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JAPANESE EFL LEARNERS' INTERPRETATION OF PLURAL MORPHOLOGY

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This article examines Japanese English as a Foreign Language (EFL) learners' acquisition of meaning of the English plural marker -*s*. The main goal of the article is to experimentally investigate whether EFL learners are able to assign a plural-only reading to plural -*s*. The author conducted a Truth Value Judgement experiment with Japanese intermediate learners and found that they understood bare plurals in a different way than native speakers do. In singular scenarios, Japanese EFL learners failed to reject bare plural statements (e.g. *Black Bear has cars*) while they successfully rejected numeral statements (e.g. *Black Bear has four cars*). The results suggest that Japanese EFL learners had difficulties giving a 'more than one' reading to bare plurals and appeared to understand -*s* to mean 'at least one'.
Keywords: Second language acquisition, Japanese EFL learners, bare plurals, numerals, Truth Value Judgement task, general number

Категория числа в английском языке существенно отличается от таковой в японском языке. Без классификаторов или особых на то указаний в тексте определить число существительного в японском языке невозможно; без контекста будет совершенно непонятно, о чем идет речь. Возникают ли в таком случае сложности у носителей японского языка, изучающих английский язык как иностранный, связанные с категорией числа? Чтобы ответить на этот вопрос, на базе университета был проведен эксперимент, результаты которого показали, что у участников эксперимента действительно были затруднения в определении истинности тех суждений, в составе которых не было числительных, и не было трудностей в тех случаях, когда числительные в предложениях прямо указывали на число существительных.
Ключевые слова: изучение второго языка, японцы, изучающие английский язык как иностранный, существительные в форме множественного числа, числительные, задание на оценку истинности суждений, «общее» число

1. Introduction

Among recent trending issues in second language (L2) research is the acquisition of English plural morphology by learners whose first languages (L1) are non-number-marking languages such as Chinese, Japanese, and Korean, as opposed to number-marking-languages such as English and Russian. This has especially been the case in research on L2 online sentence processing; see Jiang, 2007; Jiang & Novokshanova & Masuda & Wang, 2011; Wen & Miyao & Takeda & Chu & Schwartz, 2010; Song, 2015; Mansbridge & Tamaoka, 2018, among others. The pair of sentences in (1a, b) from Jiang (2007) is an illustration of the grammatical contrast for which these studies tested EFL (English as a Foreign Language) learners. In (1b), the head noun *member* needs to be marked with the plural morpheme -s. If learners show a delay in reading time with (1b) relative to (1a), it is taken to suggest that they are sensitive to omission of the plural marker.

(1) *a. They met several of the board members during their visit.*
*b.*They met several of the board member during their visit.*

In the process of L2 acquisition, a learner may encounter and have to learn a grammatical morpheme that may not have a counterpart in his or her first language (L1). Two languages are *morphologically congruent* when both grammaticalize and mark a meaning morphologically. They are *morphologically incongruent* when a grammatical morpheme is present in one language but not in the other. Due to the absence of direct counterpart of -*s* in non-number-marking languages, Japanese, for example, is said to be *incongruent* with English with respect to plural -*s*, whereas a number marking language like, say, Russian is said to be *congruent* with it [Jiang et al. 2011].

A number of research questions have been asked in the processing literature on plural -*s*. Are EFL learners more sensitive to errors with plural morphology than non-morphological errors such as verb subcategorization errors [Jiang 2007]? Do congruent EFL learners (i.e., those whose L1 has a corresponding morpheme to the target L2 morpheme) detect agreement errors more easily than incongruent EFL learners (whose L1 lacks such a morpheme) [Jiang et al. 2011, Wen et al. 2010]? Relatedly, are these errors found even in advanced EFL learners [Jiang et al. 2011], or does the sensitivity vary depending on the learner's proficiency level [Wen et al. 2010; Song 2015; Mansbridge & Tamaoka 2018]? Furthermore, it has been questioned if learners exhibit different levels of sensitivity to different kinds of number agreement.

These research questions are interrelated to one another and also connected to more general hypotheses about L2 grammar acquisition such as the Full Access / Full Transfer Hypothesis [Schwartz & Sprouse 1996], the Failed Functional Feature Hypothesis [Hawkins & Chan 1997], the Shallow Structure Hypothesis [Clahsen & Felser 2006], among others.

The present paper, like the studies cited above, also investigates the plural morphology acquisition by incongruent learners. The author, however, focuses on a slightly different aspect of the plural marker: meaning of -*s*. The goal of the paper is to investigate whether Japanese EFL learners are able to assign a plural-only reading to plural -*s* in the specific linguistic environment. The hypothesis is that when interpreting English BPs Japanese L2 users assign *General Number* interpretations to them as if they were Japanese bare nouns (the explanations of General Number are given below). The author investigates the property of English bare plurals exemplified in Table 1, which indicates that the NP *cars* does not allow a singular reading when the NP occurs in a particular environment (singular scenario in Table 1).

Table 1

Expected judgements for a plural sentence in different scenarios

	Plural scenario Mary owns cars A, B, and C. She owns no other cars.	**Singular scenario** Mary owns car A. She owns no other cars.
Mary has cars.	Judged true	Judged false

First, the study aims to determine which linguistic environments to look at in order to investigate how speakers comprehend -s (Section 2). It is important to mention this as there are many environments where the plural marker has no contribution to sentence meaning, as will become clear below. Second, the author will present the results of the conducted experiment aimed at the investigation of whether intermediate Japanese EFL learners could

reject bare plural sentences in singular scenarios (Section 3). Section 4 contains the discussion of the implications of the results that were obtained.

Finally, given that the focus is shifted to meaning of plural nouns, the author used the Truth Value Judgement Task [Crain & McKee 1985; Crain & Thornton1998; see also Slabakova 2012 for its use in L2 research].

2. Interpretation of Plural -*S*

2.1. Plural-only Reading of the Plural Morpheme

The fact that English has obligatory plural morphology and Japanese does not is an instance of the well-known typological split on number marking [Greenberg 1972; Chierchia 1998; Corbett 2000; Doetjes 2012]. What makes Japanese learners of English incongruent learners is exemplified by the pair of English and Japanese noun phrases in (2).

(2) *a. three boy*(s)*
b. san-nin-no syoonen(-tati)
*three-*CL-GEN *boy-GROUP*

The plural morpheme -*s* cannot be dropped in English while what appears to be its Japanese counterpart, -*tati,* can be. This obligatory nature of the English morpheme has been used to assess learners' knowledge of the morpheme in the online processing literature.

Now let us turn to the *interpretation* of plural -*s*. As shown earlier in Table 1, the English example (3a) is true only in plural scenarios. Japanese remarkably differs from English. It allows *bare nouns* as in (3b).

(3) *a. Mary has cars.*
*(√ in plural scenarios; * in singular scenarios)*
b.Mary-wa kuruma-o motte-imasu.
*Mary-*TOP *car-*ACC *have-*POLITE
'Mary has {a car, cars}.'
(√ in plural scenarios; √ in singular scenarios)

In the *plural* scenario, where two or more cars belong to Mary, (3b) is judged true, like (3a). In the *singular* scenario, where one and only one car belongs to Mary, (3b) differs from (3a): while its English counterpart is judged false, the Japanese example is still judged true. This is why bare nouns in Japanese such as *kuruma* 'car' are said to be number-neutral. Also, this property of Japanese bare nouns is sometimes called *General Number* in the literature [Corbett 2000; see also Gil 1987, Chierchia 1998; Rullmann & You 2006].

Thus, (4) summarizes the descriptive property of plural morphology that is the concern in the current study.

(4) Plural-only Reading of English Bare Plurals

Affirmative declarative sentences headed by existential stative predicates provide a linguistic environment in which English bare plurals (nouns used without any quantifiers or determiners) receive a plural-only (*more than one*) reading. As is implied by (4), English bare plurals do not always receive a plural-only reading. The current study used affirmative declarative sentences headed by existential statives as target statements.

The reason is that sentence type is one of those that make plural-only readings available, as alluded to in (4). Sections 2.2.1 and 2.2.2 examine how (4) holds, capitalizing on findings in prior theoretical literature on meaning of *-s*.

2.2. Conditions on Plural-only Reading

2.2.1. Why Affirmative Declaratives?

It has been well acknowledged in theoretical literature that bare plurals lack a 'more than one' interpretation in negative sentences, questions, and some other constructions [Krifka 1989; Sauerland et al. 2005; Spector 2007; Zweig 2009, Farkas & de Swart 2010]. The negative sentences in (5a, b) for example are both false when Sam saw one single horse in the meadow. If, as in (5c), *horses* is replaced with *more than one horse,* the sentence becomes true in the same singular scenario. Thus, *horses* behaves on a par with *a horse* rather than *more than one horse* under the scope of negation.[1]

(5) *a. Sam has never seen horses in this meadow. [Farkas & de Swart 2010: 1]*
b. Sam has never seen a horse in this meadow.
c. Sam has never seen more than one horse in this meadow.

Similarly, questions allow an *at least one* reading, as in (6).

(6) *Do you have children?*
*Yes, I have one child./ *No, I have (only) one child. [Krifka 1989, p. 85]*

A number of recent theoretical studies on plurals claim that English plural NPs are in fact number-neutral, i.e. that plural NPs can in principle refer to atomic entities as well as pluralities [Sauerland et al. 2005; Spector 2007; Zweig 2009, Farkas & de Swart 2010]. According to these studies, the morphological singular-plural distinction plays a somewhat indirect role when the meaning of plurals is determined. They essentially characterize plural-only readings of plurals as obtained only when a certain semantic / pragmatic relation holds between the plural-only (i.e. *more than one*) reading and its singular (i.e. *at least one*) alternative. The following illustrates a simplified version of the line of thought found in Zweig 2009. Consider *Mary has cars* (= (3a)). The sentence potentially means either "Mary has more than one car" or "Mary has at least one car". Note that the former entails the latter (i.e. whenever the former is true the latter is true) and not vice versa. If we assume that the stronger meaning is always chosen as the meaning of the sentence in cases like this, it follows that (3a) receives a plural-only (*more than one*) reading.

Similarly, the absence of plural-only readings in negative sentences (e.g., (6)) is no longer a mystery. Again to simplify details, the competing two readings for *Sam didn't see horses* would be "it is not the case that Sam saw more than one horse" and "it is not the case that Sam saw at least one horse", respectively. The latter is stronger than the former. Thus, the *at least one* reading is predicted to be chosen, as desired.

Summarizing, if one wants to see if speakers have acquired the singular-plural distinction in meaning, the affirmative declarative construction is a place to look at.

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[1] Throughout the paper, we are not concerned with cases like (i), where world knowledge clearly kicks in. See Spector (2007), Farkas and de Swart (2010), and references cited therein.
(i) Jack does not have a father / #fathers.

2.2.2. Why Existential Statives?

Turn to the second factor mentioned in (4). As far as the author is aware, bare plural sentences with non-stative predicates tend to lack a plural-only reading.[2] The key feature is the lexical aspect or aktionsart of predicates [Vendler 1967; Dowty 1979]. As an example, consider how sentence (7) is judged under context (8).

(7) *John picked up pills.*

(8) Context: John dropped many pills on the floor. His father told him to pick up all the pills. Those pills were small and hard to pick up right away. It took him some time to pick up the first one. He got tired and stopped.

The native speakers, who the author consulted mostly, accepted (7) in the singular scenario in (8).[3] Some of them reported that their intuition was that in (8), John has engaged in *an activity of picking up pills*.

Since Verkuyl (1972), it has been well known that bare plurals in object position give rise to a *durative* interpretation of accomplishments. Consider (9) below. These sentences show that bare plural nouns (e.g., (9a)) behave on a par with mass nouns (e.g., (9b)) in that they give rise to atelic readings while singular indefinite nouns (e.g., (9c)) do not; see Chierchia (1998), Lasersohn (2011) for discussion on mass-plural parallelisms.

(9) *a. John ate sandwiches for ten minutes.*
b. John ate bread for ten minutes.
*c. *John ate a sandwich for ten minutes.*

If *pills* is interpreted as if it were a mass noun in the relevant sense, the fact that (7) is compatible with the singular scenario in (8) is less surprising.

There are two points to be noted here: (i) it is interesting to observe that many bare plural sentences that have been reported to have a plural-only reading in the literature are very often headed by statives; (ii) these stative predicates are ones allowing for an existential reading of their object NPs. Consider (10).

(10) *a. The homework contains difficult problems. [Spector 2007: 243]*
b. John owns rare Amazonian parrots. [Zweig 2009: 354]

The verbs in (10), *contain* and *own*, are both stative predicates whose postverbal NPs are interpreted existentially. As Dobrovie-Sorin (1997) observed, these statives are contrasted with the class of statives including *respect, hate, love, like,* etc. Predicates of the latter class do not allow existential readings for their postverbal bare plurals. They only receive generic readings, as in (11), adapted from Dobrovie-Sorin [Dobrovie-Sorin 1997: 127].

(11) *a. John loves girls.*
b. John respects professors.
c. John hates politicians.

[2] The author is grateful to Roger Martin, with whom we had numerous beneficial discussions on (8) and related examples.

[3] The author consulted 7 native English speakers. 6 speakers accepted (8) under the singular scenario.

We can call the class exemplified by (10) *existential statives* to distinguish them from the class exemplified by (11). Given the current goal of this study (i.e. knowing whether Japanese learners can assign plural-only readings to bare plurals), the author concludes that it is reasonable to use existential stative sentences for the materials.

2.3. Subsection Summary

To summarize this section, bare plurals are incompatible with singular scenarios only in a limited set of environments. If one seeks to determine if speakers understand the contribution of the plural marker to sentence meaning, the affirmative declarative with existential statives mentioned in (4) is a construction one can look at.

3. Experiment

To test whether Japanese EFL learners can handle meaning of bare plurals, the author conducted an experiment, using bare plural sentences headed by existential statives.

3.1. Participants

45 Yokohama National University students, native speakers of Japanese, were tested. All were between the age of 18 and 23, all studied English at schools but had no experience of studying abroad. Based on the level of the test given to the students at the university entrance examination, the author would assess their English proficiency level as intermediate, and none of the students majored in English. Additionally, the author conducted a preliminary survey with five native English speakers to see how native speakers perform the same task.

3.2. Materials and Design

The experiment used the Truth Value Judgement Task methodology [Crain & McKee 1985; Crain & Thornton 1998; Slabakova 2012]. The author manipulated two within-subjects factors: *NP type* and *Context*. The first factor gives two types of test sentences; one involves Bare Plural NPs (abbreviated BP) and the other Numeral NPs (abbreviated Num). A sample pair is given in (12).

(12) *a. BP-statement: Black Bear has cars.*
b. Num-statement: Black Bear has four cars.

The other factor concerns contexts in which the test sentences are uttered. In one context, the relevant character ends up having a single object (e.g., a car) at the end of a story; and in the other context, the same character ends up having four objects (e.g., four cars). The former context is abbreviated SO (single object), while the latter MO (multiple object). Thus, every participant experienced four conditions as summarized in Table 2. The statements for each condition were given by a puppet.

There were eight item sets with each comprising the four conditions, i.e. the BP/SO, BP/MO, Num/SO, and Num/MO conditions, which gave 32 statement-context pairs in total. These 32 pairs were distributed according to a Latin Square design such that each participant experienced two trials per condition. Recently, Latin Square design is often used in L2 studies (e.g. Cominguez & Sagarra & Bel & Garcia-Alcaraz 2017; Lambert & Kormos & Minn 2017). See also Section 3.3, where more complete sample scripts and the other seven sets of target statements are provided.

Table 2

Simplified storyline and the puppet's statement for each condition

	SO (Single Object)	MO (Multiple Object)
	● Black Bear and Zebra are in a car-moving competition at a parking lot. Elephant, being the judge, says to them that if they successfully move cars, then they can take the cars they have moved as a prize. ● Zebra tries first. He successfully moves three cars and these cars belong to him now. And then, Black Bear tries.	
	● Black Bear only moves **one** car. He owns only one.	● Black Bear moves **four** cars. He owns four cars now.
BP (Bare Plural)	Puppet: "Zebra has cars now. Black Bear also has cars."	Puppet: "Zebra has cars now. Black Bear also has cars."
Num (Numeral)	Puppet: "Zebra has three cars now. Black Bear has four cars."	Puppet: "Zebra has three cars now. Black Bear has four cars."

3.3. Procedure

There were two proctors. One was the main experimenter, the author, and the other controlled the puppet, Bunny, that uttered target statements. The group of participants listened to each story presented by the main experimenter with pictures shown on the computer screen, and the puppet described what had happened in the story when it ended (this is the test sentence). On hearing the puppet's statement, the participants were asked to judge whether the statement was correct. The participants were not provided with the copy of the script to read.

Before starting the main trials, there were two warm-up trials for the participants to get a general idea of the task. In these warm-up trials, the instructions were given to them in English and partly clarified using Japanese as well. These practice trails were also intended to facilitate participants to get used to the main experimenter's way of delivering speech in English.

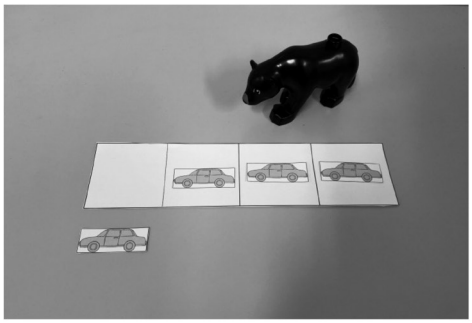
Table 3 shows sample scripts for the four conditions. As the story unfolded, the participants were shown pictures in the same order as they appear in Table 3. In total the author had four different lists, where stories remained the same, but the order and test sentences were different. Each group only worked with one column: either SO or MO contexts. Only one test sentence was used for each story, either BP statement or Numeral statement. Also, the list in (13) shows the actions underlying the eight stories followed by the critical utterances.

Table 3

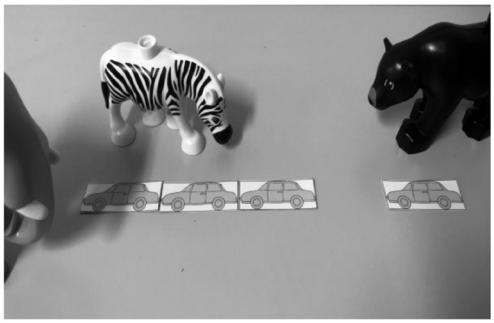
Sample scripts for the four conditions with correct (nativelike) answers

<table>
<tr><th colspan="2">Single Object context</th><th colspan="2">Multiple Object context</th></tr>
<tr><th>Bare Plural statement</th><th>Numeral statement</th><th>Bare Plural statement</th><th>Numeral statement</th></tr>
<tr><td colspan="4">Picture 1: Zebra, Black Bear, and Elephant are standing in a parking lot.
Experimenter: Zebra and Black Bear are participating in a contest. Elephant serves as the judge. The contest takes place in a parking lot, where the contestants attempt to lift cars and move them away from their parking places. The contestants get to keep all of the cars that they successfully move.</td></tr>
<tr><td colspan="4">Picture 2: Zebra and three cars at the parking lot.
Experimenter: Zebra tries first.</td></tr>
<tr><td colspan="4">Picture 3: Zebra with three cars outside of the parking lot.
Experimenter: He has moved three cars right away. He has done quite well, and he is very happy because he has never had a car before now.</td></tr>
<tr><td colspan="4">Picture 4: Zebra with three cars in front of him. Elephant standing.
Experimenter: The judge, Elephant, says to Zebra, "Good job, Zebra. Since you have moved three cars, now they are all yours."</td></tr>
<tr><td colspan="4">Picture 5: Black Bear and four cars in the parking lot.
Experimenter: Let's see about Black Bear.</td></tr>
<tr><td colspan="2">Picture 6: Black Bear with one car outside the parking lot and three cars still inside.
Experimenter: He moved one car, which made him become very tired. He would like to get another car, but he is too tired, so he gives up. Still, he too is happy because he has never had a car before now.
Picture 7: Black Bear with one car. Elephant standing.
Elephant says to Black Bear, "You did your best. You only moved one car, but you still get to take it as a prize."
Black Bear says "Thank you, but I wish I had moved three more cars. Then I could be the winner!"
Picture 8: Zebra with three cars; Black Bear with one car. Elephant standing.
Experimenter (to Puppet): This is the end of the story, so it is time to talk to Bunny. Bunny, what was the result of the contest?</td><td colspan="2">Picture 6: Black Bear with one car outside the parking lot and three cars still inside.
Experimenter: He moved one car, which made him become very tired. There are three more cars in the parking lot, which he would like to have, so even though Black Bear was really tired, he moved them as well.
Picture 7: Black Bear with four cars outside of the parking lot.
Picture 8: Black Bear with four cars. Elephant standing.
Elephant says to Black Bear, "I am proud of you, Black Bear. You have moved four cars, and you can have them all."
Picture 9: Zebra with three cars, Black Bear with four cars. Elephant standing.
Experimenter (to Puppet): This is the end of the story, so it is time to talk to Bunny. Bunny, what was the result of the contest?</td></tr>
<tr><td>Bunny: Zebra has cars now. Black Bear also has cars.</td><td>Bunny: Zebra has three cars now. Black Bear has four cars.</td><td>Bunny: Zebra has cars now. Black Bear also has cars.</td><td>Bunny: Zebra has three cars now. Black Bear has four cars.</td></tr>
<tr><td colspan="4">Experimenter (to Puppet): Was what Bunny said correct?</td></tr>
<tr><td>NO</td><td>NO</td><td>YES</td><td>YES</td></tr>
</table>

To illustrate the procedure of the experiment better, there are sample pictures below:



Pic. 6.



Pic. 7.

(13) a. Moving cars. Zebra has (three) cars now; Black Bear (also) has (four) cars.

b. Painting houses. Elephant has (three) houses now; Giraffe (also) has (four) houses.

b. Lifting helicopters. Elephant has (three) helicopters now; Giraffe (also) has (four) helicopters.

c. Painting ships. Black Bear has (three) ships now; Elephant (also) has (four) ships.

d. Finding diamonds. Crocodile has (three) diamonds now; Panda (also) has (four) diamonds.

e. Finding phones. White Bear has (three) phones now; Tiger (also) has (four) phones.

f. Polishing rings. Hippo has (three) rings now; Penguin (also) has (four) rings.

g. Cleaning trains. Lion has (three) trains now; Giraffe (also) has (three) trains.

3.4. Results

The ANOVA analysis was performed over accuracy rates. The accurate answer for each condition is the nativelike response – for BP/SO condition and Num/SO conditions it is rejecting the statement; for BP/MO and Num/MO it is accepting the statement. Japanese EFL learners' performance on target trials is shown on Figure 1. The participants accurately responded to the test sentences 68.1% of the time in the BP/SO condition and 96.5% of the time in the BP/MO condition. The participants accurately responded to test statements 98.8% of the time in the Num/SO condition and 93.1% in the Num/MO condition. The ANOVA analysis revealed that there was a significant main effect of *NP type* ($F(1,43) = 18.21$, $p < .01$), a significant main effect of *Context* ($F(1,43) = 11.20$, $p < .05$), and a highly significant interaction between the two factors ($F(1,43) = 20.20$, $p < .01$). A further interaction analysis showed that the factor NP-type had a simple main effect at the SO condition: whether they were given statements with *Xs* (BP) or *four Xs* (Num) affected the participants' performance in the SO condition ($F(1,43) = 25.06$, $p < .05$)). The same difference ceased to be significant at the MO condition ($F(1,43) = 1.00$, ns). Moreover, the analysis revealed that the factor Context gives rise to significant simple main effects at the BP condition ($F(1,43) = 18.62$, $p < .05$)) but not at the Num condition ($F(1,43) = 3.80$, ns).

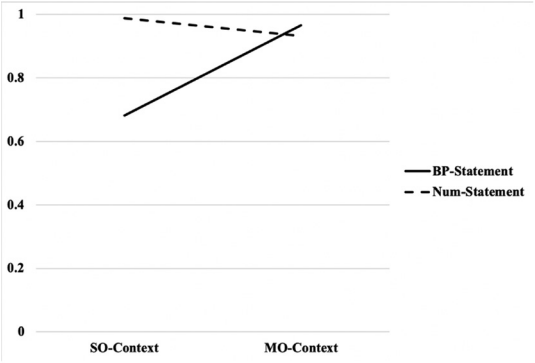


Figure 1. Interaction between the factors

In addition to the main experiment, the author ran an informal survey with five native speakers, including one linguist, to confirm that the critical BP statements do receive a plural-only interpretation in the present experimental setting. Using a subset of the experimental materials, the author asked the speakers to hear the SO version of one story and the MO version of another and to judge the relevant BP statements. All the five speakers rejected the BP statements in the SO contexts and accepted them in the MO contexts, as expected.

4. Discussion

The results suggest that the Japanese EFL learners exhibited a grammatical deficit when interpreting English bare plural NPs such as *cars*: they often failed to detect the plural-only readings of bare plural sentences, while they comprehended numeral sentences with no difficulties. That means that the hypothesis of this paper appears to be correct. Recall that Japanese native speakers as well as other incongruent learners tend to lack the nativelike sensitivity to agreement mismatches such as the one found in *several board member* (see Section 1 for prominent references). The results of the experiment indicate that Japanese speakers' problem with plural *-s* carries over to comprehension of the morpheme. In the remainder of this section, the author will first discuss what might cause Japanese (or more generally incongruent) learners the interpretive problem and then discuss ongoing issues not resolved in the current study.

There are two possible reasons why JEFLs have difficulties interpreting plural morphology, which can be schematized as in (14a, b).

(14) *a.* $[_{S}$*Mary*$[_{VP}$ *has* $[_{NP}$ *car]]]*
b. $[_{S}$ *Mary* $[_{VP}$ *has* $[_{NP}$ *car-*$_{PL}$*]]]*

(14a) represents the reason that appeals to L1 transfer. It claims that the problem stems from Japanese learners assigning a *non-number-marked* representation like (14a) to bare plural sentences. The idea is that intermediate learners like those that the author tested might interpret English bare plurals the way they interpret Japanese bare nouns such as *kuruma*. Since Japanese bare nouns do not allow a plural-only reading (see (3b)), it explains our participants' performance with English plural nouns.

The alternative given in (14b), in contrast, hypothesizes that while Japanese learners can employ the syntax of plural *-s* properly they fail to accurately compute the meaning of

the morpheme. Recall from Section 2.2.1 that recent theories of meaning of plurals have proposed that plural -*s* can have *more than one* and *at least one* readings in principle and the former (plural-only) reading comes through certain semantic / pragmatic considerations. If learners are not capable of such semantic / pragmatic comparison of the *more than one* and *at least one* readings, they are expected to fail to reject bare plural sentences in singular scenarios, which makes the weaker readings true. Although choosing between these two reasons is beyond the scope of the present paper, the issue is empirical. The second alternative would be supported if the participants were sensitive to -*s* omission errors in online processing, like the intermediate learners that participated in Mansbridge & Tamaoka's (2018) experiments.

There are a few more other issues that have to be left open in this paper but are worth being noted. One thing that cannot be settled here has to do with morphological congruency [Jiang et al. 2011]. Is the low performance of the TVJT participants due to the fact that their first language is a non-number-marking language? To address this issue, the author would need to test EFL learners whose L1 is a number-marking language as well as to see if they are better at getting plural-only readings.

Learners' English proficiency is another important factor that the author could not rigorously control for in the current experiment. The participants in the experiment were all intermediate learners. It might be worth checking if advanced learners perform the same TVJT better.

5. Conclusion

The article examined acquisition of meaning of English plural NPs by Japanese EFL learners. First, the author tried to identify a linguistic environment that we can use to investigate whether speakers can give a legitimate interpretation to the plural marker. It was observed that affirmative declarative plural sentences headed by existential stative predicates can serve our purpose: bare plurals have *more than one* reading but lack *at least one* readings in this environment. The goal of the paper was to experimentally investigate whether Japanese EFL learners are able to assign a plural-only reading to plural -*s* in the above-mentioned specific linguistic environment. The author conducted a TVJT experiment and found that they understood bare plurals in a different way than native speakers do. They had difficulties giving a 'more than one' reading to bare plurals and seemed to interpret -*s* to mean 'at least one'.

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