

Variable vs. Consistent Input:
Comprehension of Plural Morphology and Verbal Agreement in Children

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1. Introduction

The process of language acquisition is often represented in terms of the following equation: Language Acquisition Device + Input = L1. The term ‘input’ refers to the ‘speech’ of speakers in the child’s language community while the term Language Acquisition Device refers to the ‘innate component’ that allows humans to acquire language. While it is generally assumed that the ‘innate component’ is invariable across typically-developing human populations (all typically-developing humans have the ability to acquire language), we know that the ‘input’ (i.e. the speech of the speakers with whom the child interacts) varies within and across speakers.

Exactly how the input determines the grammar that children initially construct is not yet well understood. Several studies have examined the effect of *frequencies* in the input on language acquisition (Brown 1973, Valian 1991, Wang et al. 1992, Kupisch 2003); however, studies examining the effect of different *types* of input (e.g. inconsistent input vs. consistent input; variable input vs. consistent input) on language acquisition are very few in number, in spite of the fact that, as Wilson and Henry (1998) note, the input into the emerging linguistic system is variable, even within a monolingual context. Any theory of language acquisition must account for the fact that a key part of the language acquisition device (LAD) is designed to enable it to cope with this variability, which may cause ambiguity in the input.

Ambiguity in the input can arise from at least two sources. It could be caused by inconsistency in the speech of adult speakers. Inconsistent input is neither linguistically nor extra-linguistically predictable (see Hudson Kam & Newport 2005). One finds this type of input coming from non-native speakers of a language to their children. On the other hand, ambiguity could be caused by sociolinguistic variation in the speech of adult speakers. In both cases the ambiguity arises when the input provides evidence both *for* (the adult produces a particular form) and *against* (the adult omits the form) a particular form in the grammar the child is acquiring. Studies have reported that learners show a tendency to regularize inconsistent input (see Hudson Kam & Newport 2005 and also Singleton & Newport 2004). However, at least in production, studies have shown that children do not regularize variable input, but rather tend to show patterns of variability in their own speech (Kovac & Adomson 1981, Labov 1989, Roberts 1994, Smith 2006). Furthermore, a study by Johnson (2005) suggested that variable input causes a delay in the comprehension of grammatical morphology.

While these studies provide insight on the effect of different types of input on language acquisition, much more work is needed in this area if we are to clearly understand the language acquisition device. In this paper, we present two experimental studies that test children's comprehension of plural morphology in the nominal and verbal domain in the context of variable input. Previous work on the acquisition of number morphology in the nominal domain has revealed that English-speaking children as young as 3 years of age are sensitive to plural morphology on the noun. They can use it to distinguish between 'one' vs. 'more than one' (Kouider et al. 2006) and mass vs. count nouns (Barner & Snedeker 2006), although they begin to produce the plural

morpheme as early as 2 years of age (Ferenz & Prasada 2002). Johnson et al. (2005), however, suggest that children do not use the third person singular -s as an indication that the subject is to be interpreted as denoting a single individual until much later, at around 5 years of age. The finding of interest for the present paper is that comprehension of plural morphology in the noun phrase appears to precede comprehension of number agreement on verbs in English-speaking children.

In the studies mentioned above, however, English-speaking children were exposed to an input that consistently marked nominal plural morphology and verbal agreement; hence, these studies provide an overview of how acquisition proceeds when the input is consistent and unambiguous. The goal of the present paper is to examine whether similar patterns are found in a language where the input is variable; in other words, where the plural morpheme in the noun phrase is often omitted in the speech of adult speakers, making the input with respect to the plural morpheme ambiguous (the plural morpheme is sometimes present and sometimes absent in semantically plural noun phrases), yet verbal agreement is consistently produced. Given this different type of input, we ask whether children will still use plural morphology in the noun phrase before verbal agreement in comprehension tasks similar to children exposed to consistent input.

This paper is organized as follows: Section 2 provides background information on plural morphology and verbal agreement in Mexican and Chilean Spanish and discusses previous research on the acquisition of verbal agreement and plural morphology in Spanish-speaking and English-speaking children. Section 3 presents an experimental study (Experiment 1) on the comprehension on plural morphology in the noun phrase in Chilean and Mexican Spanish-speaking children. Section 4 presents an experimental

study (Experiment 2) that tests whether Chilean Spanish-speaking children can use verbal agreement to interpret number on the subject. Finally, Section 5 provides a summary of the results and a conclusion.

2. Linguistic and Acquisition Background

2.1 Number Marking in Chilean Spanish vs. Mexican Spanish

The experimental studies presented in this paper examine language acquisition in two varieties of Spanish: Mexican Spanish (of Mexico City) and Chilean Spanish (of Punta Arenas, Chile). In the first variety, plural morphology is consistently produced on all elements within the noun phrase (in D, N, and A). This is shown in (1).

Possible Pronunciation

(1) a. La niña está saltando. [la]/ [niña]

The.SG girl.SG is.3.SG jumping

‘The girl is jumping.’

b. Las niñas están saltando. [laz] [niñas]

The.PL girls.PL are.3.PL jumping

‘The girls are jumping.’

The examples in (1) illustrate that in Mexican Spanish the plural morpheme in the noun phrase undergoes a process of assimilation where /s/ occurs as [z] before voiced consonants and as [s] before voiceless consonants, vowels and pauses. The distribution of

[s] and [z] is categorical. What is important here is that in the Mexican Spanish (Mexico City) variety the plural morpheme is always pronounced as an alveolar fricative and is never omitted in the speech of adult Mexico City speakers.

On the other hand, the phonological form of the plural morpheme in Chilean Spanish undergoes a process of lenition. In this dialect all syllable final /s/ is pronounced as [s], [h], or is omitted (zero). The phonological variant ([s], [h], or zero) that surfaces is dependent on both linguistic and extra-linguistic factors. Some of the linguistic factors include phonological environment and syntactic category and some of the extra-linguistic factors include socioeconomic status, gender and age. Because the plural morpheme occurs as /s/ in syllable final position, this process of lenition affects the pronunciation of the plural morpheme in the noun phrase as well (Cepeda 1995, Miller & Schmitt 2006, Miller 2007). This is shown in (2).

Possible Pronunciation

(2) a. La niña está saltando. **[la] [niña]**

The.SG girl.SG is.3.SG jumping

‘The girl is jumping.’

b. Las niñas están saltando. [las/ lah/ **la**]

The.PL girls.PL are.3.PL jumping [niñas/ niñah/ **niña**]

‘The girls are jumping.’

The examples in (2) illustrate that there is possible overlap in the pronunciation of semantically plural and semantically singular determiners and nouns, as indicated in bold and underlining (i.e. both [la] and [niña] can be used to describe semantically singular and semantically plural nouns). This creates an ambiguity in the input that Chilean children are exposed to. However, in both Mexican and Chilean Spanish verbal agreement is consistently produced¹.

2.2 Nominal Number and Verbal Agreement in Child Language

Research has indicated that Spanish-speaking children who are presented with consistent input for plural morphology in the noun phrase begin producing the plural morpheme at about 2;0 years of age (Kvaal et al. 1988, Marrero & Aguirre 2003), which parallels findings for English-speaking children (Cazden 1968, Mervis & Johnson 1991, Ferenz & Prasada 2002). Research on children's comprehension of plural morphology has shown that Spanish-speaking children exposed to consistent input associate the plural morpheme in noun phrases to an interpretation of 'more than one' by at least 3;5 years of age (Miller & Schmitt 2006, Munn et al. 2006, Miller 2007), which is consistent with what has been found for English-speaking children (Kouider et al. 2006, Munn et al.

¹ In Chilean Spanish verbal morphology is consistently produced in adult speech except when the verbal morpheme is represented as /s/ and occurs in word final position. This is the case with the 2nd person singular (e.g. *estás* 'be.2.SG' can be pronounced as [estas], [estah] or [esta]. The pronunciation [esta] overlaps in form with the 3rd person singular (*está* 'be.3.SG' is also pronounced as [esta]). However, this fact is not relevant for the present paper, as we did not test child comprehension of the 2nd person singular vs. 3rd person singular verb forms.

2006). However, as far as we know, there is no research examining comprehension of plural morphology in Spanish-speaking children who are younger than 3;0 years of age and, for this reason, we do not know whether production of the plural morpheme precedes comprehension in Spanish as it appears to do in English.

With respect to verbal agreement, we know that Spanish-speaking children begin to produce verbal agreement by at least 2;5 years of age (Durán 2000, Grinstead, 2000, Félix-Brasdefer 2006). Similar findings were reported for English-speaking children (Brown 1973). However, comprehension studies have suggested that Spanish-speaking children are unable to use verbal agreement to interpret number on the subject until around 5 years of age (Pérez-Leroux 2005), similar to what has been reported for English-speaking children (Johnson et al. 2005). Pérez-Leroux (2005), for example, tested 23 3 – 6 year old Dominican Spanish-speaking children on their comprehension of sentences as in (3) in the context of Figure 1. The task of the child was to choose the picture that best represented the experimental sentence.

Figure 1. Experimental Paradigm (adapted from Pérez-Leroux 2005).

(3) a. Duerme en la cama.

sleeps.3.SG in the bed

‘(It) sleeps in the bed.’

b. Duermen en la cama.

sleep.3.PL in the bed

‘(They) sleep in the bed.’

Note that in Spanish the subject can be null, as illustrated in (3). For this reason, in (3) Spanish-speaking children must rely solely on verbal agreement when interpreting number on the subject. The results of this study revealed that, while 3;2 – 4;5 year old children did not use verbal agreement to determine number on the subject noun phrase, 4;8 – 6;6 year old children did so 67% of the time when the verb was inflected for 3rd person plural (but not 3rd person singular).² These data are comparable with findings for English-speaking children (Johnson et al. 2005), which indicate that 4 – 5 year-old English-speaking children are able to use 3rd person singular (but not 3rd person plural) verbal morphology to determine number on the subject noun phrase between 74% -79% of the time. It is important to note that in Spanish, it is the 3rd person plural that is realized morphologically, while the 3rd person singular has no overt morphological realization (e.g. *duerme* ‘sleeps.3.SG’ vs. *duermen* ‘sleep.3.PL’). The opposite is true for English, where the 3rd person singular is realized morphologically, while the 3rd person plural is not (e.g. he sleeps vs. they sleep). This may explain the differences found in child behavior on the 3rd person singular vs. the 3rd person plural forms in the two language groups. The results of this study suggest that Spanish and English-speaking children cannot use verbal morphology in comprehension until about 5 years of age. Taken together, the above studies indicate that Spanish-speaking children, who are exposed to consistent input, can use plural morphology in the noun phrase to distinguish

² These results have to be interpreted with caution because plural morphology, subject verb agreement and the use of null subjects may be subject to variation in Dominican Republic Spanish (Poplack 1980, Lipski 1994b, Toribio 1994, Morgan 1998,).

between 'one' vs. 'more than one' much earlier than they can use verbal agreement to make this distinction.

The purpose of the following two experimental studies is to test the Variability Delay Hypothesis (Miller 2007). The idea is that children exposed to variable input will have a delay in their comprehension of grammatical morphology that is affected by this variability. The Variability Delay Hypothesis is stated in (4).

(4) Variability Delay Hypothesis (based on Yang 2002): Variability in the input will delay child comprehension of grammatical morphemes when the variability causes an ambiguity in the input (involves a zero form) and is constrained not only by linguistic (phonological, grammatical) but also extra-linguistic (SES, age, sex) factors.

This hypothesis is adapted from Yang's (2002) Variation Model of language acquisition, which proposes that the cumulative effect of the input combined with a theory of a restricted search space can explain language acquisition. According to Yang, children make hypotheses within the limits of UG that are punished or rewarded depending on their ability to account for particular properties of the input. If the input is unambiguous and frequent, acquisition happens early. If input is ambiguous, the child may take longer to set a parameter. If the Variability Delay Hypothesis is supported, we may find, contrary to what has been reported previously in the literature, that Chilean Spanish-speaking children can use verbal agreement before they can use nominal plural morphology to make the distinction between 'one' vs. 'more than one' because plural

morphology in the noun phrase is variable and ambiguous in the input to Chilean children.

3. Experiment 1: Comprehension of Plural Morphology in the Noun Phrase

Experiment 1 is designed to test Mexican and Chilean Spanish-speaking children's ability to use plural morphology in the noun phrase to distinguish 'one' vs. 'more than one'. It is possible that ambiguous input has no effect on the acquisition of plural morphology, in contrast to what seems to have happened in a previous verbal agreement study (Johnson 2005). In other words, as long as the adult speaker produces the plural morpheme on semantically plural nouns *some of the time* in their speech to children (as is the case for the Chilean children, see Miller 2007), the child will initially construct a grammar that associates the plural morpheme to an interpretation of 'more than one'. In this case, no differences would be found between Mexican vs. Chilean children in their comprehension of plural morphology.

On the other hand, it may be the case that ambiguous input causes a delay in the comprehension of plural morphology because the child is receiving evidence both *for* ([s] and [h]) and *against* (zero marking) nominal plural morphology in the grammar they are acquiring. This prediction is consistent with the Variability Delay Hypothesis and Yang (2002). With respect to plural morphology, we would expect that the child may initially depend on some other element in the input that is more reliable for number marking (e.g. quantifiers, numerals) and may not initially associate the plural morpheme in the noun phrase to an underlying representation of [PLURAL] because it is not a reliable marker in the input the child is exposed to. Hence, we would predict that the Mexican child would associate the plural morpheme to an interpretation of 'more than one' before the Chilean

child. While both alternatives may seem equally plausible: (1) variable and ambiguous input may have *no effect* on language acquisition vs. (2) variable and ambiguous input may *cause a delay* in language acquisition, there is some empirical evidence for the latter alternative (Moore 1979, Johnson 2005, Miller and Schmitt 2006, Miller 2007).

The goal of Experiment 1 is to test the Variability Delay Hypothesis by determining whether both Chilean and Mexican children associate the plural morpheme /s/ in indefinite plural noun phrases (e.g. *unos* ‘some.M.PL’; *unas* ‘some.F.PL’) to an interpretation of ‘more than one’.

3.1 Method and Design

Experiment 1 used a Picture Matching Task to examine child comprehension of singular and plural indefinites, as in (5), in the context of Figure 2.

(5) a. ¿En cuál de las dos tarjetas hay una botella?

In which of the two cards EXST a/one.SG bottle.SG

‘In which of the two cards is there a/one bottle?’

b. ¿En cuál de las dos tarjetas hay unas botellas?

In which of the two cards EXST some.PL bottles.PL

‘In which of the two cards are there some bottles?’

Figure 2 Experiment 1: Sample Target Trial.

The indefinite in (5a) is singular and the indefinite in (5b) is plural. The existential verb *hay* (‘there is/there are’) was used because it does not carry number information that

could be associated with the subject. It can be used with both plural and singular nouns. For this reason, the only number information in (5a) and (5b) is the plural morpheme in the indefinite noun phrase.

The plural morpheme was always pronounced as [s]. Chilean children who consistently chose the singular picture in the plural condition were tested 1 – 2 weeks later with the plural morpheme pronounced as [h]. There were four trials of the plural condition, four of the singular condition, and four fillers from another experiment testing child comprehension of the Spanish copulas *ser* and *estar*. In the eight experimental trials the initial sound and gender of each target word was controlled for Chilean subjects:

burros ‘donkeys’, *monos* ‘monkeys’, *barcos* ‘boats’, *martillos* ‘hammers’, *bolitas* ‘marbles’, *manzanas* ‘apples’, *botellas* ‘bottles’, *monedas* ‘coins’. The same words were used for Mexican children except *changos* was used for ‘monkeys’ and *canicas* was used for ‘marbles’ so that we could continue to use the same materials yet accommodate to the Mexican Spanish lexicon. In addition, half of the indefinites were feminine and half were masculine. In the feminine indefinites, only the plural morpheme provides number information (e.g. *una bolita* ‘a/one.F.SG marble.F.SG’ vs. *unas bolitas* ‘some.F.PL marbles.F.PL’). In masculine indefinites the form of the determiner is also different in the singular vs. plural conditions (e.g. *un burro* ‘a/one.M.SG donkey.M.SG’ vs. *unos burros* ‘some.M.PL donkeys.M.PL’).

All subjects were tested by native speakers of Spanish who lived in the same city as the subjects. Controls were *un solo* ‘only one’ and *muchos* ‘many’. The controls were administered after the target questions so that *un solo* ‘only one’ would not provide any information to the child about the interpretation of *un* ‘a/one’. In addition, placement of

cards (singular card above plural card vs. plural card above singular card) was controlled for.

3.2 Subjects

50 children participated in this study. 19 Mexican working-class (4;11-6;2, Mean Age: 5;4), 17 Chilean working-class (4;9-6;4, Mean Age: 5;5), 10 Chilean middle-class (4;10-6;4, Mean Age: 5;5) children. In addition, 22 Chilean adults and 8 Mexican adults participated in this study. Both working-class and middle-class Chilean children were tested because previous research on syllable final /s/ lenition in Chilean Spanish has found that working-class adults omit syllable-final /s/ more often than middle-class adults (Cepeda 2005, Miller & Schmitt 2006, Miller 2007). Only working-class Mexican children were tested because syllable-final /s/ lenition does not occur in the speech of Mexican adults from Mexico City (Canfield 1982, Lipski 1994a, Morgan 1998). The Chilean children were recruited from schools in Punta Arenas, Chile and the Mexican children were recruited from a daycare in Mexico City. All children were in preschool and kindergarten. Chilean adults were undergraduates at the Universidad de Magallanes in Punta Arenas, Chile and the Mexican adults were undergraduates at the Universidad Autónoma Metropolitana de Iztapalapa in Mexico City.

3.3 Results and Discussion

Although all three child groups performed the same on the controls, always associating *un solo* ('only one') with an interpretation of 'one' and *muchos* ('many') with an interpretation of 'more than one', they did not perform the same in the target conditions. The dependent variable was the number of plural responses children gave. Choosing the card with more than one item was considered a plural response. Choosing

the card with only one item was considered a singular response. The mistakes that children made in the plural conditions were always the same, they chose the picture with only one item. Figure 3 shows the percentage of plural responses in the singular and plural indefinite conditions when the plural morpheme was pronounced as [s].

Figure 3. Percentage of Plural Responses.

Within every child group there were children who associated the plural indefinite *unos* ('some.PL') to an interpretation of 'more than one'; however, the groups differed significantly in how many children treated *unos* as plural. It is important to note that most children were systematic in their response patterns, either always associating the plural indefinite to 'more than one' in all four trials or never doing so.

The number of plural responses in the plural indefinite *unos* condition for each child was entered into a one-way ANOVA (adults, MexWC, ChMC, ChWC). The results showed a significant difference between the four groups ($F(3,74)=20.210, p<.001$). Post hoc Bonferonni tests showed that only ChMC ($p<.001$) and ChWC ($p<.001$) children, but not MexWC ($p=.092$) children, differed significantly from adults in the number of plural responses assigned to the plural indefinite. MexWC children also differed significantly from ChWC ($p<.05$) and ChMC ($p<.05$) children but there were no significant differences between the two Chilean child groups ($p=1.0$). The number of plural responses on the plural indefinite condition were also analyzed for chance behavior and the results revealed that neither ChWC children ($t(1,16)=-1.370, p=.189$) nor ChMC

children ($t(1,9)=-1.562, p=.153$) differed significantly from chance while MexWC children did ($t(1,18)=2.904, p<.05$).³

Between 1 – 2 weeks after this initial experiment was carried out with the plural morpheme pronounced as [s], Chilean children who systematically assigned a singular interpretation to the plural indefinite were tested again but this time the plural morpheme was pronounced as [h]. 11 ChWC children and 7 ChMC children participated in this part of the experiment. The behavior of each child remained the same. The 11 ChWC children continued to choose the singular card in the plural condition 95% of the time and the 8 ChMC did so 97% of the time. Paired samples t-test showed that there was no significant improvement neither for the 11 ChWC children ($t(1,10)=-1.00, p=.343$) nor the 7 ChMC children ($t(1,8)=-.552, p=.598$).

The results show that, given the same experimental conditions, 5 year old Mexican children associate the plural indefinite to an interpretation of ‘more than one’ much more often than 5 year old Chilean children, regardless of whether the plural is pronounced as [s] or [h] for the Chilean children, which suggests that several 5 year old Chilean children match neither [s] nor [h] to an underlying representation for [PLURAL]. This data supports the Variability Delay Hypothesis that variable and ambiguous input causes a delay in the acquisition of grammatical morphology.

Given that several 5 year old Chilean children associate both the plural and singular indefinite (*una* ‘a/one.SG’ and *unas* ‘some.PL’) to an interpretation of ‘one’, the

³ There were no significant differences found in child performance on masculine vs. feminine noun phrases.

next question is whether Chilean children can use verbal agreement in a subject relative clause to determine the number of the head of the relative clause.

4. Experiment 2: Comprehension of Verbal Agreement

The goal of Experiment 2 is to test whether Chilean children can use verbal agreement, which is much more reliable in the input, to make a distinction between ‘one’ vs. ‘more than one’. According to the Variability Delay Hypothesis we predict that Chilean children will be able to use verbal agreement earlier than nominal plural morphology because it is more reliable in the input that they are exposed to. If Chilean children pattern like English-speaking and Dominican Spanish-speaking children, then they too should be able to use verbal agreement in comprehension by 5 years of age. In this case, Chilean comprehension of verbal agreement would precede comprehension of plural morphology because verbal agreement is consistently produced in Chilean adult Spanish but plural morphology in the noun phrase is variable and ambiguous.

4.1 Methods and Design

Experiment 2 used a Picture Matching Task to examine child comprehension of verbal agreement, as in (6), in the context of Figure 4.

(6) a. ¿En cuál de las dos tarjetas hay **una** **niña** que **está** saltando?

In which of the two cards EXST a/one.SG girl.SG that is.3.SG jumping

‘In which of the two cards is there a/one girl that is jumping?’

b. ¿En cuál de las dos tarjetas hay **unas** **niñas** que **están** saltando?

In which of the two cards EXST some.PL girls.PL that are.3.PL jumping

‘In which of the two cards are there some girls that are jumping?’

Figure 4. Experiment 2: Sample Target Trial.

In (6a) the head of the subject relative clause is singular and the verb agrees with it. In (6b) the head of the relative clause is plural and the verb shows agreement with third person plural. Unlike the previous experiment, now we have both verbal agreement and plural morphology on the noun phrase marking an interpretation of ‘more than one’.

There were 3 target trials of the singular sentence, as in (6a), and three target trials of the plural sentence, as in (6b). The plural morpheme was always pronounced as [s] on the noun and determiner and the indefinite noun phrases were always feminine. All subjects were tested by native speakers of Spanish who lived in the same city as the subjects. Controls were *una sola* ‘only one’ and *dos* ‘two’.

4.2 Subjects

13 Chilean working-class children (4;5–6;0, Mean Age: 5;1) participated in this study. Only Chilean working-class children were tested because they overwhelmingly treated the plural indefinite in Experiment 1 as singular and because previous research has indicated that Chilean working-class adults omit syllable final /s/ more often than Chilean middle-class adults (Cepeda 1995, Miller & Schmitt 2006, Miller 2007). In addition, 12 Chilean undergraduate students from the Universidad de Magallanes participated in a written version of this test.

4.3 Results and Discussion

Chilean children and adults performed the same on controls, always treating *una sola* (‘only one’) as singular and *dos* (‘two’) as plural. With respect to the target trials,

Figure 5 shows the percentage of time children and adults assigned a plural interpretation to the plural sentence (5b) and the singular sentence (5a).

Figure 5. Percentage of Plural Responses.

The dependent variable was the number of plural responses. Choosing the card with the plural set of characters was considered a plural response. Choosing the card with only one character was considered a singular response. The results showed a significant difference between the children and adults ($F(2,23)=19.546, p<.001$), which indicates that, similar to Experiment 1, ChWC children did not reach adult levels. However, the number of plural responses in the plural indefinite condition were also tested for chance behavior and the results revealed that, unlike Experiment 1, ChWC children chose the plural picture in the plural condition significantly more often than chance ($t(1,12) = 2.607, p < .05$) (chance = 50%).

Although ChWC children did not reach adult levels in Experiment 2, the data, taken together with the findings of Experiment 1, nevertheless indicate that ChWC children are able to use verbal agreement in comprehension tasks before they can use plural morphology in the noun phrase. In addition, the results for Chilean Spanish-speaking children pattern with those for English-speaking and Dominican Spanish-speaking children, which indicated that by 5 years of age children can use verbal agreement to interpret number on the subject. However, unlike the results found for Dominican Spanish-speaking children, Chilean children performed well on both the plural and singular forms of verbal agreement (e.g. *está* ‘is.3.SG’, *están* ‘are.3.PL’). One

important difference between the experimental design of the Dominican Spanish study (Pérez-Leroux 2005) and the study presented in this paper is that the former tested definite noun phrases, while the present study tested indefinite noun phrases. Given that Chilean children overwhelmingly prefer a singular reading for both plural and singular indefinite noun phrases (as revealed in Study 1), it is not surprising that they correctly associate the singular indefinite to a singular interpretation in Study 2, especially given the fact that there is no verbal morphology overtly realized on the verb. What is interesting is that the presence of the third person plural marker (*están* ‘are.3.pl’) causes Chilean children to associate the plural indefinite to an interpretation of ‘more than one’ and this suggests very strongly that Chilean children can use verbal agreement to interpret the appropriate interpretation of number on the subject by 4;5 years of age.

5. General Discussion

The data presented in Experiment 1 indicate that 5-year old Chilean children have a delay in their comprehension of plural morphology in indefinite noun phrases, which is consistent with the Variability Delay Hypothesis. The data presented in Experiment 2 revealed that 4;5-year old Chilean children can use verbal agreement to assign number to indefinite subjects. Contrary to what has been previously reported, the data from Chilean Spanish-speaking children suggest that verbal agreement is used more efficiently in comprehension before plural morphology in indefinite noun phrases. We can speculate that the reason children exhibit a delay in their comprehension of plural morphology in the noun phrase is because they entertain for a longer period the hypothesis that they are acquiring a grammar without overt number marking in the noun phrase. The interesting

question for further research is how much variability and ambiguity can the learner tolerate before they will settle on a grammar that is different from the adult grammar.

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Figures and Tables

Figure 1. Experimental Paradigm (adapted from Pérez-Leroux 2005).

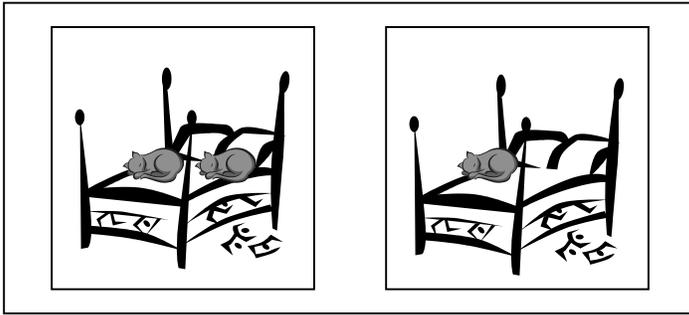


Figure 2 Experiment 1: Sample Target Trial.

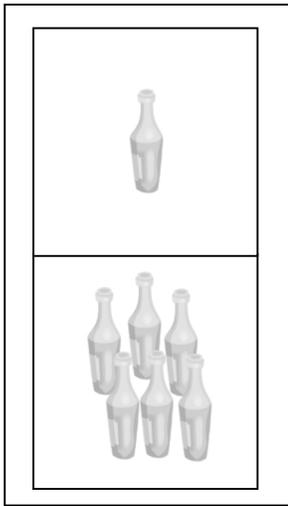


Figure 3. Percentage of Plural Responses.

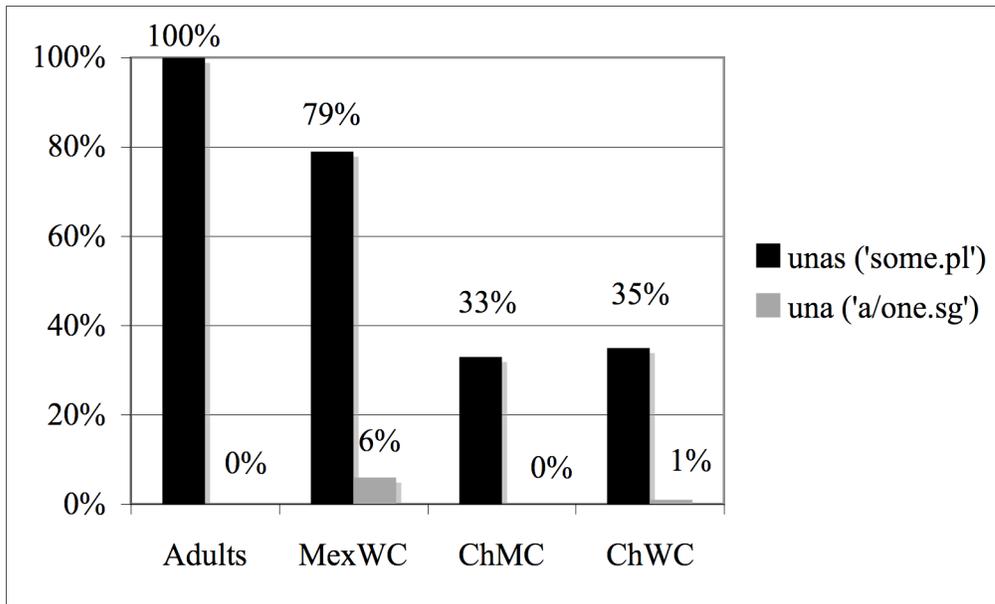


Figure 4. Experiment 2: Sample Target Trial.

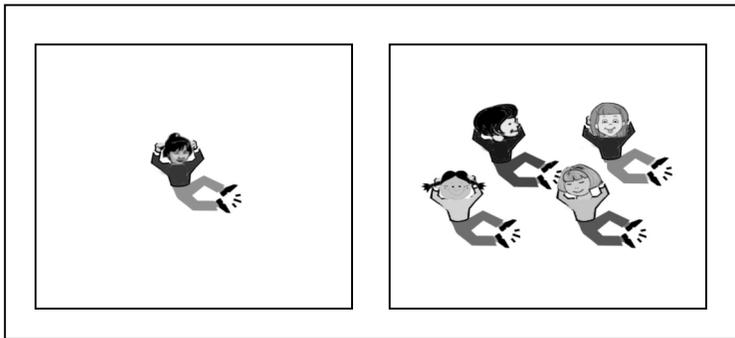


Figure 5. Percentage of Plural Responses.

