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Definiteness and Humanness in the Realization of Korean Plural Marker *tul*: An Experimental Study

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1 Introduction

While the Korean plural marker *tul* is generally assumed to be optional, several factors are known to influence its use. Definiteness has been claimed to make *tul* obligatory (Kang 1994; Kwon and Zribi-Hertz 2004; Kim 2005). In addition, human-denoting nouns are more likely to be *tul*-marked than non-human nouns (Kang 2007; Kim and Melchin 2018; Park 2020). However, there are conflicting claims regarding how these two factors interact. Some report that definiteness makes *tul* obligatory regardless of humanness (Kang 1994; Kim 2005; Kim and Park 2024), while others argue that non-human nouns in definite contexts do not always require *tul* (Park 2020; Choi, Yoon, and Dayal, 2026). The conflicting observations in turn have been used to motivate different syntactic analyses of *tul* and the nominal spine in Korean. Given the changing status of *tul* in contemporary Korean (MacDonald 2014) and the various factors that affect its use, it is important to examine the roles of definiteness and humanness and their interactions on *tul*-marking in a more systematic way. To that end, we conducted a production task and an interpretation task to examine how the identified factors influence native Korean speakers' production and comprehension of *tul*.

The paper is organized as follows. In Section 2, we briefly describe the relevant properties of Korean *tul* and two formal analyses of *tul*. In Section 3, we discuss the methods. Section 4 reports

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the results of the experiments. Section 5 discusses their implications for formal analyses of *tul*-marking. Section 6 concludes.

2 Background

2.1 The Properties of Korean *tul*

Korean bare nouns are number-neutral. In (1a), *haksayng* 'student' can refer to one or more than one student. When reference to plural entities is intended, *tul* can be added as in (1b). Since both (1a) and (1b) are felicitous for plural reference, *tul* seems optional.

(1) a. na-nun haksayng-ul po-ass-ta
I-TOP student-ACC see-PST-DECL
'I saw a/the student / students'
b. na-nun haksayng-tul-ul po-ass-ta
I-TOP student-PL-ACC see-PST-DECL
'I saw (the) students' (#a/the student)

However, it has been claimed that *tul* is more likely to appear in some contexts than others. One such context is definite contexts. Some scholars claim that *tul* is obligatory for reference to plural entities in definite contexts (Kang 1994; Kim 2005). In (2), a deictic definite context with demonstratives, the object noun phrase without *tul* in (2a) is claimed to have only a singular interpretation, 'that/this student'. When reference is to plural students, as in (2b), the claim is that *tul* must be used.

(2) a. Mark-nun ku/ce/i haksayng-ul po-ass-ta
Mark-TOP that/that/this student-ACC see-PST-DECL
'Mark saw that/this student.' (*those/these students)
b. Mark-nun ku/ce/i haksayng-tul-ul po-ass-ta
Mark-TOP that/that/this student-PL-ACC see-PST-DECL
'Mark saw those/these students.' (*that/this student)

Similar claims have been made for anaphoric definite contexts. Reference to a plurality of entities introduced in previous discourse has been claimed to require *tul* (Kwon and Zribi-Hertz 2004; Kim 2005; Lardiere 2009; Hwang and Lardiere 2013; Ahn and Snedeker 2022). Consider the sentences in (3). To refer to the three students introduced in (3a), *tul* is claimed to be required as shown in (3b).

(3) a. pakkath-ey haksayng-i sey myeng iss-ta
outside-LOC student-NOM three CL be-DECL
'There are three students outside.'
b. haksayng-*(tul)-un acwu sikkulep-ta
student-PL-TOP very loud-DECL
'The students are very loud.'

Another factor that influences the likelihood of *tul*-marking is animacy. Corbett (2000) discusses the following Animacy Hierarchy in the context of a cross-linguistic investigation of number marking.[1] The hierarchy describes the tendency for number to be marked on nouns higher on the hierarchy. Thus, human nouns are most likely to be plural marked, while inanimate nouns are least likely to be plural marked, and non-human animate nouns fall in between.

(4) The Animacy Hierarchy (Smith-Stark 1974; Corbett 2000; Alexiadou 2019)
Animate human > Animate non-human > Inanimate

In Korean, all nouns in the Animacy Hierarchy can be *tul*-marked as shown in (5-7), which may suggest that animacy does not interact with *tul*-marking.

(5) a. haksayng
student
'a/the student or students'
b. haksayng-tul
student-PL
'(the) students'

(6) a. koyangi
cat
'a/the cat or cats'
b. koyangi-tul
cat-PL
'(the) cats'

(7) a. chayk
book
'a/the book or books'
b. chayk-tul
book-PL
'(the) books'

However, some empirical studies have found that human nouns are more likely to be *tul*-marked, while non-human nouns are less likely to be marked, although the exact patterns remain unclear. In fact, Kang (2007) argued that Korean does not follow the Animacy Hierarchy, claiming that inanimate nouns are more likely to be *tul*-marked than non-human animate nouns. On the other hand, MacDonald (2014) argued that Korean in fact does follow the Animacy Hierarchy, with non-human animate nouns being more likely to be *tul*-marked than inanimate nouns.

Similar to the indeterminacy of the Animacy Hierarchy's effect on *tul*, recent work suggests that some previous claims about categorical correlations between *tul* and definiteness and/or animacy may be too strong. Specifically, Choi and Yoon (2026) and Park (2020) argue that *tul* is not obligatory in definite contexts, but animacy seems to play a role. For example, as shown in (8), when inanimate nouns refer to countable objects that typically occur in aggregates, a bare noun with a demonstrative can be construed as referring to more than one entity/atom.

(8) a. Chinkwutul-un ta kathi ku khwukhi-lul mek-ess-ta
Friend-PL-TOP all together dem cookie-(s)-ACC eat-PST-DECL
'Friends ate this/those cookie(s) all together.'
b. Ku sinsa-nun i cangmi-lul sa-ss-ta
that gentleman-TOP dem rose(s)-ACC buy-PST-DECL
'That gentleman bought this rose/these roses.'

[1] The categories above Human are not represented here, as they are not relevant for the current study. For the full hierarchy, see Corbett (2000).

Humanness/animacy seems to modulate *tul* in anaphoric definite contexts as well, as shown in (9). For inanimate nouns such as *chayk* 'book,' *tul* is not required to refer to plural entities mentioned in the previous discourse.

(9) a. pang-ey myech kwen-uy chayk-kwa cangnankam-(tul)-i iss-ess-ta
room-LOC several CL-GEN book-and toy-(PL)-NOM be-PST-DECL
'There are several books and toys on the table.'

b. chayk-(tul)-un cangnankam-(tul)-pota te caymiisse poy-ess-ta
book-PL-TOP toy-(PL)-than more interesting look-PST-DECL
'The books look more interesting than the toys.'

In sum, there are conflicting claims on the obligatoriness of *tul* in definite contexts, and these patterns seem to be influenced by humanness/animacy. This state of affairs raises questions about the syntactic status of *tul*. We now turn to two competing syntactic analyses of *tul* that attempt to account for the effects of animacy and definiteness on *tul*.

2.2 Previous Studies on the Syntax of *tul*

Against the backdrop of Wiltschko's (2008) seminal proposal that languages vary in how (head vs. modifier) and where (in the nominal spine) plural marking merges, two syntactic analyses have been put forward on the distribution and interpretation of *tul*. One analysis views *tul* as a modifying plural (Kim and Melchin 2018) while the other views *tul* as a head plural (Park 2022). Interestingly, the two views are both grounded in how *tul* interacts with animacy and/or definiteness.

Kim and Melchin (2018) argue that *tul* is a modifying plural based on Wiltschko's (2008) diagnostics for modifying plurals. The analysis accounts first of all for the optionality of *tul*, since it is an adjunct. In addition, it correctly predicts that in the absence of *tul*, a bare noun would be number-neutral rather than singular. What about the effect of definiteness and humanness/animacy on *tul*? Kim and Melchin (2018) did not discuss whether *tul* is obligatory in definite contexts, but the modifying plural analysis predicts that *tul* can be optional even in definite contexts.[2]

Regarding humanness/animacy, Kim and Melchin (2018) argue that *tul* is adjoined to nP, since nP is the locus of idiosyncratic properties. One of the idiosyncrasies observed in the previous literature on irregular plurals is that they occur with only a few nouns in the language, showing lexical gaps (Acquaviva 2008; Kramer 2009, 2016). Kim and Melchin argue that *tul* shows gaps in its distribution in that it can attach to almost any human noun, and to many inanimate nouns, but less frequently to non-human animate nouns.

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[2] In footnote 17 of Kim and Melchin (2018), the authors briefly discuss the interpretation of nouns with or without *tul* in deictic definite contexts. They argued that (ia) allows only a singular interpretation, with no plural interpretation available. However, they do not discuss whether *tul* is obligatory, whether humanness plays a role, or how this pattern should be analyzed.

(i) a. i/ce/ku sakwa b. i/ce/ku sakwa-tul
this/that/that apple this/that/that apple-PL
'this/that apple' 'these/those apples' [Slightly modified from Kim and Melchin 2018: (13)]

(10) a. salam-tul sey myeng
person-pl three CL
'three people'

b. ??kilin-tul sey mali
giraffe-pl three CL
'three giraffes'

c. chayk-tul sey kwen
book-pl three CL
'three books'

[Kim and Melchin 2018: (24)-(25)]

They also note that there are variations across speakers and types of nouns regarding the occurrence of *tul* on non-human animate nouns (e.g., it is found more frequently with some animal-denoting nouns such as *kay* 'dog' or *koyangi* 'cat' than others). Such idiosyncrasies suggest association with nP, and are unexpected for a regular, grammaticized plural marker occupying higher positions (e.g., NumP or #P) in the nominal spine.

Park (2022) challenges this view, arguing instead for the head plural analysis based on her supposition that *tul* is not always optional, which would be contrary to the prediction of the modifying plural analysis. Specifically, she claims *tul* is required in definite contexts, as discussed in Section 2.1. She thus views *tul* to be a realization of a CL head that subsequently head-raises to a Num head.

Regarding animacy, Park assumes that Korean follows the Animacy Hierarchy: *tul* is most likely to be used with human nouns, less likely with non-human animate nouns, and least likely with inanimate nouns, contrary to what Kim and Melchin (2018) suggested. On the question of how animacy interacts with definiteness, Park acknowledged that *tul* is not always required with non-human nouns in definite contexts, though she did not provide a detailed account of how this optionality fits within the head plural analysis.[3]

2.3 Research Questions and Hypotheses

We have seen in the previous section that the two proposals on the syntax of *tul* crucially hinge on how *tul* interacts with definiteness and animacy. Nevertheless, the role of humanness/animacy in *tul* is plagued by conflicting factual claims and assessments of well-formedness. Therefore, the current study sets out to systematically investigate the effect of humanness/animacy on the realization of *tul* across definite and indefinite contexts.

A broad research question (RQ) guiding our study is whether definiteness and humanness/animacy influence *tul*-marking. The specific RQs we investigate are as follows.

RQ1. Is *tul* sensitive to definiteness?
RQ2. Is *tul* sensitive to humanness/animacy?

We consider two competing hypotheses and their predictions. If *tul* is only sensitive to definiteness (and not to humanness), then humanness/animacy should not affect the realization of *tul* if a noun phrase is definite. On the other hand, if definiteness and humanness jointly determine *tul*-marking,

[3] In footnote 27 of Park (2022), she argues that non-human nouns in Korean are mass nouns in the absence of an overt classifier and, therefore, do not require *tul* for plural denotations in definite contexts, since mass nouns are inherently plural (Chierchia 1998a,b). Human nouns, by contrast, are assumed to involve a null classifier, behave as count nouns, and thus require plural marking in definite contexts. This proposal rests on the assumption that all nouns are mass properties of type $\langle e, t \rangle$. However, this assumption is difficult to reconcile with a well-established empirical fact about Korean (and other classifier languages): bare nouns freely occur as arguments and directly combine with verbs. That is, it remains unclear how bare nouns of type $\langle e, t \rangle$ are argumentized in Korean under this proposal.

then definite non-human nouns should show reduced *tul*-marking compared to definite human nouns.

3 Experiment

To answer the research questions above, we used two tasks. A written Elicited Production Task (EPT) examined whether participants' production of *tul* in definite contexts is influenced by the humanness of nouns. A Sentence Pair Task (SPT) tested how the same participants interpreted nouns with or without *tul* in definite and indefinite contexts and whether such interpretations are influenced by humanness.

3.1 Procedure

The entire experiment was administered on PCIbex (Zehr and Schwarz 2018). Participants received a link to the tasks and completed them online at their own pace. They completed the EPT, a language background questionnaire, the SPT, and another task examining the acceptability of *tul* in counting constructions (not reported here) in that order. The EPT preceded the SPT since the latter was more explicit.

3.2 Participants

The participants were nineteen native Korean speakers, who were residing in the United States at the time of testing. Twenty-six native Korean speakers were initially tested, but seven were excluded due to living outside Korea for more than ten years so as to control for the possibility of attrition. Eighteen participants were included in the EPT analysis (one participant's responses were not recorded on the server), and eighteen participants were included in the SPT analysis. One participant was excluded in the SPT based on their non-target-like performance on fillers.[4] All participants received a monetary compensation for participation.

3.3 Materials

The EPT used a 2 x 2 design, manipulating lexical cues (demonstratives vs. numerals) and humanness (+Human vs. -Human) to test how these factors affect the production of *tul*. Because the focus of the current study is definite contexts, not counting contexts, we report only the demonstrative conditions.

Each item consisted of a picture of +/-human nouns and a set of words including the target noun and a demonstrative (Table 1). We used the demonstrative *ce* 'that' in all demonstrative conditions. Definite contexts were established in two ways in the pictures: (i) presenting a large set of objects to discourage counting, or (ii) displaying contrasting groups of objects (e.g., two chairs in the back vs. two chairs in the front). Half the items used (i) and the other half (ii). Participants were asked to type descriptions of the pictures using provided words as soon as they

[4] There were fillers (10 bad fillers and 10 good fillers) that were used as gold-standard questions to identify and remove the outliers. In order to identify outliers, we calculated the difference between the expected value (5 for the good fillers and 1 for the bad fillers) and reported judgment for the fillers for each participant, squared those values, summed the squares, and then calculated the mean and standard deviation of all of the sum-of-squares values of the participants. We defined an outlier participant as anyone with a sum-of-squares value that is greater than 2 standard deviations from the mean.

saw each image. The expected answer for [-Human, Dem] condition, for example, is given below in (11).

(11) Chelswu-nun ce tol-(tul)-ul po-n-ta
Chelswu-TOP that rock-PL-ACC see-PRES-DECL
'Chelswu sees those rocks.'

Sixteen token sets were created so that participants saw four items per condition. The sixteen target stimuli were distributed across four lists using Latin Square Design, and thirty-two filler items were added to each list. The order of the fillers and target items was randomized for each participant. Six practice items (three with explanations and three without explanations) were presented at the beginning of the experiment.

a. -Human, Dem(onstrative)	**b. +Human, Dem**
	
Chelswu, **ce (that)**, **tol (rock)**, pota (see)	Chelswu, **ce**, **salam (human)**, pota

Table 1. A sample token set for the Elicited Production Task (EPT)

The Sentence Pair Task (SPT) was designed to test how native Korean speakers use *tul* to guide the interpretation of human/non-human nouns with or without *tul* in definite and indefinite contexts. To that end, we manipulated Definiteness (Definite vs. Indefinite), Tul-marking (Tul vs. NoTul), Number of the referent (Sg vs. Pl), as well as Humanness (+Human vs. -Human). Participants read sentence pairs and judged whether the second sentence is a natural continuation of the first, on a 1 (very unnatural)-to-5 (very natural) scale.

An example sentence frame for the Definite conditions is given below in (12), with the corresponding example token sets in Table 2. In Definite conditions, the singularity/plurality of the NP is established in the first sentence (S1), and the NP is referenced in the second sentence (S2) with *ku* 'that,' with or without *tul*. For instance, in Condition a [Sg, NoTul, -Human], *ku chayk* 'that book' in S2 is consistent with the singular NP in S1 *chayk han kwen* 'one book' and thus natural; in Condition b [Sg, Tul, -Human], on the other hand, *ku chayktul* 'those books' in S2 is infelicitous given the singular referent.

(12) An example sentence frame for Definite, -Human conditions in the SPT
1. Amy-nun ecey __S1__-(k)wa sinmwun han pwu-lul sa-ss-ta.
Amy-TOP yesterday __S1__-and newspaper one CL-ACC buy-PST-DECL
2. __S2___-(n)un sopha wi-ey iss-ta
__S2___-TOP sofa on-LOC be-DECL
'Amy bought one/three book(s) and one newspaper yesterday. The book(s) is/are on the sofa.'

Condition	1st sentence (S1)	2nd sentence (S2)	Natural?
a. Sg, NoTul, -Human	chayk han kwen book one CL	ku chayk that book	Yes
b. Sg, Tul, -Human		ku chayktul that book-PL	No
c. Pl, NoTul, -Human	chayk sey kwen book three CL	ku chayk that book	Yes?/No?
d. Pl, Tul, -Human		ku chayktul that book-PL	Yes
e. Sg, NoTul, +Human	haksayng han myeng student one CL	ku haksayng that student	Yes
f. Sg, Tul, +Human		ku haksayngtul that student-PL	No
g. Pl, NoTul, +Human	haksayng sey myeng student three CL	ku haksayng that student	No
h. Pl, Tul, +Human		ku haksayngtul that student-PL	Yes

Table 2. A sample token set for the SPT Definite conditions

An example sentence frame for the Indefinite conditions is given below in (13), with the corresponding example token sets in Table 3. In Indefinite conditions, a bare noun with or without *tul* is introduced in S1, and S2 clarifies the singularity/plurality of the referent. For instance, in Condition a [Sg, NoTul, -Human], the singularity of the bare noun *chayk* 'book' is clarified in the second sentence, making S2 a natural continuation of S1. In contrast, in Condition b [Sg, Tul, -Human], S2 is not a natural continuation of S1, since the singularity/plurality of the noun mismatches between the first and the second sentence. The thirty-two tokens were distributed across eight lists using a Latin-square design. Each list contained sixty-four filler items. Six practice items (three with explanations and three without explanations) were presented at the beginning of the task.

(13) An example sentence frame for Indefinite, -Human conditions in the SPT
1. Amy-nun ecey __S1__-(l)ul sa-ss-ta.
   Amy-TOP yesterday __S1__-ACC buy-PST-DECL
2. __S2___-i-ess-ta.
   __S2___-COP-PAST-DECL
'Amy bought a book / books yesterday. (It) was one/three textbook(s).'

Condition	1st sentence (S1)	2nd sentence (S2)	Natural?
a. Sg, NoTul, -Human	chayk	kyokwase han kwen textbook one CL	Yes
b. Sg, Tul, -Human	chayktul		No
c. Pl, NoTul, -Human	chayk	kyokwase sey kwen textbook three CL	Yes
d. Pl, Tul, -Human	chayktul		Yes
e. Sg, NoTul, +Human	haksayng	cwunghaksayng han myeng middle.schooler one CL	Yes
f. Sg, Tul, +Human	haksayngtul		No
g. Pl, NoTul, +Human	haksayng	cwunghaksayng sey myeng middle.schooler three CL	Yes
h. Pl, Tul, +Human	haksayngtul		Yes

Table 3. A sample token set for the SPT Indefinite conditions

3.4 Predictions

Following the observations from Park (2020) and Choi, Yoon, and Dayal (2026), we predict that *tul* would show sensitivity to both definiteness and humanness. That is, in the EPT, we expected

reduced *tul*-marking for non-human nouns compared to human nouns. In the SPT, in definite conditions, we expect differences between Conditions c [Pl, NoTul, -Human] and g [Pl, NoTul, +Human], where *tul* is not used for plural reference. In particular, similar to the pattern predicted in the production, non-human nouns without *tul* should be judged more acceptable than human nouns in such mismatching contexts.

4 Results

4.1 Elicited Production Task (EPT)

Participants' responses were coded as 0 (NoTul) and 1 (Tul). Responses that did not use the demonstrative were removed. This process removed 17 out of 144 responses for Dem conditions (11%). **Figure 1** shows the percentage of Tul vs. NoTul responses by condition. Overall, participants did not use *tul* categorically for plural referents. In particular, *tul* was less likely to be used with non-human nouns (46%) than with human nouns (73%). To examine whether the difference is significant, we ran a binomial logistic regression model using the glmer() function in R. The model results are given in **Table 4**. Humanness was the fixed effect and participants and items were random effects. We found a significant Humanness effect: participants were significantly less likely to use *tul* with -Human nouns than with +Human nouns. This pattern is unexpected if *tul* is determined solely by definiteness.

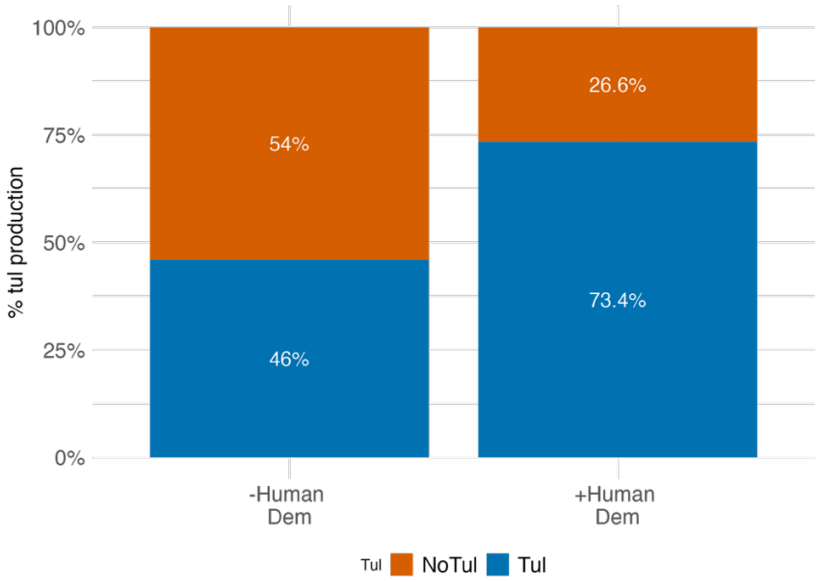

Figure 1. The production of Tul vs. NoTul by condition in the EPT

Fixed Effects	**Estimate**	**Std. Error**	**z value**	**p value**
Intercept				
Humanness: Human vs. -Human	-1.95	0.50	-3.92	<.001*
Random Effects	**Variance**	**SD**		
Subject	3.11	1.76		
Item	0.10	0.32		

Table 4. Model outputs for the EPT

4.2 Sentence Pair Task (SPT)

Figure 2 and Figure 3 present the mean ratings for the SPT for singular versus plural referents, respectively. As expected, for singular referents (Figure 2), NoTul conditions were rated higher than Tul conditions. For plural referent conditions (Figure 3), Tul was rated higher than NoTul. However, patterns diverged across Definite vs. Indefinite conditions, and these differences seem to be modulated by humanness: in Indefinite conditions, only [+Human] nouns are penalized by NoTul, while in Definite conditions, both [+Human] and [-Human] nouns are affected, while [+Human] nouns are rated lower than the [-Human] nouns overall.

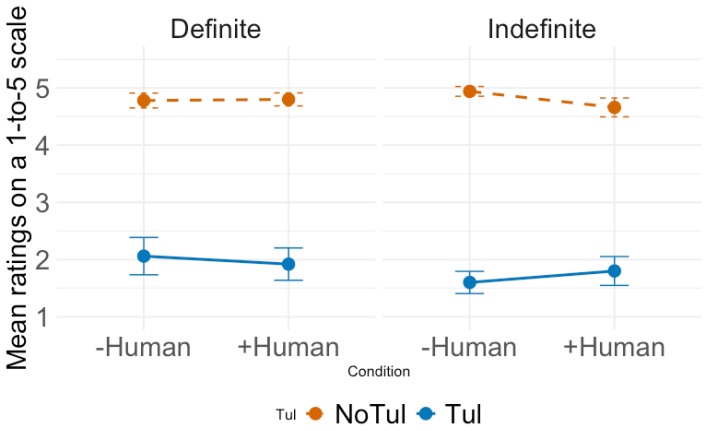

Figure 2. Mean ratings for the SPT (Singular referent conditions)

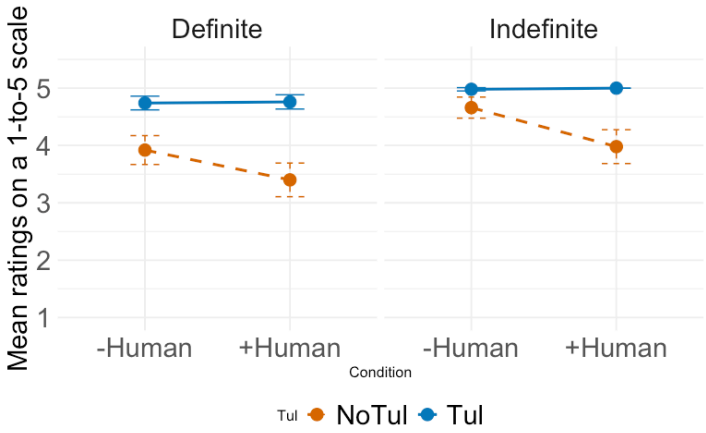

Figure 3. Mean ratings for the SPT (Plural referent conditions)

To examine the significance of these differences, we ran a linear mixed-effects model for the Plural referent conditions with Humanness, Definiteness, and Tul as fixed effects and items as random effects. A full model with participants and items as random effects did not converge. The ratings were z-scored to control for any potential scale bias. The model output is given in Table 5. The model revealed significant main effects of Tul, Definiteness, and Humanness. Tul increased ratings overall, and this effect was significantly stronger for human nouns than for non-human nouns (Tul

* Humanness, p < .05). There was also a marginal trend for Tul to have a smaller effect in indefinite contexts than in definite contexts (Tul * Definiteness, p = .06).

Fixed Effects	**Estimate**	**Std. Error**	**t value**	**p value**
Intercept	0.19	0.073	2.62	<.01**
Tul	0.45	0.102	4.43	<.001***
Definiteness: Definite vs. Indefinite	0.41	0.102	3.97	<.001***
Humanness: -Human vs. +Human	-0.30	0.103	-2.89	<.01**
Tul * Definiteness	-0.27	0.144	-1.89	.06
Tul * Humanness	0.30	0.144	2.12	<.05*
Definiteness * Humanness	-0.07	0.144	-0.52	.60
Tul * Definiteness * Humanness	0.08	0.204	0.38	.70
Random Effects	**Variance**	**SD**		
Item	0.003	0.05		

Table 5. Model outputs for the SPT (Plural referent conditions only)

5 Discussion

5.1 General Discussion

Our research questions (RQs), repeated below, asked whether definiteness and humanness influence the distribution of *tul*-marking.

RQ1. Is *tul* sensitive to definiteness?
RQ2. Is *tul* sensitive to humanness/animacy?

With regard to definiteness (RQ1), the SPT provides clear evidence that definiteness affects the interpretations of nouns with or without *tul*. When *tul* was absent but a plural interpretation was required, definite NPs were rated significantly lower than indefinite NPs. This aligns with prior observations that plural reference in definite contexts strongly favors *tul* (Kang 1994; Kwon and Zribi-Hertz 2004; Kim 2005): the absence of *tul* in definite plural contexts is penalized more heavily.

Regarding humanness (RQ2), both tasks support the role of humanness. In the EPT, native Korean speakers produced *tul* more often with human nouns than with non-human nouns, even when lexical cues to definiteness (demonstratives) were held constant. In the interpretation task, we found a significant Tul * Humanness interaction: although *tul* increased acceptability overall for plural referents, its effect was stronger for human nouns. These findings are consistent with Park (2020) and Choi, Yoon, and Dayal (2026), who argue that non-human nouns do not always require *tul* for plural reference.

All in all, the results indicate that humanness/animacy of the noun and definiteness jointly determine the likelihood of *tul*-marking. Importantly, the pattern is gradient, not categorical: plural-denoting definite, human noun phrases are most likely to be *tul*-marked, while indefinite, non-human ones are the least likely, and the other two combinations (definite, non-human & indefinite, human) fall in between.

5.2 Implications for the Syntax and Semantics of *tul*

The gradient pattern informs current debates on the analyses of *tul*-marking that views *tul* either as a (nP) modifier (Kim and Melchin 2018) or as a functional head (Num) under a definite D (Park 2022; Kim and Park 2024). While the head plural analysis can capture the effect of definiteness on *tul*, the fact that non-human definites can occur without *tul* (almost 50% of the time in our production data) poses a challenge. Under the modifying plural analysis, *tul* is not predicted to occur categorically in definite contexts, but Kim and Melchin's (2018) analysis does not straightforwardly account for the strong correlation between definiteness and *tul*-marking.

A solution to this problem may lie in the semantics of optional plural markers. Mizuguchi (2001) claims that the Japanese plural *tachi* is an individuating plural whose function is different from English *-s*: while *-s* is a function that forms a set from atoms, the Japanese plural *tachi* is the opposite, namely a function that individuates a set into atoms. Baek (2002) also proposed a similar analysis for *tul*. Baek argues that *tul*-marked nouns have "individuated singles" reading, with *tul* highlighting the individuality of entities.

The individuating plural analysis captures the fact that *tul*-marked nouns are not compatible with predicates that require class/kind terms or a group. Kind-level predicates are those that apply to a class of objects rather than (a set of) ordinary objects. In Korean, as shown in (14), bare unmarked nouns express reference to kinds. With *tul* added, however, the sentences are marginal. Given that plural-marked forms are frequently used cross-linguistically to express reference to kinds, the incompatibility of *tul*-marked nouns in kind-level statements suggest that the contribution of *tul* is more than just plurality.

(14) a. Salam-(#tul)-un wenswungi-lopwuthe cinhwahay-ss-ta
People-TOP monkey-from evolve-PST-DECL
'People have evolved from monkeys.'
b. kay-(#tul)-un nuktay-lopwuthe cinhwahay-ss-ta
dog-TOP wolf-from evolve-PST-DECL
'Dogs have evolved from wolves.'
c. Computer-(#tul)-un Babbage-ka palmyenghay-ss-ta
computer-TOP babbage-NOM invent-PST-DECL
'Babbage invented computers.'

Another example of the individuating function of *tul* can be found in cases where *tul* is added to a group denoting noun, as shown below in (15). In (15a), *tul* is attached to a group-denoting noun kacok 'family' and this results in dividing the group and individuating its members, thus yielding the intended reading (i). In (15b), in contrast, the predicate requires a group-denoting subject to represent the size of a certain group. Here, the addition of *tul* does not generate the intended reading, thus supporting the individuating function of *tul*.

(15) a. kacok-tul-i ta moy-ess-ta
family-PL-NOM all gather-PST-DECL
'The (individual) members of the family all gathered'
b. kacok-*(tul)-i khu-ta
family-PL-NOM big-DECL
'The family is a big group.' [Slightly modified from Park 2022: (21)]

Given the gradient pattern of *tul*-marking and the individuating function of *tul*, we argue that *tul* is a modifying plural that reinforces a reading that is available to a bare noun/nP by highlighting the distinctness of members of a group. As to why definiteness and animacy should lead to the preference for *tul*-marking, we claim this reflects the fact that the two features share a common conceptual core, namely the notion of individuation (Gil 2003). Since individuation is more relevant for entities in definite than indefinite contexts, and for high animate than low/inanimate nouns, the plural modifier is more likely to occur in the former contexts.

6 Conclusion

This study examined the influence of definiteness and humanness in *tul*-marking using two tasks. The Elicited Production Task (EPT) showed that human nouns are more likely to be *tul*-marked than non-human nouns when definiteness was held constant (with demonstratives). The Sentence Pair Task (SPT) results showed that the interpretation of bare nouns with or without *tul* likewise depends on definiteness and humanness, as well as the number (singular vs. plural) of the referent.

Taken together, these findings support the conclusion that *tul* is best analyzed as a modifying plural, which attaches optionally to bare nouns to emphasize strict plural readings consisting of individuated entities. However, as several studies have noted, *tul* may be undergoing grammaticalization in Korean (MacDonald 2014; Choi and Yoon 2026). If this process continues, *tul* may eventually evolve into a functional head, although we do not believe that Korean has reached that stage yet.

References

Acquaviva, P. 2008. *Lexical Plurals: A Morphosemantic Approach*. Oxford: Oxford University Press.

Ahn, D. & Snedeker, J. 2022. Early Acquisition of Plural Morphology in a Classifier Language: Data from Korean 2-4 Year Olds. *Language Learning and Development* 18(1), 1-15.

Alexiadou, A. 2019. Morphological and Semantic Markedness Revisited: The Realization of Plurality across Languages. *Zeitschrift für Sprachwissenschaft* 38(1), pp.123-154.

Baek, M. 2002. A Study on Korean Plural Senses. *Discourse and Cognition* 9: 59-78.

Borer, H. 2005. *Structuring Sense: Volume 1: In Name Only*. Oxford: Oxford University Press.

Chierchia, G. 1998a. Reference to Kinds across Language. *Natural language semantics* 6(4), pp.339-405.

Chierchia, G. 1998b. Plurality of Mass Nouns and the Notion of "Semantic Parameter". In *Events and Grammar* (pp. 53-103). Dordrecht: Springer Netherlands.

Choi, S. H. & Yoon, J. 2026. Factors That Influence the Use of Plural Marker tul in Korean. In V. Dayal. (Ed.) *The Open Handbook of (In)definiteness: A Hitchhiker's Guide to Interpreting Bare Arguments*.

Choi, S. H., Yoon, J., & Dayal, V. 2026. A Case Study on (In)definiteness in Korean. In V. Dayal. (Ed.) *The Open Handbook of (In)definiteness: A Hitchhiker's Guide to Interpreting Bare Arguments*.

Corbett, G. G. 2000. *Number*. Cambridge: Cambridge University Press.

Gil, D. 2003. English Goes Asian: Number and (In)definiteness in the Singlish Noun Phrase. In Plank, F. (Ed.), *Noun Phrase Structure in the Languages of Europe* (pp. 467-514). Mouton de Gruyter.

Hwang, S. H. & Lardiere, D. 2013. Plural-Marking in L2 Korean: A Feature-Based Approach. *Second Language Research* 29 (1), 57–86.

Kang, B. M. 1994. Plurality and Other Semantic Aspects of Common Nouns in Korean. *Journal of East Asian Linguistics* 3(1), 1-24.

Kang, B. M. 2007. Plurality and Plural Marker 'Deul'. *Eoneohak* 47, 3-31.

Kim, C. 2005. The Korean Plural Marker *tul* and Its Implications. Doctoral Dissertation, University of Delaware.

Kim, K. & Melchin, P. B. 2018. Modifying Plurals, Classifiers, and Co-Occurrence: The Case of Korean. *Glossa: a journal of general linguistics* 3(1).

Kim, K. & Park, S. E. 2024. Number in (In)definite Contexts: The Case Study of Korean. *Linguistic Research* 41.

Kramer, R. 2009. Definite Markers, Phi-features, and Agreement: A Morphosyntactic Investigation of the Amharic DP. Doctoral dissertation, University of California Santa Cruz.

Kramer, R., 2016. A Split Analysis of Plurality: Number in Amharic. *Linguistic Inquiry*, 47(3), pp.527-559.

Kwon, S. & Zribi-Hertz, A. 2004. Number from a Syntactic Perspective: Why Plural Marking Looks 'Truer' in French than in Korean. *Empirical Issues in Syntax and Semantics* 5, 133-158.

Lardiere, D. 2009. Some Thoughts on the Contrastive Analysis of Features in Second Language Acquisition. *Second Language Research* 25(2), 173–227.

MacDonald, D. 2014. From a Classifier Language to a Mass-Count Language: What Can Historical Data Show Us? In *Proceedings of the 2014 annual conference of Canadian Linguistic Association*. Brock University, St. Catherine's, Ontario. May (pp. 24-26).

Mizuguchi, S. 2001. Plurals in Classifier Languages. *Imi-to Katachi-no Interface*, 525-535.

Park, S. Y. 2008. Functional Categories: The Syntax of DP and DegP. Doctoral Dissertation, University of Southern California.

Park, S. Y. 2020. The Role of Human and Definite Features in Korean Pluralization. *Studies in Generative Grammar* 32(2): 175-196.

Park, S. Y. 2022. Two Types of Plurals and Numeral Classifiers in Classifier Languages: The Case of Korean. *Journal of East Asian Linguistics* 31(2), 139-177.

Smith-Stark, T-C. 1974. The Plurality Split. In Michael W. La Galy, Robert A. Fox & Anthony Bruck (eds.), *Papers from the 10th regional meeting of the Chicago Linguistic Society*, 657–671. Chicago, IL: Chicago Linguistic Society.

Wiltschko, M. 2008. The Syntax of Non-Inflectional Plural Marking. *Natural Language & Linguistic Theory* 26(3), 639-694.

Wiltschko, M. 2021. The Syntax of Number Markers. In Patricia Cabredo Hofherr, and Jenny Doetjes (eds), *The Oxford Handbook of Grammatical Number*, Oxford Handbooks.

Zehr, J. & Schwarz, F. 2018. Penn Controller for Internet Based Experiments (IBEX).