Children’s Asymmetrical Responses  
and the Incorrect Association of Focus Particles  
in Japanese Right Dislocation  

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1. Introduction

This study investigates Japanese-speaking children’s interpretations of the focus expressions *dake* and *sika* in Japanese Right Dislocation. It has been reported that English-acquiring children are likely to wrongly interpret the focus expression *only* in the presubject position. For example, if a cat is holding a flag, a duck is holding a flag and a balloon, and a frog is holding a balloon, “*only* the cat is holding a flag” is a wrong description because the duck is also holding a flag (Crain et al. 1992, Crain et al. 1994). However, children are likely to judge the sentence as correct. These non-adult-like responses are cross-linguistically observed (Mandarin Chinese: Notley et al. 2009, Zhou and Crain 2010, German: Müller 2011, Japanese: Endo 2004, Matsuoka 2007, Sano 2012). In this study, we examine the Japanese focus expressions *dake* and *sika* (*-nai*).

(1) Taro-ga LGB-*dake*-o yomu.  
Taro-Nom LGB-Foc-Acc read  
‘Taro reads only LGB.’

(2) Taro-ga LGB-*sika* yonde-nai.  
Taro-Nom LGB-Foc read-Neg  
‘Taro reads only LGB.’ (Tanaka 1997, p. 146)

In (1), *dake* corresponding to *only*, is attached to the object, while in (2), *sika* is attached to the object. *Sika* corresponds to *nothing but* and being a negative polarity item must cooccur with a negative marker *nai*. Both (1) and (2) mean “Taro reads only LGB.” Endo (2004) reports that Japanese-speaking children often incorrectly interpret *dake/sika* when attached to the subject in

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canonical SOV sentences. However, it is still not clear whether children’s incorrect association with dake/sika is based on the linear order or the hierarchical structure of the sentence. To tease apart these possibilities, we investigate their interpretations of dake/sika in a non-canonical word order, Japanese Right Dislocation.

Next, let us consider the word order in Japanese. The canonical Japanese word order is SOV as shown in (3). In Japanese Right Dislocation (henceforth, JRD), a constituent can appear in the postverbal position as shown in (4).

(3) Taro-ga ano hon-o yonda-yo.
    Taro-Nom that book-Acc read-Prt
    ‘Taro read that book.’

(4) a. Δi Ano hon-o yonda-yo, Taro-ga_i,
    that book-Acc read-Prt Taro-Nom
    b. Taro-ga Δi yonda-yo, ano hon-o_i,
    Taro-Nom read-Prt that book-Acc
    ‘Taro read that book.’

In (4a), the subject Taro-ga is right-dislocated to sentence-final position. In (4b), the object ano hon-o is right-dislocated. Note that Δ indicates a gap without any theoretical commitments. Spontaneous speech containing JRDs by Japanese children at ages 2 to 3 have been observed by Sugisaki (2005) and Dansako (2018).

In this study, we conducted an experiment to examine children’s interpretations of dake and sika in the following four types of JRD involving dake and sika as shown below.

(A) [Focused S] V, O
(B) [Focused O] V, S
(C) O V, [Focused S]
(D) S V, [Focused O]

In (A) and (B), the focused phrases are positioned at the beginning of sentences, while in (C) and (D), the focused phrases appear at the end. How do children interpret dake/sika when the word order changes?

2. Previous Studies
2.1. Japanese Right Dislocation (JRD)

We briefly review syntactic analyses of JRD here. Previous studies have proposed various analyses of JRD, which are summarized in four main approaches of JRD, as shown in (5).
(5) a. Rightward movement analysis
   \[ ZP [YP \ldots t_i \ldots V], XP_i, ] \]
   b. Double preposing analysis
   \[ ZP, XP_i, [YP \ldots t_i \ldots V] \Rightarrow WP, [YP \ldots t_i \ldots V], XP_i, ] \]
   c. Repetition + deletion analysis
   \[ YP \ldots pro_i \ldots V], [ZP, XP_i, XP, ] \]
   d. Base-generation analysis
   \[ ZP [YP \ldots pro_i \ldots V], XP_i, ] \]

(Takita 2011, p. 381)

The rightward movement approach in (5a) claims that a right-dislocated element XP directly moves to a postverbal position (Murayama 1999). Under the double preposing approach in (5b), XP, which is a right-dislocated element, moves to sentence-initial position, and then, YP including the trace of XP undergoes leftward movement (Kurogi 2006, Miyata 2018). The third approach is the repetition + deletion approach in (5c) (Kuno 1978; Abe 1999; Tanaka 2001; Takita 2011 a.o.). In this approach, there are two almost identical clauses. Pro in the first clause and XP in the second clause are coindexed. In the second clause, XP moves to sentence-initial position, and YP is deleted. Finally, under the base-generation approach in (5d), it is assumed that XP, which is a right-dislocated element, is base-generated in postverbal position. XP and pro are coindexed (Soshi and Hagiwara 2004).

In this study, we assume that the leftward movement is involved in the derivation of JRD. First, the rightward movement analysis cannot explain the long-distance reading of JRD.

   John-Nom Mary-Nom LGB-Acc read-Past-Comp say-Past Prt
   b. John-ga [Mary-ga pro_i yon-da-to] it-ta yo,
   John-Nom Mary-Nom read-Past-Comp say-Past Prt
   LGB-o_i.
   LGB-Acc
   ‘John said that Mary read LGB.’

(Tanaka 2001, p. 557)

(6a) is a canonical sentence and (6b) is a JRD sentence in which the object LGB is right-dislocated from the embedded clause. As shown in (6b), the long-distance reading is possible in JRD. According to Tanaka (2001), however, the rightward movement beyond the clause boundary, such as in (6b), should be blocked by the Right-Roof Constraint (RRC) because the RRC, originally proposed by Ross (1967), defines that rightward movement is clause-bound.
Next, the base-generation analysis is not compatible with the fact that JRD is sensitive to island effects. Examples are shown in (7).

(7) a. John-ga [Mary-ga Bill-ni age-ta hon-o]  
    John-Nom Mary-Nom Bill-Dat give-Past book-Acc  
    nusun-da yo.  
    steal-Past Prt  

b. ?* John-ga [Mary-ga proi age-ta hon-o]  
    John-Nom Mary-Nom give-Past book-Acc  
    nusun-da yo, Bill-ni.  
    steal-Past Prt Bill-Dat  

‘John stole the book that Mary gave to Bill.’ (Tanaka 2001, p. 555)

Several studies report that JRD is subject to island effects (Abe 1999, Tanaka 2001, Miyata 2018, a.o.). (7) has a relative clause ‘the book that Mary gave to Bill.’ In (7b), Bill is extracted from the relative clause, which is a violation of the complex NP constraint. Thus, the acceptability of (7b) is degraded. The existence of the island effect suggests that any movement involves the derivation of JRD. Therefore, the base-generation analysis cannot explain the island sensitivity.

Based on these reasons, we assume that the leftward movement is involved in the derivation of JRD, that is, the repetition + deletion analysis or the double-preposing analysis. However, we do not specify the structure we adopt here. In the next subsection, we review some studies of the acquisition of focus expressions.

2.2. Acquisition studies of focus expressions

In previous studies, it was reported that English-speaking children often show non-adult-like responses to sentences with presubject only. (Crain et al. 1994; Notley et al. 2009; Sugawara 2016, a.o.)

(8) Situation: A cat is holding a flag, a duck is holding a flag and a balloon, and a frog is holding a balloon.

(9) a. Only the cat is holding a flag.
    b. The cat is only holding a flag. (Crain et al. 1994, p. 460)

(9a) is a wrong description for the picture since the duck is also holding a flag. On the other hand, (9b) is a correct description of the picture. Crain et al. (1992), which is also reported in Crain et al. (1994), found that over the half of the children (21/38) consistently judged (9a) as correct. They interpreted (9a) as if only is attached to the VP as in (9b). Notley et al. (2009) also report that both English- and Chinese-speaking children consistently interpret the focus
expressions in the presubject position as if they are associated with VP, as shown by Crain et al. (1994). We call this “the subject-object asymmetry.” Notley et al. (2009) proposed that children analyze the focus expression as a sentential adverb taking scope over both the subject NP and VP.

(10a) *Only* Tigger has a ball.

b. [*Only* Tigger] has a ball.

c. [*Only* [Tigger has a ball]]

(10a) has the structure shown in (10b) in adult grammar. *Only* c-commands the subject *Tigger*, but it does not c-command other constituents. Thus, *only* can be associated with *Tigger*, but not with other constituents. However, children may wrongly treat *only* like a sentential adverb as shown in (10c). Therefore, *only* can take its scope over the whole sentence in children’s grammar. In (10c), *only* c-commands any phrases in the sentence; thus children can associate *only* with either the subject NP or the VP regardless of its surface position.

In Japanese, Endo (2004) investigated children’s interpretation of the focus expressions. She investigated children’s interpretations of *dake* and *sika* in canonical SOV sentences using the Truth Value Judgment Task (Crain and Thornton 1998). A test sentence such as (11) was presented in a situation where a rabbit has two oranges and a squirrel has a watermelon and an orange. For adults, (11) matches the situation.

(11) Risu-san-*dake*-ga suika-o tot-ta.

Squirrel-Foc-Nom watermelon-Acc get-Past

‘Only the squirrel got a watermelon.’ (Endo 2004, p. 146)

The child was asked to judge whether the test sentences were correct or wrong for the situations and to give reasons for his/her answer. There were four types of the test sentences: *dake/sika* attached to the subject (Subj+*dake* and Subj+*sika*) and *dake/sika* attached to the object (Obj+*dake* and Obj+*sika*). The results of the experiment are given in Table 1.

Table 1. The results of Endo (2004)

<table>
<thead>
<tr>
<th></th>
<th>Correct response rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subj + <em>dake</em></td>
<td>31.7% (19/60)</td>
</tr>
<tr>
<td>Obj + <em>dake</em></td>
<td>83.9% (52/62)</td>
</tr>
<tr>
<td>Subj + <em>sika</em></td>
<td>40.3% (25/62)</td>
</tr>
<tr>
<td>Obj + <em>sika</em></td>
<td>78.0% (46/59)</td>
</tr>
</tbody>
</table>

(Endo 2004, p. 144)

In her experiment, the correct response rates of Obj+*dake/sika* were higher than those of Subj+*dake/sika*. In addition, some children who judged (11) as
wrong said that it was because the squirrel also took an orange. This response suggests that these children wrongly interpret Subj+$dake/sika$ as if it is Obj+$dake/sika$. In short, the subject-object asymmetry was observed as in Crain et al. (1994) and Notley et al. (2009).

Sano (2012) conducted an experiment on Japanese-speaking children’s interpretation of the focus expression $dake$ in scrambled OSV sentences. An example is shown below.

\begin{equation}
\text{Mikan-o zou-$dake$-ga tot-ta.}
\end{equation}

\begin{flushright}
\text{orange-Acc elephant-Foc-Nom take-Past}
\end{flushright}

‘An orange, only the elephant took.’ (Sano 2012, p. 529)

In (12), $dake$ is attached to the subject $zou$ ‘elephant’ and the object $mikan$-o ‘orange-Acc’ precedes the subject. In the experiment, the children rejected the scrambled sentence such as (12) in the matched conditions 37.5% (9/24) of the time. This result suggests that children also show non-adult-like behavior to some extent regarding $dake$ attached to the subject when the object was scrambled. It implies that children might reconstruct the scrambled object in the canonical position and wrongly associate $dake$ with the object.

As we saw above, children often show non-adult-like responses for sentences with focus expressions in both English and Japanese. However, it is still not clear whether children’s incorrect association is based on the linear order or the hierarchical structure. To examine this issue, we extend our research to $dake/sika$ in a non-canonical word order, JRD. The research questions we set are as follows. First, in JRD, do Japanese-speaking children wrongly associate the focus expressions $dake/sika$? Next, if Japanese-speaking children show a wrong association of focus expressions, is the wrong association based on linear order or hierarchical structure (i.e. the canonical positions after reconstruction)? The next section deals with our experiment to investigate these research questions.

3. Experiment
3.1. Subjects and Methods

The subjects were 19 monolingual Japanese-speaking children (5;2-6;10). They were divided into two groups. Ten children participated in the $dake$ group and nine children participated in the $sika$ group. However, since one child

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1 Tom Roeper (p.c.) suggested that children’s non-adult-like symmetrical responses for the quantifier $every$ (e.g. “every boy is riding a horse”) reported by Philip 1995, Crain et al. 1996, Drozd 2001, Sugisaki and Isobe 2001, Rakhlin 2007, Roeper et al. 2011, and Kiss and Zétényi 2017 among others should be related to children's incorrect associations of focus expressions in various languages. This issue seems to be very important and we need to investigate it further.
accepted almost all the test sentences and two children rejected almost all of them, they were excluded. Hence, eight children participated in the *dake* group (5;7-6;7, mean: 6;3) and eight children participated in the *sika* group (5;2-6;10, mean: 6;2).

The experimental method was the Truth Value Judgment Task (Crain and Thornton, 1998). The children were interviewed individually in a quiet room of a kindergarten, where each child was asked to look at a picture on the laptop. An experimenter explained the situation of the picture and told the child that a character on the screen would talk about one of the animals in the picture, which was actually the test sentence. The test sentence produced by the character was pre-recorded by one of the experimenters on the computer. After listening to the test sentence, the child was asked to judge whether the test sentence was true or false. The same pictures were used for both the *dake* and *sika* groups in the main session, but the test sentences were different.

The experiment consisted of a practice session and a main session. The main session consisted of 16 trials including 4 filler items. Six types of target sentences were examined as shown below. “Focused” indicates that *dake/sika* is attached to the element.

(i) Canonical: *Focused S* O V
(ii) Canonical: S *Focused O* V
(iii) JRD (A): *Focused S* V, O
(iv) JRD (B): *Focused O* V, S
(v) JRD (C): O V, *Focused S*
(vi) JRD (D): S V, *Focused O*

All the test sentence types were presented in both matched and mismatched situations.

Next, let us look at examples of canonical test sentences. A sample story and the test sentences are shown in (13) and (14). The focused NPs and focus expressions are in bold.

(13) (i) Canonical: *Focused S* O V (False)
(14) a. Experimenter: A bear bought a car and a train. Now Anpanman [the name of character] will talk about a dog.
   b. Test sentence (*dake*): **Inusan-dake-ga** densha-o kat-ta yo.
      dog-Foc-Nom train-Acc buy-Past Prt
   c. Test sentence (*sika*): **Inusan-sika** densha-o kawa-nakat-ta yo.
      dog-Foc train-Acc buy-Neg-Past Prt

   ‘Only the dog bought a train.’

In test sentence (14b), *dake* is attached to the subject *dog*, and in (14c), *sika* is attached to the subject. These test sentences are mismatched with the picture because the bear also bought a train. However, if a child associates *dake/sika* with the object, such as “the dog bought only a train,” he/she is expected to accept these test sentences because the only thing that the dog bought is a train. In addition, if the child ignores the focus expressions, (14b) and (14c) will be interpreted as “the dog bought a train.” In that case, this interpretation is matched with the picture and he/she will incorrectly accept them.

Next, let us look at the experimental design for the JRD test. (16b) and (16c) are the test sentences for (iii) JRD (A): [Focused S] V, O.

(15)(iii) JRD (A): [**Focused S**] V, O (True)

(16) a. Experimenter: An elephant took a banana. Now Anpanman will talk about a bear.
   b. Test sentence (*dake*): **Kumasan-dake-ga** tot-ta yo, ringo-o.
      bear-Foc-Nom take-Past apple-Acc
   c. Test sentence (*sika*): **Kumasan-sika** tora-nakat-ta yo, ringo-o.
      bear-Foc take-Neg-Past apple-Acc

   ‘Only the bear took an apple.’

In (16b), *dake* is attached to the subject *bear*, and *sika* is attached to the subject in (16c). In the picture, it is only the bear that took an apple; thus the test sentences were matched with the picture. However, if a child incorrectly associates *dake/sika* with the object, it will be interpreted as “the bear took only an apple.” If so, the child is expected to reject the test sentences because the bear also took a banana.
3.2. Predictions

First, we make our predictions based on linear order. In that case, children are expected to associate dake/sika with the following NPs. Namely, among the six types (i)–(vi) we tested, children would show non-adult-like associations when focused NPs are positioned at the beginning of the sentence, that is, type (i) canonical: [**Focused S**] O V, type (iii): JRD (A): [**Focused S**] V, O and type (iv): JRD (B): [**Focused O**] V, S. Thus, children are expected to wrongly associate the focus particles in the sentence types (i), (iii) and (iv).

Our next predictions are based on the hierarchical structure after reconstruction. Because the predictions for types (i) and (ii) are the same as for linear order, we focus here on the predictions for JRD here. We assume that leftward movement is involved in the derivation of JRD and that the right-dislocated elements can be reconstructed to their canonical positions. The reconstructed structures are shown in Table 2.

Table 2. The reconstructed structures of JRD

<table>
<thead>
<tr>
<th>Sentence Type</th>
<th>Reconstructed Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>(iii) JRD (A): [<strong>S</strong>] V, O</td>
<td>[<strong>S</strong>] O V</td>
</tr>
<tr>
<td>(iv) JRD (B): [<strong>O</strong>] V, S</td>
<td>S [<strong>O</strong>] V</td>
</tr>
<tr>
<td>(v) JRD (C): O V, [<strong>S</strong>]</td>
<td>[<strong>S</strong>] O V</td>
</tr>
<tr>
<td>(vi) JRD (D): S V, [<strong>O</strong>]</td>
<td>S [<strong>O</strong>] V</td>
</tr>
</tbody>
</table>

After the reconstruction, the focused subjects are in higher positions than the objects in types (iii) and (v). In contrast, the focused objects are in lower positions than the subjects in types (iv) and (vi). If children associate the focus expressions dake/sika with structurally lower NPs, we would expect children’s non-adult-like association in type (i), (iii) and (v).

A summary of the predictions is shown in Table 3. ‘Yes’ indicates that the occurrence of non-adult-like responses is predicted, whereas ‘No’ indicates that their occurrence is not predicted.

Table 3. Summary of the predictions

<table>
<thead>
<tr>
<th>Sentence Type</th>
<th>Linear Order</th>
<th>Hierarchical Structure (Reconstruction)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Canonical: [<strong>S</strong>] O V</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>(ii) Canonical: S [<strong>O</strong>] V</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>(iii) JRD (A): [<strong>S</strong>] V, O</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>(iv) JRD (B): [<strong>O</strong>] V, S</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(v) JRD (C): O V, [<strong>S</strong>]</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>(vi) JRD (D): S V, [<strong>O</strong>]</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
3.3. Results

The results of the experiment are shown in the table below.

<table>
<thead>
<tr>
<th>Sentence Type</th>
<th>Dake group</th>
<th>Sika group</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Canonical: [Focused S] O V</td>
<td>56.3% (9/16)</td>
<td>50.0% (8/16)</td>
</tr>
<tr>
<td>(ii) Canonical: S [Focused O] V</td>
<td>87.5% (14/16)</td>
<td>81.3% (13/16)</td>
</tr>
<tr>
<td>(iii) JRD: [Focused S] V, O</td>
<td>31.3% (5/16)</td>
<td>25.0% (4/16)</td>
</tr>
<tr>
<td>(iv) JRD: [Focused O] V, S</td>
<td>81.3% (13/16)</td>
<td>93.8% (15/16)</td>
</tr>
<tr>
<td>(v) JRD: O V, [Focused S]</td>
<td>25.0% (4/16)</td>
<td>31.3% (5/16)</td>
</tr>
<tr>
<td>(vi) JRD: S V, [Focused O]</td>
<td>81.3% (13/16)</td>
<td>100% (16/16)</td>
</tr>
</tbody>
</table>

For the results of canonical sentences, the correct response rates of type (i) were 56.3% for *dake* and 50.0% for *sika*, whereas those of type (ii) were 87.5% for *dake* and 81.3% for *sika*. These percentages show that children wrongly interpret Subj+*dake/sika* as if it is Obj+*dake/sika*, which is consistent with the results of Endo (2004).

Next, we examine the results for JRD. The correct response rates for types (iii) and (v) were quite low. In type (iii), the correct response rates were 31.3% for *dake* and 25.0% for *sika*. Similarly, in type (v), the correct response rates were 25.0% for *dake* and 31.3% for *sika*. In contrast, children gave more adult-like responses for types (iv) and (vi). The correct response rates for type (iv) were 81.3% for *dake* and 93.8% for *sika*. Similarly, the correct response rates for type (vi) were 81.3% for *dake* and 100% for *sika*. This shows that children do not often make the wrong association when the object is focused. Therefore, we found clear subject-object asymmetry in JRD. If Japanese children’s incorrect associations were based on linear order, the correct response rates for (iii) and (iv) would be expected to be low and those for (v) and (vi) high. However, this was not the case; the children answered for (iv) and (vi) correctly at high rates, but not for (iii) and (v). These results are compatible with our predictions based on hierarchical structure.

4. Discussion

This study shows that children wrongly associate *dake/sika* in JRD and the subject-object asymmetry is observed. Our results clearly rule out the explanation based on linear order and suggest that the incorrect association occurs based on the syntactic hierarchical structures after the reconstruction of
subjects and objects in JRD. One of the remaining issues is why children exhibit an incorrect association of focus expressions attached to the subject. Based on Notley et al.’s (2009) proposal shown in (10c), Sano (2012) suggests that dake is placed at the beginning of a sentence at LF and it can take a whole sentence as its scope in child grammar. The LF structure of (17a) is illustrated in (17b).

(17)

(a) Zou-dake-ga mikan-o tot-ta.
   elephant-Foc-Nom orange-Acc take-Past
   ‘Only the elephant took an orange.’
(b) [dake [zou-ga mikan-o totta]]. (Sano 2012, pp. 527-528)

In (17b), both the subject zou-ga and the object mikan-o are in the scope of dake. Therefore, dake can be associated with either of them allowing children to incorrectly associate dake with the object. However, the position of dake is not specified. One possibility is that dake adjoins to TP and takes the subject and the object as its scope.

As for sika, Tanaka (1997) proposes that the sika-phrase moves to the spec of NegP at LF, assuming the VP-internal subject hypothesis.

(18)

(a) Taro-sika LGB-o yoma-nai.
   Taro-Foc LGB-Acc read-Neg
   ‘Only Taro read LGB.’
(b) [NegP Taro-sika [nai [VP t_i LGB-o yomu]]]

In (18b), the subject Taro-ga is base-generated in the spec of VP, and then moves to the spec of NegP at LF. Yamakoshi and Konoki (2019) suggest that Japanese-speaking children have the knowledge that sika is positioned in NegP at LF and that sika cannot take its scope over TP or CP. Therefore, children may incorrectly associate sika with NPs structurally lower than the spec of NegP position.

Next, we discuss another remaining issue: the possibility of the grammatical function. Although we conclude that children’s non-adult-like association of dake/sika is based on the hierarchical structure based on the results of our experiment, it may be due instead to the grammatical function. In other words, our results could be interpreted as showing that children have difficulty interpreting dake/sika attached to the subject because the property of the subject

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2 Kamil Ud Deen (p.c.) pointed out to us that it is possible for the subject NP to be reconstructed in the VP-internal subject position instead of TP specifier position. (Koopman and Sportiche 1998). This certainly is another possibility we need to consider. In that case, it seems we should examine the hierarchical relations between subjects and objects by taking into account their reconstructed positions carefully. This is a further issue to investigate.
makes it difficult for *dake/sika* to be associated with it. Müller et al. (2011) suggest that children’s difficulty in interpreting the German focus expression *nur* attached to the subject can be explained within an information-structural framework. They point out that the subject generally functions as the topic and the object as the focus of a sentence (Costa 1998, Molnár 1991). They then assume that children set the subject as the default topic and the object as the default focus. Therefore, children may have a difficulty interpreting focused subjects because they conflict with the topic-default strategy for the subject. Further research is required to determine whether children’s non-adult-like association of *dake/sika* is due to hierarchical structure or grammatical function.

5. Conclusion

In this study, we investigated Japanese-speaking children’s interpretations of *dake/sika* in JRD. It has been reported cross-linguistically that children give non-adult-like responses for focus expressions and the subject-object asymmetry is observed. However, it is still not clear whether children’s incorrect association is based on linear order or hierarchical structure. Thus, we conducted an experiment that used JRD to tease these possibilities apart. If children’s incorrect association is based on linear order, they would be expected to exhibit non-adult-like responses for types (i), (iii) and (iv). On the other hand, if it is based on the hierarchical structure, we predicted that they would give non-adult-like responses for types (i), (iii) and (v). The results of our experiment show that the children’s correct response rates were quite low for types (i), (iii) and (v) and the subject-object asymmetry was observed. Our results are compatible with the predictions based on the hierarchical structure after reconstruction. Therefore, we have clearly ruled out the explanation based on linear order and suggest that the incorrect association occurs based on the hierarchical structure of the sentence after the reconstruction of subjects and objects in JRD.

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