Adjunct distinction plays a more important role in determination of the acceptability of MSCs than SSCs.

### 5 Discussion

While we hypothesized that Korean native speakers would give higher acceptability scores for P-type MSCs than A-type MSCs, based on Lee (2014), the results did not support the hypothesis. Since both Lee (2014) and the current study used line-drawing Magnitude Estimation and were administered to similar groups of native speakers, we need to explain the inconsistency in the results. We speculate that the characteristics of the experimental sentences used in this study may explain the inconsistency. And this in turn casts doubt the theoretical utility of classifications such as P vs. A-type MSCs.

First, a close look at the test sentences suggests that many of the P-type sentences used as stimuli may not be fully optimal semantically and pragmatically as MSCs, whereas many of the A-type sentences satisfy such constraints. The contrast between (9a) a P-type MSC and (9c) an A-type MSC is illustrative.

- (9) a. Cheli-**ka**            emeni-**ka**            mwusep-ta.  
Cheli-nom            mother-nom            scary-decl  
'Cheli's mother is scary.'
- b. Cheli-**ka**            khi-**ka**                khu-ta  
Cheli-nom            height-nom            tall-decl  
'It is Cheli whose height is tall.'
- c. Chicago-**ka**        kenmwultul-**i**        nop-ta  
Chicago-nom        buildings-nom        high-decl  
'In Chicago, buildings are high.'

Recall that an optimal MSC has a characteristic property-denoting SP and a newsworthy MS, as Kim (2015) demonstrated experimentally.

Let us look at (9a), which was used in the experiment as an example of MSC. In this MSC, the newsworthiness condition is met, since the MS is referentially more salient than GS (MS is a name and GS is a relational noun). However, the SP '(someone's) mother is scary' cannot be construed as expressing a characteristic property of MS *Cheli*, and hence, the SP in this MSC is not optimal.<sup>8</sup> This

<sup>8</sup> If given a specific context, this property can characterize an individual, becoming what Yoon (2007, 2009, etc.) dub a characterizing (contextually characteristic) property. However,

becomes clear when (9a) is compared to (9b), where the SP '(someone's) height is tall', can be understood easily as a characteristic property of an individual. Notice that the difference between (9a) and (9b), which are both P-type MSCs, is the nature of the possession relationship between the MS and GS. In (9b), it is inalienable possession, while in (9a) it is an alienable relation.

Because of the characteristic property condition on SPs, optimal P-type MSCs are those with an inalienable possession relation between the MS and the GS. However, most P-type MSCs used in the experiment had an alienable possessor relation, which possibly reduced the felicity of P-type MSCs. On the other hand, the P-type stimuli used in Lee (2014) contained mostly inalienable possession, which probably contributed to the increased felicity of the MSCs overall. We suspect this is the reason why our subjects gave lower ratings to P-type MSCs, compared to Lee's (2014) subjects.

By contrast, if we examine examples of A-type MSCs in (9c), both the MS and the SP satisfy the interpretive conditions easily. The MS *Chicago* is more referentially salient than the GS 'building'. The SP may be considered a characterizing property of MS: 'having lots of buildings (and hence, a large, metropolitan city)' could be construed as a characteristic property of cities. Many of our A-type sentences had a salient MSs and characterizing SPs as in (9c). Therefore, this could have contributed to participants' higher ratings of naturalness of the MSC sentences.

Also, we should note that in some cases the boundary between the P-type and A-type MSC seems not very clear, as shown in (10). Though the basic structure looks the same between (10a) and (10c), with the same MS and characteristic SPs, the relation between the two NPs – as shown in the contrast between (10a, b) and (10c, d) - can make different type of MSCs. While (10a) represents A-type MSC, (10c) stands for P-type MSC, respectively.

- (10) a. Boston-**i**            kwankwangkyayk-**i**  
Boston-nom            tourists-nom

the sentences were not given with an appropriate context, so speakers gave a rating assuming a null context, where only SPs denoting properly characteristic properties are judged optimal.

- nul pwumpin-ta.  
always bustle-decl  
'As for Boston, tourists bustle all the time.'
- b. Boston-ey(-nun) kwankwangkyayk-i  
Boston-loc(-top) tourists-nom  
nul pwumpin-ta.  
always bustle-decl  
'As for Boston, tourists bustle all the time.'
- c. Boston-i wichi-ka acwu  
B-nom location-nom very  
coh-ta.  
good-decl  
'Boston has a very good location.'
- d. Boston-uy wichi-ka acwu  
Boston-gen location-nom very  
coh-ta.  
good-decl  
'Boston has a very good location.'

These sentences show that the boundary between P-type and A-type is not clear and that there are some sentences which can be either P-type MSCs or A-type MSCs. Likewise, the A-type MSC we used in the experiment (cf. 9c) could be interpreted as both A-type MSC ('In Chicago, buildings are tall') and P-type MSC ('The buildings of Chicago are tall') to some individuals.

In a way, though, the contradictory results of this study and Lee (2014) or the difficulty of classifying an MSC as P or A-type is not important, if we adopt the analysis proposed by Yoon (2004, 2007, 2009, 2015) and others (Chae & Kim, 2008; Park, 2010; Kim, 2015, etc.). This is because in this analysis, all MSCs are licensed the same way. Classificatory labels such as P-type, A-type, or for that matter, sub-types within a type (inalienable vs. alienable P-type) are mere descriptive labels and carry little theoretical weight, unlike analyses that view different MSCs to be licensed in different ways. What matters is whether and how the MSCs come to satisfy the licensing conditions—in particular, the interpretive conditions. What we have seen is that even within the same type (P-type), different MSCs may satisfy the licensing conditions in different ways, and this is what explains native speakers' judgments of acceptability of MSCs.

## 6 Conclusion

The current experimental study investigated how Korean native speakers rate the acceptability of MSCs and related SSCs, and of two different types of MSCs: P-type MSCs vs. A-type MSCs. The overall results showed that Korean native speakers regarded MSCs less acceptable than SSCs, but clearly better than ungrammatical sentences.

As for the two types of MSCs, A-type MSCs received higher acceptability scores than P-type MSCs, contrary to our expectations and the results of previous studies. We speculated that the reason may stem from the fact that many experimental P-type MSCs used in the current study did not satisfy the interpretive properties of MSCs in an optimal way, which also allows us to make sense of the differences between our results and Lee (2014).

Spectrum of appropriateness as MSCs may not be narrow within each type of MSC, and this warns of possible danger of making a categorical statement about P-type vs. A-type MSCs, or taking this distinction seriously in one's theoretical analysis of MSCs. A follow-up study with more strictly controlled experimental sentences with various divisions of properties that contribute to the overall felicity of MSCs is necessary.

## Acknowledgments

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