



The Definite Article System in L1-English L2-Spanish Learners

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THE DEFINITE ARTICLE SYSTEM IN L1-ENGLISH L2-SPANISH LEARNERS

A Thesis Presented

By

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Submitted to the Graduate School of the
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DEDICATION

A los mis hermanos, Marco y Omar Ardura.
Sois el mejor modelu que un hermanu pequeñu pué seguir.

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ABSTRACT

THE DEFINITE ARTICLE SYSTEM IN L1-ENGLISH L2-SPANISH LEARNERS

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Previous studies on the acquisition of definite plurals in Child and Second Language Acquisition have found strong evidence on how transfer can affect the L2-acquisition of articles. Nevertheless, these studies presented some limitations. First, they failed to consider other variables that could interfere with transfer in the acquisition of the article system. And second, the methodology used to test the participants' implicit knowledge of article system was very similar in all studies (Truth-Value Judgment Task). In order to fill these two gaps in the literature, the present study uses a listening comprehension task to test how the mass/count distinction can affect the interpretation of definite plurals in intermediate L1-English L2-Spanish learners. This study also adds another variable, the type of verb, to test whether the mass/count distinction equally affects L1-English L2-Spanish interpretations' of the Spanish article system throughout different kind of verbs. Two types of verbs were used: *gustar*-like verbs (psychological verbs) and non-psychological verbs. These verbs were used in questions, so their different syntactic characteristics were neutralized.

Two experiments were created following the same guidelines, but using a different type of verb. First, the participants were shown a situation in a computer screen. These situations were controlled so both specific and generic readings could be interpreted. After reading each situation, a question, which could either trigger a specific or a generic reading, was asked orally

to the participants. Written responses were collected from each participant, and coded as either 'generic', 'specific', or 'other'.

The results of this thesis show highly statistically significant differences for how L1-English L2-Spanish learners interpret count and mass nouns. On the one hand, L1-English L2-Spanish tended to interpret count nouns as specific. On the other, they showed a strong tendency to interpret mass nouns as generic. In this sense, the statistical analysis conducted suggests that L1-English L2-Spanish and Spanish native speakers converged in their implicit knowledge of definite plurals containing mass nouns. Nevertheless, native speakers and L2-Spanish learners significantly differed in their interpretations of countable nouns. All of these patterns were found for both psychological and non-psychological verbs. The present study found very similar rates of generic responses for non-psychological verbs in L2-Spanish as previously reported by Ionin and Montrul (2012) and Ionin, Montrul, and Crivós (2011). Interestingly, the rates of generic responses for psychological verbs were much higher and diverged a bit from the results of Ionin and Montrul (2012) and Ionin, Montrul, and Crivós (2011).

I discuss the importance of these results for the field of Second Language Acquisition and Semantics.

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CHAPTER 1

INTRODUCTION

1.1. Statement of purpose

The acquisition of definite plurals and its semantic interpretations have received much attention in the field of Second Language Acquisition in the recent years (Slabakova, 2006; Montrul and Ionin, 2010; Ionin and Montrul, 2010; Ionin, Montrul, and Crivós, 2011; Montrul and Ionin, 2012; among others). These studies have found evidence that transfer from the learners' L1 can also affect the domain of definite articles.

The current study seeks to further explore the issue of definite plurals in L2 learners by testing L1-English L2-Spanish learners. As many studies in Semantics have shown (Chierchia, 1998; Dayal, 2004), there is a link between how languages express kind formation and the mass/count distinction. Yet, no study in Second Language Acquisition has looked at this issue to the best of my knowledge.

The specific aim of this thesis is to investigate how the mass/count distinction could affect the interpretation of definite plurals in L1-English L2-Spanish learners. I will accomplish this specific aim by testing the following 2 hypotheses:

1. L1-English L2-Spanish will interpret definite plurals with count and mass nouns differently, while Spanish native speakers will tend to interpret definite plurals with both mass and count nouns as generic.

2. L1-English L2-Spanish learners and Spanish native speakers will *only* converge in their interpretations of definite plurals containing *mass nouns*.

1.2. Approach to the topic

Two main aspects characterize the approach to the topic of definite plurals in this thesis. First and foremost, this thesis seeks to be a semantic investigation in the L2 acquisition of definite plurals. As previously stated, semantic concepts such as count/mass and genericity/specificity play an important role on any language article system (Chierchia, 1998; Dayal, 2004). I believe that these semantic features may affect the acquisition of an article system in a second language. Anecdotal evidence supports this claim; for example, as a second language learner of English, I would accept sentences such as **the kids love to play sports*. However, the acceptance of sentences such as **the water is healthy for you* would be unlikely. Therefore, both theoretical and intuitive reasoning steered this thesis to specifically examine these semantic features. Because of this semantic orientation, this study will neutralize any kind of syntactic interaction in order to study how these features interact in isolation. Thus, if any divergence in the participants' performance is found between count/mass nouns, these different semantic concepts should be the cause.

Second, this thesis is focused on the participants' *implicit* knowledge of the Spanish definite article system. In order to explore their implicit knowledge, two experimental tasks were used to test the participants' interpretations of definite plurals in Spanish. These tasks were created so they would resemble a natural conversation in Spanish, minimizing the use of explicit knowledge as much as possible.

1.3. Relevance of the study

Several benefits can be obtained by investigating the interpretation of the Spanish article system by L1-English L2-Spanish learners. On the theoretical part, the characteristics and

similarities between the English and Spanish article system provide the perfect scenario to investigate how the semantic features mass/count affect the acquisition of the Spanish definite article system. Thus, the present study offers a new perspective to the previously studied issue of transfer in definite plurals.

On the applied side, several studies showed that L2-learners tend to make mistakes on the Spanish article system due to transfer (see section 2.4. of this thesis). As a teacher of Spanish as a Second Language, I often witness these mistakes in L1-English L2-Spanish learners, even though Spanish textbooks do explain these differences (see Montrul and Ionin, 2012 for a detailed review). Therefore, the present study is relevant for the teaching of Spanish as a Second Language because it explores under which circumstances L1-English L2-Spanish learners are more prone to make mistakes interpreting definite plurals in Spanish, and it also explains why these mistakes are more common in those circumstances. By investigating this issue, this project aims at supporting more effective teaching strategies which will facilitate the acquisition of the Spanish article system by L1-English learners.

1.4. Overview of the thesis

This thesis is divided into 6 chapters. The second chapter will review the studies in Child and Second Language Acquisition on definite plurals. It will also review the theoretical studies dealing with the expression of kind reference across languages. Chapter 2 also revisits the most recent studies in the semantic literature about the count/mass distinction. The last section of chapter 2 will elaborate on the research gaps in the literature on definite plurals in Second Language Acquisition, and how the present thesis fills those gaps.

Chapter 3 sets up the research questions for the current thesis and provides testable answers to those questions in the hypotheses.

Chapter 4 explains the research methodology used in this thesis. Firstly, it provides a detailed description of the participants tested. Then, it explains the design of the experiments, and how these experiments were administered to the participants. This chapter ends with a thorough explanation of the coding used for the analysis of the participants' responses.

Chapter 5 shows the results obtained for the two experiments carried out in this study. The first section will elaborate on the results for psychological verbs, and the second section will do so for non-psychological verbs. This chapter closes with the general discussion section, where the results obtained in the current study are compared to the results obtained in previous studies in the literature.

The last chapter of this thesis, chapter 6, reviews the results obtained in light of the research questions posed in chapter 3 and explains the relevance of these findings for the field of Second Language Acquisition. Section number 2 of this chapter states the limitations of the present study and how this could have affected the results obtained. Lastly, this chapter closes suggesting new directions for further research.

CHAPTER 2

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1. Crosslinguistic variation of NPs

The seminal paper by Chierchia (1998) explains how different languages refer to kinds in their nominal system. For this, Chierchia (1998) proposes a feature-based typology which, combined with type shifting mechanisms, forms what Chierchia (1998) calls *The Nominal Mapping Parameter* (NMP).

According to Chierchia (1998), nouns can play two different roles which are *presumably available in all languages*: they can either be arguments or predicates. As predicates, nouns are used to restrict quantifiers (as in *all people*). As arguments, nouns can be used to refer to kinds. From these two different roles, Chierchia proposes two features: $[\pm\text{arg}]$ and $[\pm\text{pred}]$. The combination of these two features should map the syntactic category of the noun to its semantic interpretation.

The first combination of these features to be taken into consideration will be $[+\text{arg}, -\text{pred}]$ languages. In these languages all nouns will be arguments, since the predicate option is not available. Therefore, all nouns freely occur as arguments in any position. Sentences like *boy loved girl* should be allowed in this kind of languages. However, there is a problem with this feature setting. As was already mentioned, determiners need predicates, not arguments. Chierchia (1998) proposes a new kind of determiner, DET', which could apply to arguments. Two immediate consequences follow from these characteristics: one, in these languages all nouns will be mass; and as a consequence from one, these languages will not have the plural/singular distinction (no *dog/dogs* distinction). However, since counting will be necessary and mass nouns

cannot be counted (see Kratzer, 1989; and Chierchia, 2010 for a detailed explanation), a classifier will be needed to determine an appropriate counting level. In other words, sentences like *two tables* will not be available in these languages. Instead, *two pieces of table* or *two portions of table* would be used. Japanese and Chinese, among many other languages, share the characteristics described for the [+arg, -pred] model.

The next combination to be taken into consideration will be [-arg, +pred] setting. Unlike the previous model, all nouns will be predicates and they could not occur as arguments. These languages would therefore disallow bare arguments. Also, since the count/mass distinction is related to the use of predicates, these languages should distinguish between mass/count nouns. This entails that plural marking will be active in these languages. The system just described resembles the system of Romance languages. More exactly, this system describes the French system, which disallows bare nouns in any position. However, some Romance languages like Spanish or Italian accept bare arguments in object position; while they reject them in subject position (see section 2.1.2. of this chapter for a detailed explanation of bare nouns in Spanish). According to Chierchia (1998), languages with the [-arg, +pred] combination could have a phonologically null D. This phonologically null D would need to be subject to licensing conditions. One of these conditions could be the proximity to a suitable head. This could explain the fact that languages like Spanish or Italian license bare arguments as objects (governed by a lexical head) and not as subjects (no suitable head to license the phonologically null D). Consequently, Chierchia (1998) claims that Romance languages have the [-arg, +pred] setting.

The last combination to consider is the [+arg, +pred] setting.¹ These languages will be a union between the Chinese-like and the Romance-like systems. On one hand, nouns can occur as arguments freely in these languages. On the other, they can also be predicates. A consequence from this is that all nouns can either denote kinds or predicates. Therefore, this setting will also distinguish between the count/mass nouns. However, only mass nouns could work as arguments, whereas singular count nouns could not work as such. In order to occur as arguments, count nouns would need to be shifted via the operator ‘ⁿ’. This operator only yields kinds for plurals, so count nouns will need to be plural to yield kind or generic readings. Chierchia (1998) relates this feature setting with the English nominal system, since English has all the above mentioned properties: mass/count distinction, only mass nouns can be arguments (in singular), and count nouns need to be plural to be arguments.

2.1.1. The case of English and Spanish

As Chierchia (1998) pointed out, English and Spanish differ in one main thing: English is a [+arg] language, whereas Spanish is [-arg]. Consequently, English can use bare arguments in subject position. (1) and (2) prove this hypothesis to be true. Furthermore, Chierchia’s hypothesis about the distribution of count/mass nouns as arguments seems well-founded: mass nouns must be in singular to occur as an argument (2), meanwhile count nouns must be in plural (1).

¹ The [-arg, -pred] setting is not available in any language, since this setting will prevail nouns from having any interpretation at all

(1) *Kids love sports*

(2) *Gold is expensive*

If the nouns in (1) and (2) were to be accompanied by a determiner, the meaning of the sentence will be slightly different:

(1)' *The kids love sports*

(2)' *The gold is expensive*

In sentences (1) and (2), the nouns *kids* and *gold* are referring to the whole kind of kids and the whole kind of gold. This kind of sentences are said to have a generic meaning,² since their grammatical subjects *kids* and *gold* are referring to a kind. Meanwhile, in sentences (1)' and (2)', the use of the determiner renders those sentences specific: (1)' is not referring to all the kids, but to these specific kids that we know; (2)' is not referring to all kinds of gold, but to some specific gold (let's say white gold) that we are talking about. The English system is summarized in Table 1:

² A detailed explanation of the concept of genericity can be found in Carlson and Pelletier (1995).

Table 1. English article system

English	Count Nouns	Mass Nouns
[+article] = specific reading	<i>The kids love sports</i>	<i>The gold is expensive</i>
[-article] = generic reading	<i>Kids love sports</i>	<i>Gold is expensive</i>

Spanish (along many other Romance languages like, for example, Asturian) does follow the English model just described. However, this model is restricted to objects (see Chierchia 1998 for examples) and seems to yield ungrammatical sentences in subject position:

- (3) * Niños aman los deportes
Kids love sports
- (4) * Oro es caro
Gold is expensive
- (3)' Los niños aman los deportes
(The)³ kids love sports
- (4)' El oro es caro
The golden is expensive

³ From now on, I will use this parenthesis to express that the Spanish sentence can either be interpreted in English as a bare noun or as an article form.

Unlike English, Spanish seems to reject subject bare nouns as ungrammatical. Beside this formal difference, there is also a semantic difference between both systems. While English uses bare nouns to express genericity and DPs to express specificity, Spanish uses the article form or definite plural to enclose both meanings: generic and specific. In other words, sentences (3)' and (4)' are ambiguous: (3)' can either mean that all kids love sports or that these specific kids right here love sports; likewise, (4)' can either mean that all gold is expensive or only this gold (let's say again white gold) is expensive. The Spanish system is summarized in Table 2:

Table 2. The Spanish article system

Spanish	Count Nouns	Mass Nouns
[+article] = specific reading = generic reading	<i>Los niños aman los deportes</i>	<i>El oro es caro</i>
[-article] = not available	<i>*Niños aman los deportes</i>	<i>*Oro es caro</i>

Therefore, the only difference between Spanish and English seems to be that Spanish does not accept bare nouns in subject position as grammatical. Consequently, Spanish cannot use bare nouns to express genericity in subject position. If the speaker is attempting to convey a generic reading, the definite form must be used. It is important to remember that, for English speakers, the article form can only convey specific meanings in the contexts just described.

2.1.2. Bare nouns in Spanish

The previous section showed that Spanish does not accept bare nouns as subject, while English does. However, this is a somewhat simplistic statement. It is indeed true that there are some cases where Spanish marks bare nouns as ungrammatical in subject position. However,

Spanish does accept bare nouns in subject position in many cases. This subsection will review the issue of bare nouns in subject position in Spanish in more detail.

The distribution of bare nouns in Spanish is affected by several linguistic factors. The first of these factors was seen in the previous section: subject/object position. As Chierchia (1998) noted, bare nouns are grammatical in object position:

(5) Compré *pasteles* para los niños

I bought cakes for the kids

(6) Compré *agua* para los niños

I bought water for the kids

Regarding subject position, the situation is rather complex. One of the factors shown in the literature to play a role is the position of subject with respect to the verb (Bosque and Rexach, 2009; Laca, 1999). In this sense, it appears that some preverbal subjects can be converted into bare postverbal subjects. However, the meaning conveyed in (7) and (8) is not the same:⁴

⁴ According to Laca (1999), bare nouns in Spanish like *niños* in (8) are said to have a *semi-generic* meaning: *bare NPs show several similarities with generic contexts [...] However, they cannot refer to the whole kind: a bare NP is always 'semi-generic', leaving the expression of genericity for the definite article.*

(7) Los niños juegan en el parque

The kids play in the park

(8) Juegan niños en el parque

Play kids in the park

There are other cases of grammatical postverbal bare subjects. As Torrego (1988) notes, unnaccusative verbs like *faltar* ('to lack') or *quedar* ('to stay') are known for projecting postverbal bare subjects (see Bosque and Rexach, 2009 for a detailed explanation of unnaccusative verbs in Spanish):

(9) Falta café

Coffee is lacking

(10) Llegaron provisiones

Provisions arrived

Nevertheless, the position of the subject with respect to the verb does not ensure that subject bare nouns will be grammatical. In other words, there are subjects in postverbal position which do not allow bare nouns. This is the case of some psych nouns. As Bosque and Rexach (2009) note, two different kinds of psych nouns can be found in Spanish. On the one hand, there are some psych verbs like *amar* ('to love') or *odiar* ('to hate') in which the patient of the action is projected as a grammatical subject. In both (11) and (12), the subjects of the sentences are made by entities (*Cristiano Ronaldo* and *Los amantes del fútbol*) that receive a thematic role of patients.

(11) Cristiano Ronaldo ama cómo juega el Barcelona F.C.

Cristiano Ronaldo loves how Barcelona F.C. plays

(12) Los amantes del fútbol odian al Real Madrid

Football lovers hate Real Madrid

On the other hand, there are other psych verbs in which the patient is projected as dative. The subject of these verbs will be the theme:

(13) A Cristiano Ronaldo le encanta cómo juega el Barcelona F.C.

How Barcelona F.C. plays soccer pleases Cristiano Ronaldo

(14) A los amantes del fútbol les molesta el Real Madrid

Real Madrid annoys football lovers

In this second kind of verbs, *gustar*-like verbs, the subject takes a postverbal position. In spite of this, *gustar*-like verbs cannot have bare nouns as subject:

(15) A Juan le gustan las manzanas

The apples please Juan

(16) *A Juan le gustan manzanas

Apples please Juan

Therefore, the use of the article is mandatory in these cases. Although they have a different position, the subjects of these verbs follow the general model outlined in the previous section 2.1.1. (see Table 2.)

In preverbal position, things get even more complex. Although bare nouns cannot function as preverbal subjects on their own, they can do so if they are either accompanied by a modifier or in a coordinate structure:

- (15) Eléctricas letras verdes intermitentes anunciaron la llegada del vuelo
 Flashing electric green lights announced the flight's arriving
- (16) Fotógrafos y cámaras llegaron pronto al estreno
 Photographers and cameras arrived early to the premiere

Likewise, bare nouns can function as preverbal subjects under certain conditions of stress and intonation, such as topic/focus constructions and Clitic Left Dislocation (Suñer, 1982). In summary, as Cuza et al. (2012) notes in their study about the acquisition of bare nouns in L1-English L2-Spanish speakers, it is not the case that Spanish lacks subject bare nouns. This makes the acquisition of bare nouns by L2-Spanish learners a challenging task.

2.2. The count/mass distinction

This section reviews the most recent accounts for the mass/count distinction. Chierchia (2010)'s article on mass and count nouns will be used to review this topic. Although this same

author has previous studies on the same issue (Chierchia, 1996),⁵ Chierchia (2010) reviews those previous ideas of Chierchia (1996) and introduces the concept of *vagueness*.

Chierchia (2010) starts by considering three universal properties which are characteristic of mass nouns across languages: *the signature property*, *the mapping property*, and *elasticity*.

The former of these, the signature property, is the most frequent and steady property associated with mass nouns. This property states that mass nouns cannot be modified by numeral expressions:

(17) Thirty three tables/stars

(18) *Thirty three bloods/waters/golds

This not only holds true for the numeral-noun combination. It is also impossible to combine a mass noun with a numeral in a subject-predicate structure:

(19) Those boys are at least thirty

(20) *That gold is at least thirty

⁵ Gillon (1992) offers a similar view to that of Chierchia (1996) for the mass/noun distinction.

Because of this incompatibility, it is necessary to use a measure phrase (i.e. *liter, pound,* etc.) or a classifier phrase (i.e. container words like *cup, spoon,* etc.) in order to combine a numerical expression with a mass noun. For example:

(19)' Thirty cups of water

(20)' That gold is at least thirty pounds

The second universal characteristic of mass nouns is *the mapping property*. This universal characteristic relates how the conceptual object/substance distinction is mapped into the mass/count distinction. This mapping property states that *in any Language L, substances are coded as mass by the test prevailing in L*. According to this, no language will mark as countable words like *blood* or *air*. However, as Chierchia (2010) points out, the reverse of *the mapping property* does not hold true. That is, **in any Language L, objects are coded as count in L*. Several examples can be found in English that will prove this false. For example, nouns like *furniture, footwear* or *jewelry* are mass in English, even when they refer to things that conceptually would be considered as objects.

The last of these universal properties is *elasticity*. This property can be defined as follows: there are nouns which seem to accept both mass/count readings:

(21) I need three ropes

(21)' I need a lot of rope

(22) I drank three beers

(22)' I drank a lot of beer

In these cases, mass nouns (*rope, beer*) are used in a conceptual count use. However, the reverse also applies. That is, it is the case that count nouns can be transformed to mass nouns:

(23) There is apple in the soup

Sentence (23) describes a situation in which there are parts of the apple in the soup. Therefore, (23) is an example of a *massified* count noun. However, these shifts are very context-dependent and some mass/count nouns seem to be not as prone to be shifted as others (i.e. *beer* is more prone to be count than *blood*). In conclusion, these shifts make the mass/count distinction even blurrier.

In order to explain the mass/count distinction and why some count/mass nouns are more prone to shift than others, Chierchia (2010) resorts to the concept of *vagueness*. The line of reasoning goes as follows: in order to be counted, nouns need to *individuate a level in which to count* (Kratzer, 1989). However, the vagueness of mass nouns makes this ‘individuation’ impossible. The difference in vagueness between countable and mass nouns can be better comprehended if we compare it with the vagueness between two adjectives: ‘tall’ and ‘dry’. According to Kennedy (2007), the meaning of scalar adjectives like ‘tall’ in the sentence ‘that is tall’ is: *what we are pointing at stands out in height with respect to some contextually determined degree d*. Therefore, the meaning of the adjective ‘tall’ is very vague. Kennedy (2007) compares adjectives like ‘tall’ with adjectives like ‘dry’. The main difference between them is that ‘dry’ has a clear cut-off point. That is, there is a clear point that separates dry/wet things. The same cannot be said about the adjective ‘tall’, because it does not have a clear cut-

off point. Thus, in a sense, the adjective 'tall' is always *vaguer* than 'dry'. The same applies to the mass/count distinction according to Chierchia (2010). Even though count nouns are somewhat vague (i.e. what we consider a 'cat'? *Take a cat and imagine surgically removing various parts of it. At some point (when?) you won't have a cat anymore*, Chierchia 2010), they have clear cut-off points which permit them to be counted. There are plenty of 'cat-atoms' that are not vaguely specified. The same cannot be said about mass nouns. Take into consideration the mass noun 'rice'. There are many contexts in which a single grain of rice will not be enough to be considered significant. Chierchia (2010)'s illustrates this concept with the following example: *to a child saying she has finished her rice, no parents in their right mind would reply 'no, you have not' upon detecting a single grain*. However, there are other contexts where a single grain of rice will be considered as significant. This absence of a clear cut-off boundary in mass nouns makes them impossible to be counted. In order to be counted, mass nouns will need measure phrases or classifier phrases, which will specify at what level we are counting.

In conclusion, as other authors have pointed out (Kennedy 2007; Laesersohn 1999; Pinkal 1989), the concept of vagueness plays a very important role in the grammar. This vagueness also has a central role in the mass/count distinction. However, vagueness affects mass and count nouns differently. In the case of mass nouns, this vagueness avoids mass nouns to have clear levels at which they can be counted, which impedes them to be counted.

2.3. Previous studies in Child Language Acquisition

This section will review several studies in Child Language Acquisition regarding definite plurals. Despite the fact that the issue of definite and bare plurals has received much attention in the literature, the results obtained by the different studies are somewhat contradictory. This

section discusses four major studies dealing with this phenomenon: Gelman and Raman (2003), Pérez-Leroux, Munn, Schmitt, and Delrish (2004), Gavarró, Pérez-Leroux, and Roeper (2006) and Serratrice, Sorace, Filliaze, and Baldo (2009).

According to Gelman and Raman (2003), in order to master the generic/specific distinction children need to pay attention to at least three *cues*: morphological cues, pragmatic cues, and world knowledge cues. Research by Gelman and Raman (2003) tested how children used morphological and pragmatic cues to interpret genericity and specificity in English. Two different studies were prepared to investigate this issue: study 1 examined the children's sensitivity to the definite plural/bare plural distinction in English; meanwhile, study 2 focused on the children's capacity to use pragmatic cues to make the specific/generic distinction. The task in study 1 consisted of a drawing of two entities (i.e., two penguins). One of these entities was atypical or unusual in at least one aspect. For example, penguins are atypical birds in the sense that they cannot fly. After showing the drawing to the participants, a question was asked. This question used either a definite plural (*Do the birds fly?*) or a bare plural (*Do birds fly?*), therefore triggering two different interpretations (generic and specific, respectively). The results obtained were reported in two different parts: part A encompassed the results for 25 adults and 16 4-year-old children; part B encompassed the results for 18 2-year-olds and 16 3-year-olds. Two ANOVAS were performed to analyze the results in part A and B: one for generic questions and another for specific questions. The results for part A indicated a *powerful differentiation of generic versus non-generic wording, although the wording effect was somewhat greater among adults* [than among 4 year old children]. The same analysis was used in part B (2 and 3-year-old participants). Again, the results seemed to suggest that 2 and 3 year-old children are sensible to the definite plural/bare plural distinction in English, and they are able to map each

interpretation to each different form. In the next study, study 2, Gelman and Raman (2003) tested the children's ability to use pragmatic cues for making generic or specific interpretations. In this experiment, a drawing was shown again to the participants. In this case, the drawing could either depict one or two entities (i.e., tiny elephants). Unlike study 1, the questions in study 2 used anaphoric elements to refer to the entities in the drawing. These anaphoric elements are also sensible to the specific/generic distinction, as it can be seen from sentences (24) and (25):

(24) These are my elephants. They like to eat apples.

(25) This is an elephant. They like to eat apples.

The same sentence *they like to eat apples* can either have a specific or a generic interpretation. In (24), there is a number match between the anaphoric element and the referent. This agreement between the referent and the anaphoric element triggers a specific interpretation. On the other hand, if this number match were to be broken, a generic reading would be triggered, as in (25). The reason for this interpretation is purely pragmatic: *they* in (25) has no direct plural reference and therefore has to refer to the whole class of elephants. Study 2 exploited this difference in order to know to what extent children are able to use pragmatics to infer different semantic meanings. In consequence, the questions used in this experiment could either have an anaphoric element in mismatch with its referent or an anaphoric element in match with its referent. Mismatched situations were supposed to receive more generic interpretations. This prediction seems to be bear out by the adults' performance, who responded significantly more generic responses in the mismatch condition than in the match

condition ($p < 0.001$). Surprisingly, 2, 3 and 4 year-old children were also sensitive to these pragmatic cues and gave significantly more generic responses in the mismatch sentences than in the matched ones. The results of these two studies led Gelman and Raman (2003) to conclude that rather than looking only at morphological or pragmatic cues, children use both types of cues in order to extract generic or specific interpretations.

Pérez-Leroux, Munn, Schmitt, and Delrish (2004) tested the children's interpretation of definite plurals and bare nouns in monolingual English and Spanish kids. The task used to do so was similar to the one explained previously: a written situation accompanied by a drawing was presented to the participants, followed by a yes/no question. The answers to these questions were coded as either 'generic', 'specific' or 'other'. Two groups of kids were used in the English version: the younger group (ages ranging from 4;5 to 6;0), and the older group (ages ranging from 6;5 to 7;3). The results obtained in the English version of Pérez-Leroux, Munn, Schmitt, and Delrish (2004) were strikingly different from the ones just reported by Gelman and Raman (2003). While in the latter, kids were accurate as early as 2 years old in making the distinction between definite plurals and bare plurals, the results of Pérez-Leroux, Munn, Schmitt, and Delrish (2004) indicate that both the older and younger group of children had issues with this formal distinction: both groups gave generic responses for definite plurals in English in almost 70% of the cases. Meanwhile, the children tested by Gelman and Raman (2003) gave generic responses to definite plurals only in 8% and 15% of the cases. Interestingly, both groups in Pérez-Leroux, Munn, Schmitt, and Delrish (2004) were target-like in their interpretations of bare nouns in English, giving them 80% (younger group) and 90% (older group) of generic responses. According to Pérez-Leroux, Munn, Schmitt, and Delrish (2004), the previous mentioned high rate of generic responses to definite plurals may have been due to the fact that the situations

presented to the participants used a proper noun to refer to the animals in the picture.

Therefore, they argue that referring back to the animal with its proper name would have been more natural than using the definite plural. Since the animals were not referred back with its proper name, children opted for giving a generic interpretation to the definite plural. With regard to the Spanish version of the study, the results showed that Spanish children preferred the generic interpretation for definite plurals (80% the younger group and 95% the older group) in Spanish, even though a specific interpretation is also available in Spanish. The results for this study seem to suggest that children acquiring English have a Spanish-like stage where they interpret definite plurals as either generic or specific, being the generic the preferred option.

Gavarró, Pérez-Leroux, and Roeper (2006) differ from the previous studies in that it studies the different interpretations for bare nouns/definite plurals in direct object position in Catalan. This language, as many other Romance languages, exhibits a subject/object asymmetry (see section 2.1.1. and 2.1.2. for a detailed explanation). The experimental design was rather similar to that of Pérez-Leroux, Munn, Schmitt, and Delrish (2004): several drawings accompanied by a situation were shown to the participants. In each story, there were two people: one of them with specific needs and the other one with general needs. After the situation, a question of the form *who needs X?* was asked to the participants. *X* could either be a definite plural or a bare plural. The answers to these questions were coded as either generic or specific. The participants for the experiment were 3-year-olds, 4-year-olds, 5-year-olds and adults. The results for this study showed that 3 and 2-year-old children had problems establishing the difference in meaning between definite plurals and bare nouns. In 30% of the cases, these two groups gave generic responses to definite plurals. However, they differed in the way they interpreted bare nouns. 4 year-olds and 5-year-olds gave 60% of generic responses to

bare plurals, while 3-year-olds only gave generic interpretations to these less than 30% of the times. Interestingly, no generic response to definite plurals was attested for 5-years-old children. Adults performed as expected: they mapped generic readings to bare plurals and specific readings to definite plurals. These results seem to support the Pérez-Leroux, Munn, Schmitt, and Delrish (2004) hypothesis: there is an initial stage in which children do not distinguish between definite plurals and bare plurals. Pérez-Leroux, Munn, Schmitt, and Delrish (2004) study showed that L1-English children used indistinctly bare nouns and definite plurals in subject position. This study shows that this also applies in object position.

To the best of my knowledge, Serratrice, Sorace, Filliaze, and Baldo (2009) is the only study dealing with article acquisition in bilinguals. This research investigates the metalinguistic awareness of the notions specificity/genericity in bilingual children. Serratrice, Sorace, Filliaze, and Baldo (2009) explores to what extent typologically different languages can affect the grammaticality judgments of bilingual children. In order to test this hypothesis, two different groups of bilinguals were considered: English-Italian bilinguals and Spanish-Italian bilinguals. Furthermore, monolingual Italian and English children were tested. In order to provide information about the role of the input in the children's grammaticality judgments, the English-Italian group was divided into two different groups: English-Italian bilinguals living in the UK – English-Italian bilinguals living in Italy. If the input were to play a factor, then bilingual kids living in the UK should follow the English monolingual kids' pattern, while the bilingual children living in Italy should follow the Italian monolingual kids' pattern. Each item in the grammaticality judgment task consisted of two sentences accompanied by a picture of prototypical objects or animals. Each sentence was introduced by 'Here' in the specific contexts, and by 'In general' in

the generic contexts. The combination of these adverbs with the definite plurals and bare plurals yielded grammatical and ungrammatical sentences, as it can be seen from (26) and (27):

- (26) a. In general, sharks are dangerous ('In general' + bare noun)
b. *In general, the sharks are dangerous ('In general' + definite plural)
- (27) a. Here, the sharks are dangerous ('Here' + definite plural)
b. *Here, sharks are dangerous ('In general' + bare noun)

The participants had to judge each sentence as acceptable or unacceptable in the target language. If the sentence happened to be ungrammatical, the participants were asked to provide a correction or an alternative to the sentence. The results of the English version showed that all three groups (English monolinguals, English-Italian bilinguals living in the UK, and English-Italian bilinguals living in Italy) performed quite poorly on this task: definite plurals were interpreted as generic and bare plurals as specific. Contrary to what Serratrice, Sorace, Fillicce, and Baldo (2009) expected, *the adverbial adjuncts failed to set up unambiguously specific or generic contexts*. The results of the Italian study showed that both monolingual Italian children and Spanish-Italian bilinguals performed native-like in all contexts. On the other hand, the English-Italian bilinguals' performance was significantly lower than the two groups previously mentioned. More specifically, their accuracy with bare plurals was significantly poorer than the Spanish-Italian bilinguals and the Italian monolinguals, most probably due to transfer from English. Interestingly, the English-Italian bilinguals living in Italy were more accurate than their counterparts living in the UK in all contexts. This seems to support the Serratrice, Sorace,

Filliaice, and Baldo (2009)'s hypothesis about the role of input: the more frequently bilingual children are exposed to a language, the more native-like they will be in that language.

2.4. Previous studies in Second Language Acquisition

There are two main lines of research in the investigation of article acquisition in Second Language Acquisition. The first trend investigates the acquisition of articles in learners whose L1 lacks an article system (Huebner, 1983; Ionin, Ko, and Wexler, 2004; Master, 1987; among others). The first studies following this topic (Huebner, 1983; Master, 1987; Parrish 1987) have found two main errors in the use of articles in L2 learners: article omission (due to transfer, since their L1 lacks articles), and article substitution. Regarding the latter case, these studies have shown that L2 learners of English tend to overuse the definite article *the* in cases where native speakers would use the indefinite *a*. These results led Ionin, Ko, and Wexler (2004) to propose the *Fluctuation Hypothesis*, which explains the aforementioned errors. It is based on two main points: first, learners have full access to UG and, therefore, to the Article Choice Parameter;⁶ second, L2 learners fluctuate between different parameter settings until the input makes them set the parameter in the appropriate value.

⁶ Taken from Ionin, Ko, and Wexler (2004): *The Article Choice Parameter (for two-article languages: a language that has two articles distinguishes them as follows:*

- *The Definiteness Setting: articles are distinguished on the basis of definiteness*
- *The Specificity Setting: articles are distinguished on the basis of specificity*

The second line of research is rather recent in Second Language Acquisition.⁷ These studies focus on the acquisition of articles in L2 learners whose L1 does have an article system. The languages studied so far (English-Italian and English-Spanish) have a very similar article system. However, they differ in the interpretation of plural definites and bare plurals.

The first of these studies is Slabakova (2006). This work is a bidirectional study regarding plural bare nouns in Italian and English. In English, bare nouns like *white elephants* have a generic (*all* white elephants) and existential reading (*some* white elephants). Unlike English, Italian bare nouns do not have generic readings, only an existential one. These different interpretations are in a subset-superset relation, being English the superset language and Italian the subset language. The results from Slabakova (2006) showed that it is easier to learn than to ‘unlearn’ these interpretations. These results support the Subset Principle (Manzini and Wexler, 1987; Wexler and Manzini, 1987): Italian natives will rely on positive evidence when acquiring the English article system, which will help them to acquire the English interpretations; however, English natives will have a more difficult time acquiring the Italian article system. The absence of positive evidence in the input will impede them to know that generic interpretations are not available for Italian bare plurals. In spite of this, Slabakova (2006) found that parametric clustering help L1-English L2-Italian learners to overcome this poverty of stimulus problem. The acquisition of a syntactic parameter such as word order in proper names modified by adjectives

⁷ To the best of my knowledge, Slabakova (2006) is the first study following this line of research. Nevertheless, there are some previous studies in Child Language Acquisition that also follow this model, like Pérez-Leroux, Munn, Schmitt, and Delrish (2004).

(*Roma antica* vs. **Antica Roma*, 'Ancient Rome') led L1-English L2-Italian learners to acquire the different semantic interpretations of bare nouns in Italian.

The next group of studies (Montrul and Ionin, 2010; Ionin and Montrul 2010; Ionin, Montrul, and Crivós, 2011) share two common characteristics: first, they use a very similar methodology to test the participants' knowledge of definite plurals in the target language; second, they test these different interpretations for definite plurals in Spanish or English (see section 2.1.1. of this thesis for a detailed explanation of the differences between the English and Spanish article system).

These experiments employed three tasks: first, an Acceptability Judgment Task (AJT) was used to measure the participants' explicit knowledge of English and Spanish articles systems; second, a Truth-Value Judgment Task (TVJT) which examined the learners' interpretation in the target language; and lastly, a Picture-Sentence Matching Task (PSMT). All these tasks were untimed.

In the AJT, a pair of sentences was shown to the participants. Then, the subjects had to interpret the second sentence as acceptable or unacceptable in the context of the first sentence. If the subject considered the sentence was unacceptable, he had to answer 'NO' and provide a correction to the sentence. If acceptable, he would answer 'YES' (or 'SÍ' in the Spanish version). No scale of acceptability was used. Seventy-two test items were used in this AJT, 32 of them being target items.

The TVJT is a less explicit task and centers its focus on meaning. This task was loosely based on the one used by Pérez-Leroux, Munn, Schmitt, and Delrish (2004) with child L1 learners. The TVJT consisted of a text that was showed to the participants. Each text was accompanied by a picture. Immediately following the picture, a test sentence was shown in text

form. This sentence could either trigger a specific and anaphoric interpretation (*the chickens have three legs* or *these chickens have three legs*) or a generic interpretation (*chickens have three legs*). The participants had to judge this sentence as true or false in the context of the picture. In total, 8 situations were created, and each of these situations was shown three times in three different versions: once with a test sentence containing a definite plural, once with a test sentence containing a bare noun, and once with a test sentence containing a demonstrative plural. Thus, there was a total of 24 target situations used. The Spanish version of this task was slightly modified because Spanish bare plurals are ungrammatical in Spanish. Therefore, participants could not be asked to judge an ungrammatical sentence as true or false. In the Spanish version, each text and picture appeared only once with a test sentence containing a definite plural. This sentence was sometimes 'TRUE' for the specific reading and 'FALSE' for the generic reading, and others 'FALSE' for the specific reading and 'TRUE' for the generic reading. A total of 60 items were used, 24 of them being target items in each of the versions (English and Spanish).

Finally, the PSMT tested the participants' knowledge of articles in Spanish and English regarding (in)alienable possession. In Spanish, sentences like (28) are ambiguous: they can either have an inalienable (the boys' hand) or an alienable interpretation (somebody else's hand). English does not show this ambiguity. The example shown in (29) has an alienable interpretation. A possessive determiner (*his* or *her*) would be used instead of the article to express inalienable possession.

(28) Los chicos levantaron la mano

(29) The boys raised the hand

The PSMT consisted of two pictures presented side by side. These pictures were accompanied by a sentence underneath them. The participants were asked to choose which picture described the sentence better. The participants had also the option to choose 'BOTH' to express that both images represented what the sentence said. 40 pairs of pictures were used in the English version, 16 of them being target items. Two of the initial 40 sentences were removed from the Spanish version because Spanish native speakers considered them awkward and were, therefore, difficult to judge.

Montrul and Ionin (2010) was the first study to employ the methodology just described. They investigated the effects of transfer in heritage speakers of Spanish by testing the participants' knowledge of the article system of both English and Spanish. The results for the AJT showed that Spanish heritage speakers were quite accurate in both English (they scored above 90.0%) and Spanish (86.0%). However, these heritage speakers overaccepted bare plurals with a generic reading in Spanish, which confirms Montrul and Ionin (2010)'s hypothesis about transfer. Regarding the results of the English TVJT, Spanish heritage speakers were rather native-like with bare plurals and demonstratives. On the other hand, they scored a bit lower with definite plurals. The results of the Spanish TVJT showed clear transfer effects. While heritage speakers performed at ceiling with plural demonstratives (95.6%), they interpreted definite plurals as generic in 56.7% (Spanish native speakers 81.2%). The statistical analysis of this data showed a marginally significant difference on group (Spanish native speakers vs. Spanish heritage speakers) ($p < 0.07$) and NP type (plural demonstratives vs. definite plurals) ($p < 0.04$).

The results of the last task, the PSMT, showed that Spanish heritage speakers performed native-like in both English and Spanish. In the case of Spanish, both native speakers and heritage speakers chose 'BOTH' as their preferred interpretation for definite articles (68.4% native speakers and 74.0% heritage speakers). In English, both groups interpreted definite articles as indicating alienable possession (95.4% native speakers and 81.6% heritage speakers). No statistical difference between groups was found in either English or Spanish. Therefore, both groups converged in their knowledge of articles in English and Spanish regarding (in)alienable possession. Montrul and Ionin (2010) concluded that the transfer effects found go from the dominant (English) language to the weaker language (Spanish). Furthermore, they argue that the results of this study showed that the syntax-semantic interface is vulnerable to transfer effects in this population.

Ionin and Montrul (2010) investigated the role of L1 transfer in definite plurals and bare nouns in both L1-Spanish L2-English and L1-Korean L2-English. Before starting the experiment, the participants completed a cloze test in order to group them according to their proficiency in intermediate and advanced learners. Ionin and Montrul (2010) used an AJT and a TVJT to test the subjects' knowledge of articles. The results were reported as two different studies: study 1 shows the results for the intermediate L1-Spanish and L1-Korean learners of English, and study 2 shows the results for the advanced L1-Spanish and L1-Korean learners. The results for the AJT of study 1 found that both research groups have similar mean article accuracy (L1-Korean 68.0%; L1-Spanish 65.0%). However, their performance is quite different from the native speakers' performance (96.0%). Both experimental groups did not differ from each other ($p = 1.0$) but they significantly differed from the native group ($p < 0.001$). Surprisingly, the Spanish L2 learners

performed at the same level than L1-Korean learners, even though Spanish does have articles.⁸ The results for the TVJT showed that Spanish speakers' performance with definite plurals were quite low when compared to Korean speakers. This was probably due to L1 transfer: L1-Spanish learners interpreted definite plurals as generic rather than specific. On the other hand, L1-Korean learners were slightly less accurate on bare plurals and definite plurals than English native speakers. In total, there were 16 L1-Korean speakers (55.0%) that performed at ceiling. Meanwhile, only 1 L1-Spanish speaker (4%) performed native-like. Study 2 tested advanced L1-Spanish L2-English and L1-Korean L2-English learners. The subjects were asked to do the same tasks as the subjects in study 1: an AJT and a TVJT. The results for the AJT showed that L1-Spanish speakers were a bit more accurate (81.0%) than L1-Korean speakers (71.0%). This difference was not statistically significant. However, as Ionin and Montrul (2010) pointed out, this may be due to small sample size. The analysis of the results for the TVJT yielded statistical significant results for NP type (plural demonstratives vs. definite plurals vs. bare plurals) in both experimental groups. Further analysis on the effect of NP type showed that both research groups performed much better in the control item (plural demonstratives) than with definite plurals ($p < 0.01$). No significant difference was found between bare plurals and plural demonstratives ($p = 0.19$). From all this, Ionin and Montrul (2010) concluded that: first, L1-Korean and L1-Spanish L2-English learners transfer their knowledge of articles in their L1

⁸ As Ionin and Montrul (2010) points out, L1-Spanish learners did not recognize errors *that would also be errors in the corresponding Spanish sentences, something for with* Ionin and Montrul (2010) *do not have an explanation.*

(Spanish or Korean) into their L2 (English). In the case of L1-Korean L2-English, this was shown in the acceptance of bare nouns with specific interpretation in English. On the other hand, L1-Spanish L2-English accepted generic definite plurals in English. Second, recovery from transfer in the syntax-semantic interface is possible, as it was shown by the results of advanced L1-Spanish and L1-Korean L2-English learners in study 2. Third, the results suggest that acquiring a new category (L1-Korean L2-English) is easier than shifting the interpretation of an already existent category (L1-Spanish L2-English). Importantly, the results of Ionin and Montrul (2010) agree with the results of previous studies on transfer like Slabakova (2006). Furthermore, their results also support Lardiere (2009)'s proposal regarding feature reassembly and feature selection: Korean speakers would select new features to acquire the English article system. Meanwhile, Spanish speakers would have to reassembly those features in order to acquire the use of definite articles in English, which does not have a [+ kind formation] feature, as Spanish does. According to Ionin and Montrul (2010)'s results, to reassembly features is more difficult than to select features.

Ionin, Montrul, and Crivós (2011) is a bidirectional study of English to Spanish and from Spanish to English. As in Ionin and Montrul (2010), a cloze test was used to test the subjects' proficiency. Depending on their scores in the cloze test, the participants were grouped into three categories: low, intermediate, and advanced learners. Again, two tasks were used: an AJT and a TVJT. However, the AJT of Ionin, Montrul, and Crivós (2011) was slightly different from the ones used in Montrul and Ionin (2010) and Ionin and Montrul (2010). In this case, a scale of acceptability was used. That is, each participant could rate each sentence ranging from 1 – completely unacceptable- to 4-totally acceptable-. Each of these tasks had two versions: one in English and another one in Spanish. The results were reported in two studies: study 1 shows the results for the TVJT for the English and Spanish version and study 2 the results for the AJT in

both English and Spanish versions. The results of the English TVJT show that the low and intermediate proficiency learners accepted definite plurals with generic interpretation (almost 80.0% of the times). This is clear a transfer effect from the learners' L1. The statistical analysis of the data collected in the English TVJT showed: first, a significant effect on NP type (plural demonstratives vs. bare plurals vs. definite plurals) ($p < 0.001$) –all three NPs differed significantly from each other, this means that the participants interpreted definite plurals as generic more frequently than demonstrative plurals; however, they interpreted definite plurals as generic less frequently than bare plurals. A significant effect on group membership (low proficiency vs. intermediate proficiency vs. high proficiency vs. native speakers) was also found ($p < 0.001$). Further analysis on this group membership significant effect showed that low and intermediate learners' performance significantly differed from native speakers and advanced L2 learners. Regarding the Spanish TVJT, they found that Spanish native speakers very much preferred the generic interpretation for definite plurals, choosing this generic reading 80.0% of the times. Intermediate and low L2-Spanish learners deviated from this pattern: the lower proficiency learners chose the generic interpretation for definite plurals only 20.0% of the times. Meanwhile, intermediate and advanced learners chose this interpretation close to 60.0% and 55.0% of the time, respectively. Surprisingly, intermediate learners were slightly more native-like than advanced learners. As in the English TVJT, the L2-learners' interpretations demonstrate transfer from their L1s. In the Spanish TVJT, these transfer effects makes L1-English L2-Spanish choose a specific interpretation for definite plurals, since this is the only interpretation available for definite plurals in English. The statistical analysis of the results for the Spanish TVJT yielded significant results for NP type (demonstrative plurals vs. definite plurals) ($p < 0.001$). A significant effect was also found on group membership between native speakers and low-

proficiency L2-learners ($p < 0.01$). Interestingly, no statistical significant difference was found in the performance among native speakers, advanced, and intermediate L2 learners. Turning now to the results for the AJT, a more native-like performance was found in L2-Spanish than in L2-English learners. The results obtained in the English version of the AJT can be explained via transfer: L2-English learners accepted definite plurals with generic interpretations, while on the other hand, rated bare plurals as having specific interpretations. Regarding the results for the Spanish AJT, L1-English L2-Spanish learners performed target-like in the specific plural category, but less on the generic category. The results of this research led Ionin, Montrul, and Crivós (2011) to conclude the following: first, target-like performance can be achieved, since the higher proficiency groups performed at ceiling in all tasks; and second, it seems that learning about ungrammaticality is easier than learning a new interpretation. This could support the Interface Hypothesis (Sorace and Filiaci, 2006), which suggests that purely syntactic phenomena (learning about ungrammaticality) is easier to acquire than phenomena that lies in the syntax/semantic or syntax/pragmatics interface (learning a new interpretation).

The last of this group of studies is Montrul and Ionin (2012). This article investigates the effects of (dominant) transfer in definite plurals in two groups: Spanish heritage speakers and second language learners of Spanish. Montrul and Ionin (2012) compared these two research groups to know to what extent transfer in definite plurals is affected by age of acquisition: *transfer may be stronger in L2 learners than in heritage speakers because they may be less likely to overcome the influence from their L1 [due to the different age of acquisition]*. Besides from the AJT, TVJT and PSMT used in previous studies (Ionin and Montrul, 2010; Montrul and Ionin, 2010; Ionin, Montrul, and Crivós, 2011), this study also used a Sentence-Picture Acceptability Judgment Task (SPAT) to further test the participants' knowledge of (in)alienable possession in

articles. Unlike in the PSMT, only one picture was shown in the SPAT. This picture had two sentences underneath: one with a definite determiner (*Pedro levantó la mano*, 'Pedro raised the hand') and another one with a possessive determiner (*Pedro levantó su mano*, 'Pedro raised his hand'). The participants were asked to rate this sentence in the context of the picture shown. The SPAT used an acceptability scale, ranging from 1 (unacceptable) to 5 (acceptable). The results of the AJT showed that L2 learners and heritage speakers were rather native-like in their overall knowledge of articles. However, their scores (78.4% and 83.6%, respectively) were slightly lower than those of the native speakers (90.6%). The difference between L2 learners and heritage speakers tended towards statistical significance ($p = 0.057$). Both experimental groups accepted bare plurals with generic reference as grammatical in Spanish. The mean accuracy of bare plurals was 53.3% for L2 learners and 48.3% for heritage speakers. This difference also tended towards statistical significance ($p = 0.061$). The results showed that L2 learners of Spanish were therefore more accurate in rejecting bare plurals than heritage speakers. This may be due to the explicit character of the task: more native-like performance should be found in heritage speakers in more implicit tasks. Regarding the TVJT, the results indicated that both L2 learners and heritage speakers chose generic interpretations for definite plurals about half of the time (heritage speakers 49.3% and L2 learners 54.6%). On the other hand, native speakers preferred the generic interpretation for definite plurals (81.3%). The statistical analysis of these results did not reach significance for group (heritage speakers vs. second language learners) ($p = 0.45$). The results for the next task, the SPAT, showed that native speakers rated the sentence with definite plurals slightly higher ($M = 4.5$) than possessive determiners receive ($M = 4.0$) for pictures depicting inalienable possession, but this difference was not significant. Like native speakers, heritage speakers rated definite determiners ($M = 4.1$) and possessive determiners (M

= 4.3) in inalienable possession contexts very similarly. Unlike these groups, L2 learners preferred definite determiners ($M = 4.5$) much more than possessive determiners ($M = 3.1$). Lastly, the results for the PSMT indicated that both experimental groups performed at ceiling in their interpretation of definite articles in inalienable possession contexts. All three groups chose 'BOTH' as their preferred answer in the PSMT (native speakers 68.3%; heritage speakers 69.5%; and L2 learners 59.1%). Montrul and Ionin (2012) conclude the following: first, transfer effects were found in the interpretation of definite plurals in Spanish in both heritage speakers and second language learners; second, the results seem to suggest that these groups do not transfer their knowledge from their L1 in inalienable possession contexts; and last, *the results on definite plurals in generic contexts confirm that language dominance is more relevant than age of acquisition*.

2.5. Research gap

The studies reviewed in the previous sections failed to consider other variables such as type of noun or type of verb that could interfere with transfer in the acquisition of definite plurals in Spanish. To fill that gap in the literature, the present study will take into consideration the previously mentioned variables (type of noun and type of verb). Furthermore, the reviewed studies on definite plurals in Second Language Acquisition used a very similar methodology. Following this argument, Ionin and Montrul (2010) already pointed out that it is necessary to use *different tasks, comparing learners' performance on tasks that tap into more implicit, integrated and automatized knowledge*. Due to this shortcoming in previous research, the present study seeks to propose a better methodology to test the participants' implicit knowledge of definite plurals in Spanish. This section will explain why the proposed

methodology is a better measure of implicit knowledge than the methodology used in previous studies.

The literature in Second Language Acquisition reviewed in this chapter provided enough evidence on how transfer can affect the L2-Spanish learners' interpretations of definite plurals in Spanish. However, these studies did not consider how other linguistic factors, such as the type of noun and the type of verb, could influence the interpretation of definite plurals in L2-Spanish learners. The present study fills this gap in the literature by controlling for these two variables. For the type noun, countable and mass nouns were considered. Crucially, both countable and mass nouns present the same difference in Spanish and English: Spanish does not accept them as bare nouns in some cases, whereas English does. Thus, considering these two types of nouns is extremely useful for investigating how different semantic features could influence the L2 acquisition of definite plurals in Spanish: both types of nouns present the same asymmetry in their distribution in English and Spanish, but their semantic characteristics are very different (see section 2.2. of this same chapter). Therefore, if any difference were to be found in the way L2-Spanish interpret definite plurals with mass/count nouns, it may be so because there is some kind of interaction between the features count/mass of the noun and the semantic features of genericity/specificity.

The other variable considered was the type of verb. On the one hand, *gustar*-like verbs (which I will call psychological verbs, even though not all psychological verbs follow the *gustar*-like structure: see section 2.1.2. of this chapter for a detailed explanation) and, on the other hand, non-psychological verbs such as *tener* ('to have'). There is one main difference between these two kinds of verbs: *gustar*-like verbs have postverbal subjects, whereas non-psychological verbs such as *tener* ('to have') have preverbal subjects. However, the target sentences

containing these verbs were used in questions. Thus, both types of verbs received postverbal subjects in this context:

(30) Te gustan *los zapatos*

The shoes please you

(30)' ¿Te gustan *los zapatos*?

Do the shoes please you?

(31) *Los perros* tienen muchas enfermedades

The dogs have many diseases

(31)' ¿Tienen *los perros* muchas enfermedades?

Do the dogs have many diseases?

To the best of my knowledge, none of the previously reviewed studies provided an appendix with the situations used in their experiments. Consequently, the types of verbs used in their investigations are not known. The examples used in these studies always contained the verb *tener* ('to have') or the verb *ser* ('to be'). Therefore, it seems that only non-psychological verbs were used. The current study adds another type of verb: the psychological verb. These types of verbs were neutralized for their subject position. This neutralization of different syntactic features is very important for the present study. As it was noted in section 1.2., when defining the approach to the topic, this study aims to investigate how different semantic features interact with the acquisition and interpretation of definite plurals in Spanish by L1-English L2-Spanish. By adding these types of verbs, it will be possible to test if the hypothesized mass/count influence in the L2-learners' interpretations holds for different verbs.

Lastly, this study seeks to propose a more implicit task to test the participants' implicit knowledge of definite plurals in L2-Spanish learners. As Ellis (2005) notes, the validity of an experimental task depends on how accurately the constructs tested are measured. In Second Language Acquisition, two types of tasks are mainly used: explicit and implicit tasks. Of course, these two different tasks measure two different constructs: implicit and explicit or metalinguistic knowledge. The tasks used in the literature for testing definite plurals were either explicit or implicit tasks. The most common explicit task used was the Acceptability Judgment Task (Montrul and Ionin, 2010; Ionin and Montrul, 2010; Montrul and Ionin, 2012). While it was generally assumed that Acceptability Judgment Tasks tapped into metalinguistic knowledge, this was put into question by Ellis (2005) and, more recently, by Gutiérrez (2013). These studies used psychometric methods to test the validity of Acceptability Judgment Tasks as a measure of explicit knowledge. Both articles reached very similar conclusions about this task: *the grammatical and ungrammatical sentences* [in the untimed Acceptability Judgment Task] *appear to measure different constructs: grammatical sentences draw on implicit knowledge, whereas ungrammatical sentences tap into explicit knowledge* (Ellis 2005). Thus, the literature on methodology seems to not recommend this task to test explicit knowledge. This is the main reason why the present study did not use Acceptability Judgment Task as a baseline to test the participants' explicit knowledge of Spanish definite plurals.

The present study will use a listening comprehension implicit task. Slabakova (2006), Montrul and Ionin (2010), Ionin and Montrul (2010), and Montrul and Ionin (2012), among others, also used implicit tasks to test the interpretation of definite plurals in Spanish in L2-learners. However, the tasks used in these experiments (Truth-Value Judgment Tasks) differ from the one used in the present study in two fundamental points: first, no production is

involved in the Truth-Value Judgment Tasks used; and second, the sentences which had to be interpreted were written down and, therefore, the participants could read them as much as they wanted. As Ionin and Montrul (2010) pointed out: *the TVJT was implicit in that the focus was on meaning rather than form*. This being true, it is important to remember here that, according to Ellis' (2005), there are 7 key characteristics that distinguish implicit and explicit tasks. Because of this, implicit and explicit tasks are always in a continuum. This means that some tasks may make more use of implicit knowledge than others.⁹ Thus, I argue that the task used in the present study is a better measure of the participants' implicit knowledge of definite plurals for the following reason: instead of being presented in a written manner, all sentences were presented orally to the participants in the current study. The importance of this point was also noted by Montrul and Ionin (2010): *presenting the task in an audio rather than visual format would be another way of minimizing the involvement of explicit knowledge, as learners would not be able to reread the sentence multiple times*. Thus, the task used in the present study fills this methodology gap noted by Montrul and Ionin (2010).¹⁰

⁹ For example: out of the 5 tasks used in Ellis (2005) experiments, two of them measured implicit knowledge (Imitation Task and Oral Narrative Task). The results by Ellis (2005) showed that the Imitation Task relied more on implicit knowledge than the Oral Narrative Task.

¹⁰ It is important to mention the advantage of the Truth-Value Judgment Task used in Slabakova (2006), Montrul and Ionin (2010), Ionin and Montrul (2010), and Montrul and Ionin (2012): due to the nature of this task, participants with low proficiency could be tested and, therefore, developmental results were obtained between different L2 learners with and without article system in their L1s. This could have not been done with the methodology used in the current study, since it requires more proficient L2 learners in order to obtain answers that can be coded.

CHAPTER 3

RESEARCH QUESTIONS AND HYPOTHESES

3.1. Research questions

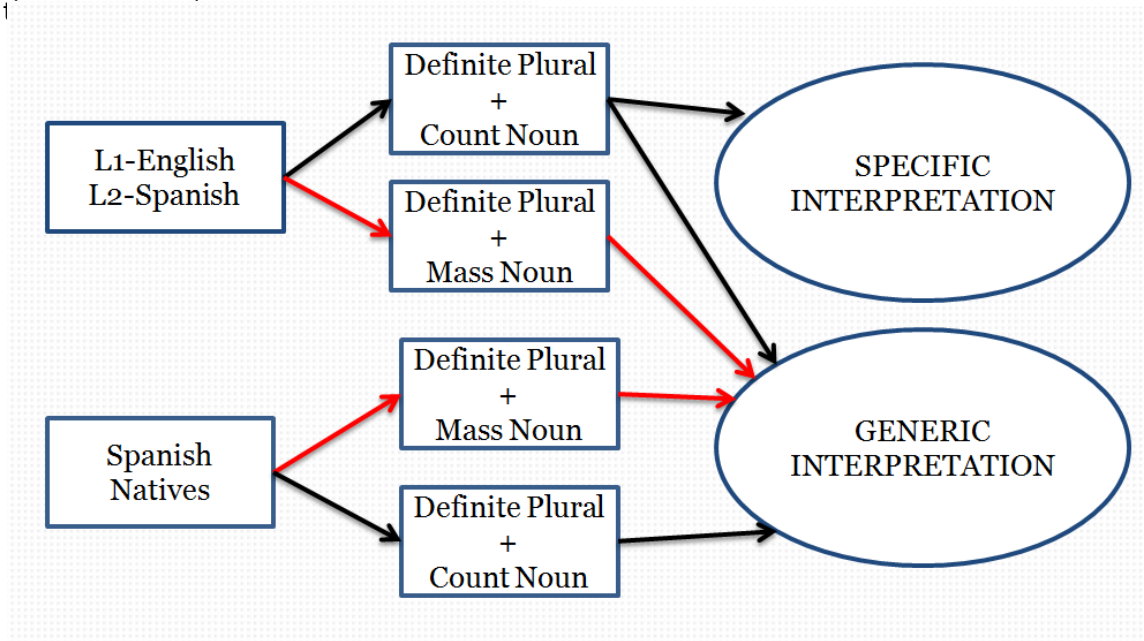
Given that L2 learners are sensible to transfer from their L1 in their article system (Slabakova, 2006; Montrul and Ionin, 2010; Ionin and Montrul 2010; Ionin, Montrul, and Crivós, 2011; among many others), the following questions will be addressed in the present study:

1. Do intermediate L1-English L2-Spanish learners and Spanish native speakers interpret definite plurals containing either count nouns or mass nouns in the same way?
2. Do intermediate L1-English L2-Spanish learners and Spanish native speakers converge in their interpretations of definite plurals containing count or mass nouns?

3.2. Hypotheses

1. L1-English L2-Spanish will interpret definite plurals with count as specific and mass nouns as generic, while Spanish native speakers will tend to interpret definite plurals with both mass and count nouns as generic.
2. As a consequence from 1., L1-English L2-Spanish learners and Spanish native speakers will *only* converge in their interpretations of definite plurals containing *mass nouns*.

Figure 1. Diagram depicting hypothesis 1 and 2. Red arrows indicate new directions offered in



CHAPTER 4

METHODOLOGY OF THE RESEARCH

4.1. Participants

Two research groups were used in this study. The experimental group was made of 17 L1-English L2-Spanish learners who were students in a research University in the Northeast of the United States. All of them were enrolled in a Spanish Grammar class. The correspondent level within the Common European Framework of Reference for this class is B1-B2. Their average¹¹ number of years learning Spanish was $\bar{x} = 7.37$ ($SD = 3.80$ and $R = 13$). Three participants attested to be low proficient in other languages: one had studied 3 semesters of Chinese, one had studied French for 2 years and another one attested to *speak a bit of Italian and German*. None of the participants attested to having lived in a Spanish speaking country for more than 6 months. Only 4 participants lived in a Spanish speaking country (1 month, 2 months, 3 months, and 5 months).

The control group had 15 native speakers of Spanish, 12 from Spain, 1 from Colombia, and 2 from Honduras. To the best of my knowledge, the phenomenon under analysis in the current study does not show dialectal variation. 9 participants were monolingual Spanish speakers, whereas 6 of them speak English with different levels of proficiency. 1 of the Spanish native speakers also spoke Catalan.

¹¹ Two participants failed to provide an exact number to the question *how many years have you been studying Spanish?* They answered the question with a range rather than with a number (i.e. *from middle school*). Therefore, the mean, standard deviation, and range were calculated with data from the other 15 participants.

4.2. Task and procedure

Before starting the experiment, the participants were asked to fill out a questionnaire about their language background (see Appendix A). This questionnaire also contained a sample situation to train the participants before starting the experiment.

Two listening comprehension tasks were carried out in the present study. Each task encompassed 12 situations shown on a computer screen to the participants, followed by an oral question about the situation. One of these listening comprehension tasks used psychological verbs in the target questions, while the other one used non-psychological verbs. (32) shows one of the situations used:¹²

(32) Imagínate que es fin de semana y necesitas unos nuevos zapatos para salir con tus amigos, así que decides ir de compras con un amigo. Te encantan los zapatos y tienes ganas de comprarte unos nuevos para llamar la atención. Sin embargo, odias los zapatos negros. Crees que son muy aburridos. Cuando vas a la tienda, todos los zapatos que ves son negros, por lo que estás pensativo. Mientras estás mirando los zapatos, tu amigo te pregunta:

Pregunta: ¿No te gustan los zapatos?

¹² See Appendix B for all target situations used, and Appendix C for their English translation.

[Imagine it is the weekend and you need a new pair of shoes to go out with your friends, so you decide to go shopping with a friend. You love shoes and you feel like buying a new pair of shoes to show off. Even though you love shoes, you hate black shoes. You think they are very lackluster. When you are in the shoe-store, all the shoes you see are black, so you do not know what to do. While you are looking at the shoes, your friend asks you:
Question: Don't you like (the) shoes?]

This situation was used in the experiments with psychological verbs, since it used a psychological verb in the question (*gustar*, 'to like'). It is also important to note here that the situation elaborates on a count noun (*zapatos*, 'shoes'), which is also present in the question. (33) shows an example of a situation dealing with a mass nouns (*oro*, 'gold'), which contains a non-psychological verb in the question (*tener*, 'to have').

(33) *Imagínate que te encanta el oro. Como tienes poco dinero, necesitas vender el oro que tienes. Afortunadamente, el oro tiene mucho valor y no necesitas vender mucho para conseguir mucho dinero. Sin embargo, el oro blanco vale muy poco dinero. Se vende muy barato. Cuando intentas vender un reloj de oro blanco, el comprador te ofrece poquísimo dinero. Cuando le dices a un amigo lo que te pasó, él te pregunta:*
Pregunta: ¿No tiene el oro mucho valor?

[Imagine that you love gold. Since you barely have money, you need to sell the gold you have. Fortunately, gold is very valuable and you do not need to sell a lot in order to earn a lot of money. However, white gold is not as valuable. It is not expensive. When you try

to sell a watch made of white gold, the buyer offers a very low price for it. When you tell your friend what happened, he asks you:

Question: Doesn't (the) gold have a very high price?]

All participants completed the experiment with psychological verbs first, followed by the experiment with non-psychological verbs. This distribution was arbitrary, since it was predicted that both types of verbs will affect definite plurals in the same way (see Chapter 3, section 2 of this study). However, the timeframe between each experiment was controlled: there was at least a 3-day window between the first and the second experiment. This was done to avoid any kind of learning effect in the participants' responses. Furthermore, the situations were read out loud to the participants by a researcher, although they were also available on the screen while the researcher was reading them. This was done to make sure that the participants would not skip parts within each situation. The length of each situation ranged 5 to 8 lines long in a PowerPoint screen. In each experiment, 6 of the total 12 situations were target situations, and the other 6 were fillers. This yields a 1:1 ratio of fillers to target situations. I decided to keep the experiment as brief as possible, so the participants would not get tired and produce unintelligible sentences. The only way of doing this –following the same experimental design- was to reduce the number of fillers and, therefore, increase the ratio of fillers/target sentences. In general, L2-Spanish learners required approximately 20 minutes to do each experiment. Native speakers completed the experiment in a shorter amount of time, as it took them approximately 15 minutes to do the each experiment

All target situations followed the scheme of the sample situations showed earlier: there was an entity, which was either a countable or a mass noun, in a set-subset relation. For example,

if the situation was about the price of gold (set), then this general price of gold differed from the price of some specific kind of gold (i.e., white gold), which was in a subset relation with gold. After reading the situation, the participants were asked a question. This question was read out loud twice, and it was never shown to the participants. Crucially, these questions always contained a definite plural. As explained in 2.1.1., these definite plurals can either have a specific or a generic interpretation in Spanish. All situations were controlled so both interpretations (specific or generic) were equally possible.

The number of target questions containing countable and mass nouns were balanced out. Out of the 6 target questions per experiment, 3 of them used mass nouns and the other 3 used countable nouns. In sum, three independent variables were used in the present study: type of noun (count vs. mass noun), type of verb (psych vs. non-psych), and type of speaker (native speaker vs. L2-learner). The dependent variable considered was the participants' interpretation of the Spanish definite plural ('generic' vs. 'specific' vs. 'other'). Table 3 shows the final research design for the present study.

Table 3. Research design for the current study

	VARIABLES	COUNT NOUNS	MASS NOUNS	TOTAL
EXPERIMENT 1	PSYCH VERBS	3	3	6
EXPERIMENT 2	NON-PSYCH VERBS	3	3	6
TOTAL		6	6	

4.3. Coding

After each question, the participants were asked to provide a 'yes/no' answer followed by an explanation. However, these 'yes/no' responses were not considered in the coding. Instead, the participants' explanations to the questions were coded. These explanations were either coded as 'generic', 'specific' or 'other'. In the 'generic' category were included examples like (34), where the participant states that she likes shoes in general (generic reading). On the other hand, responses like (35) were coded as specific, since the participant says that she does not like those specific, black, shoes.

(34) *Me gustan los zapatos pero prefiero comprar los zapatos de otro color*

I like shoes, but I would prefer to buy other shoes with a different color.

(35) *No, no me gustan estos zapatos porque son negros y aburridos*

No, I do not like these shoes because they are black and lackluster.

The last category, 'other', was composed of responses which did not fit in any of the other two categories. In some cases, the participants responded to the questions with non-understandable sentences. For example, to the question *don't (the) bouncers have a lot of stress?* A participant answered *yes, I have them*. Also, there were cases when the participants' responses were too vague and impossible therefore to categorize. For example, to the question *do (the) teachers have financial problems?* A participant answered *I do not know. It depends on where they work and how they manage their finances*.

4.4. Statistical Analysis

The statistical package SPSS v.16 was used to conduct the statistical analysis. This study used non-parametric tests to analyze the data obtained, since the results for the test of normality Saphiro-Wilk were significant in almost all cases (see Appendix D for the results of two tests of normality: Kolmogorov-Smirnov and Saphiro-Wilk).

Two Kruskal-Wallis Tests were run: one with the results obtained for psychological verbs, and another one for the results obtained for non-psychological verbs. In both cases, the dependent variable used was the number of generic responses, and the independent variable was the type of speaker. As its parametric version, the one-way ANOVA, the Kruskal-Wallis can only use one factor or independent variable. Therefore, the type of speaker and the type of noun variables were merged in one single variable, which was denoted 'type of speaker', with 4 levels: NS_C (number of generic responses given by native speakers to count nouns), NS_M (number of generic responses given by native speakers to mass nouns), SL_C (number of generic responses given by L2-learners to count nouns), and SL_M (number of generic responses given by L2-learners to mass nouns). Also, the Kruskal Wallis Test is an *omnibus* test. That is, this test only shows that a difference exists, and does not show where that difference may be. Therefore, in order to further explore what these differences could be, 4 Mann-Whitney Tests were run. Bonferroni corrections were used to control for the familywise error ($\alpha = .05 / 4 = .0125$). The following comparisons were conducted: NS_C vs. SL_C (native speakers' and L2-learners' interpretations with count nouns), NS_M vs. SL_M (native speakers' and L2-learners' interpretations with mass nouns), SL_C vs. SL_M (L2-learners' interpretations for mass and count nouns), and NS_C vs. NS_M (native speakers' interpretations for mass and count nouns).

r effect size¹³ will be reported along with p-values in order to measure how big or small these differences are.

¹³ Following Field (2009), the formula used to calculate r was: $\frac{z}{\sqrt{N}}$

CHAPTER 5

RESULTS

5.1. Introduction

This chapter will show the results of the experiments carried out in the current thesis. Since two experiments were completed, these results will be reported as two separate studies. The results of Study I will show the results obtained for the experiment with psychological verbs, and the results of Study II will show the results for the experiment with non-psychological verbs. Each results section will be followed by a discussion of the results. Finally, the general discussion section will discuss the results obtained in light of the research questions posited in chapter 3.

5. 2. Results for Study I: Psychological verbs

Table 4 shows the results obtained for psychological verbs for both native speakers and L2-Spanish learners. These results were split depending on the type of noun used. The first aspect to notice is that native speakers preferred the generic interpretation with both types of noun (91.1% with count nouns and 97.8% with mass nouns) much more than the specific interpretation (6.7% and 2.2.%, respectively). On the other hand, L2-learners gave different responses to mass/count nouns. In the case of mass nouns, they followed the native speaker pattern. Surprisingly, they gave even more generic responses to mass nouns than native speakers (100.00% and 97.8%, respectively). With regard to count nouns, they still preferred the generic option (74.5%), but they interpreted definite plurals containing count nouns as specific one out of every 4 times (25.5%). Interestingly, L2-learners gave no 'other' responses, so they were accurate in their understanding of the questions.

Table 4. Descriptive results for psychological verbs

		GENERIC	SPECIFIC	OTHER
Native Speakers (n=15)	COUNT	41 (91.1%)	3 (6.7%)	1 (2.22%)
	MASS	44 (97.8%)	1 (2.2%)	0 (0.0%)
L2-Spanish (n=17)	COUNT	38 (74.5%)	13 (25.5%)	0 (0.0%)
	MASS	51 (100.0%)	0 (0.0%)	0 (0.0%)

In order to test if these differences were statistically significant, a Kruskal Wallis Test was run with the number of generic responses as the dependent variable, and the type of speaker as the independent variable (see chapter 4.4 of this thesis). Table 5 shows the results of the Kruskal Wallis Test for psychological verbs:

Table 5. Kruskal Wallis Test for psychological verbs

Test Statistics^{a,b}	
	No Gen Resp.
Chi-Square	22.813
Df	3
Asymp. Sig.	.000
Exact Sig.	.000
Point Probability	.000

As it can be seen, the exact significance¹⁴ of the test was statistically relevant ($H(3) = 22.813$; $p = .000$). Therefore, *post-hoc* tests were used to explore what these differences may be. The first comparison (NS_C vs. SL_C) did not reach significance due to the loss of power result of the Bonferroni correction applied to α ($U = 75.0$; $p = 0.041$). However, the results for effect sizes showed a medium effect on this comparison ($r = 0.40$). Therefore, this result may have not reached significance due to the Bonferroni correction applied, but the effect sizes show that there is indeed a medium effect of type of speaker on the number of generic responses to count nouns. The second comparison, NS_M vs. SL_M, is not statistically significant ($U = 119.0$; $p = 0.469$). This is also supported by the results obtained from the effect sizes: the effect of the type of speaker has a very small size on the number of generic responses to mass nouns ($r = -0.19$).¹⁵ The next comparison, SL_C vs. SL_M, yielded significant results in the Mann-Whitney Tests conducted ($U = 51$; $p = .000$; $r = -0.69$).¹⁶ Again, the results for the effect sizes are very clairvoyant: the type of noun has a very large effect on the number of generic responses to count nouns in L2-learners. Lastly, the comparison between the number of generic responses given to count and mass nouns by native speakers (NS_C vs. NS_M) was not statistically significant ($U = 90.0$; $p = .330$; $r = -0.25$). The effect size shows a small difference in this case.

¹⁴ As Field (2009) notes, exact significance is always a better measure of the real significance of the test with small samples.

¹⁵ The results are negative due to the fact that L2-learners provided more generic responses with mass nouns than native speakers.

¹⁶ Again, the negative sign is showing the direction of the effect: L2-learners gave less generic responses to count nouns than to mass nouns

5.3. Discussion of Study I: Psychological verbs

The results for Study I seem to bear out the prediction established in Hypothesis 1. That is, count nouns are sensible to transfer and L1-English L2-Spanish learners tend to interpret them as specific. Meanwhile, they interpreted mass nouns as generic in 100.0% of the cases. The different number of generic responses given to mass and count nouns given by L2-learners yielded significant results ($p = .000$). Surprisingly, L2-learners gave even more generic responses than native speakers (97.8%). In spite of this, L2-learners and native speakers seem to converge in their interpretation of mass nouns, as the effect sizes showed a very small difference on this case ($r = -0.19$). With regard to native speakers' interpretations, they preferred the generic interpretation with either count (91.1%) or mass nouns (97.8%). In fact, the type of noun seems to not affect their interpretations (small effect size: $r = -0.25$). This marked tendency to interpret definite plurals as generic was also found in previous studies on this topic (Ionin and Montrul, 2012; Ionin, Montrul, and Crivós, 2011). However, the results for native speakers in Study I are more extreme than the results of Ionin and Montrul (2012) and Ionin, Montrul, and Crivós (2011), which found a rate of 81.2% of generic responses. Also, the results of Study I for L2-learners disagree with the ones reported in Ionin and Montrul (2012) and Ionin, Montrul, and Crivós (2011). While these author found that L2-learners chose the generic response in 50.0% and 60.0% of the cases, the percentages reported for countable nouns in Study I are much higher (74.5%). This 'inflation' of generic responses may be due to the different type of verb used in Study I. As was noted in section 2.5 of this thesis, most of the examples used in Ionin and Montrul (2012) and Ionin, Montrul, and Crivós (2011) contained a non-psychological verb. Therefore, it might be that psychological verbs receive more generic responses than non-psychological verbs (see General Discussion in section 5.6. of this thesis).

In summary, the results of Study I seem to bear out hypothesis 1: there is a difference in the way L1-English L2-Spanish learners interpret definite plurals containing mass or count nouns. Also, the results seem to support hypothesis 2: native speakers have a strong tendency to interpret definite plurals as generic with either count or mass nouns. This tendency was also found in other previous studies (Ionin and Montrul, 2012; Ionin, Montrul, and Crivós, 2011), but in these cases, native speakers showed a lower rate of generic responses. In addition, the results found for L2-Spanish learners seem to somewhat disagree with the results reported in previous studies. This might be due to the different kind of verb (psychological verbs) used in the present study.

5.4. Results for Study II: Non-psychological verbs

Table 5 shows the results obtained for non-psychological verbs for both native speakers and L2-Spanish learners. Again, the results were split depending on the type of noun used. As in Study I, native speakers tended to interpret definite plurals in Spanish as generic, independently of the type of noun (84.4% for count nouns and 86.7% for mass nouns). With regard to L2-learners, they showed native-like performance with mass nouns, opting for the generic interpretations most of the time (78.4%), meanwhile they only interpreted definite plurals containing count nouns as generic only 43.1% of the time. In addition, non-psychological verbs received a much higher rate of 'other' compared to psychological verbs. Interestingly, this rate of 'other' responses was much higher with count nouns (23.5%) than with mass nouns (5.9%).

Table 6. Descriptive statistics for non-psychological verbs

		GENERIC	SPECIFIC	OTHER
Native Speakers (n=15)	COUNT	38 (84.4%)	4 (8.9%)	3 (6.7%)
	MASS	39 (86.7%)	6 (13.3%)	0 (0.0%)
L2-Spanish (n=17)	COUNT	22 (43.1%)	17 (33.3%)	12 (23.5%)
	MASS	40 (78.4%)	8 (15.7%)	3 (5.9%)

In order to know if the data obtained was statistically significant, a Kruskal-Wallis Test was run. Table 7 shows the results of the Kruskal-Wallis Test. This test yielded highly significant results ($H(3) = 16.023$; $p < .001$) for the general model.

Table 7. Inferential statistics for non-psychological verbs

Test Statistics^{a,b}	
	No. of gen. responses
Chi-Square	16.023
df	3
Asymp. Sig.	.001
Exact Sig.	.001
Point Probability	.000

Post-hoc tests were conducted in order to explore the results obtained in the Kruskal-Wallis Test. The first comparison, NS_C vs. SL_C, was statistically significant ($U = 48.0$, $p = .001$).

Accordingly, the results for the effect size showed a large effect on the type of speaker for count nouns ($r = 0.55$). With regard to the second comparison, NS_M vs. SL_M, the results were not significant ($U = 108.5$, $p = .414$). The results for effect size showed a very small effect on the type of speaker for mass nouns ($r = .14$). The results for the next comparison, SL_C vs. SL_M, yielded statistically significant results ($U = 67.50$; $p = .006$). The effect sizes for this comparison were medium to large, meaning that there is a quite important difference ($r = -0.49$). Finally, the last comparison (NS_C vs. NS_M) did not yield statistically significant results ($U = 105.5$; $p = .900$; $r = -0.06$). The effect size shows a very small difference in the number of generic responses given by native speakers to count and mass nouns.

5.5. Discussion of Study II: Non-psychological verbs

As in Study I, the results of Study II yielded different statistically significant results for the type of noun in L2-learners ($p = .006$) and for the number of generic responses given by L2 learners and Spanish natives to count nouns ($p = .001$). As in Study I, L2-learners were affected by transfer with countable nouns, interpreting them as generic only 43.3% of the times. On the other hand, mass nouns mostly received generic responses (78.4%). In this sense, native speakers and L2-learners converged in their interpretations of definite plurals containing mass nouns (86.7% and 78.4%, respectively), as the effect sizes showed again a very small effect on the type of speaker ($r = .14$). Furthermore, the number of responses given by native speakers to count and mass nouns were almost the same ($r = -0.06$).

Interestingly, the percentages obtained in Study II for L1-English L2-Spanish seem to agree now with the ones obtained in Ionin and Montrul (2012) and Ionin, Montrul, and Crivós (2011). First, the rates of generic responses in Study II are very similar to the ones of Ionin and

Montrul (2012) and Ionin, Montrul, and Crivós (2011): they found 81.2% of generic responses and Study II found 84.4% of generic responses for count nouns. Furthermore, L1-English L2-Spanish chose the generic interpretation about half of the time (between 50.0% and 60.0%) in these two previous studies. The results of Study II showed that L2 learners chose the generic response 43.1% of the time. This small difference might be due to the fact that Ionin and Montrul (2012) and Ionin, Montrul, and Crivós (2011)'s studies did not use an 'Other' category, while the present study did. In Study II, 23.5% of the responses were coded as 'Other'. If this category were to be eliminated, following Ionin and Montrul (2012) and Ionin, Montrul, and Crivós (2011)'s design, this 23.5% would have to be divided by two and then each half would be added to the 'Generic' and to the 'Specific' category. By doing this,¹⁷ the score obtained for count nouns by L2-learners would be the same as the one reported in Ionin and Montrul (2012) and Ionin, Montrul, and Crivós (2011).

In summary, the results of Study II showed that: first, mass and count nouns are interpreted differently by L1-English L2-Spanish learners; second, native speakers prefer the generic interpretation independently of the type of noun used with the definite plural; three, the results with non-psychological verbs agree with the results of previous studies; and four, L1-English L2-Spanish learners were less native-like in this study interpreting count nouns than in Study I (no statistically significant difference was found in Study I for the number of generic

¹⁷ If we divide the 23.5% of 'other' responses by 2, we have 11.7%. If we then add this 11.7% to the 43.1% number of generic responses found in Study II, we have a final of 54.8% generic responses.

responses given by L2 and Spanish natives to count nouns, meanwhile in Study II did find a statistically significant difference in this case).

5.6. General Discussion

After discussing the results of each study separately, I proceed to revisit the research questions posed in Chapter 3 in light of the results obtained:

1. Do intermediate L1-English L2-Spanish learners and Spanish native speakers interpret definite plurals containing either count nouns or mass nouns in the same way?

2. Do intermediate L1-English L2-Spanish learners and Spanish native speakers converge in their interpretations of definite plurals containing count or mass nouns?

The answer to Question 1 is 'No'. Although the results indicate that native speakers interpret definite plurals containing mass and count nouns in the same way, L1-English L2-Spanish do interpret them differently. The results from the statistical analysis have shown statistically significant differences in the number of generic responses given by L1-English L2-Spanish learners to count and mass nouns. This distinction was held throughout the different types of verb used in this study. However, this statistical analysis has also shown no statistically significant difference and small effect sizes in the number of generic responses given by native speakers to mass and count nouns. Thus, Spanish native speakers seem to interpret definite plurals as generic, independently of the type of verb.

Following Chierchia (2010)'s article on mass/count distinction, I argue that the concept of *vagueness* also plays an important role here. It can be seen from the results that L1-English L2-Spanish are aware of the ambiguity of the Spanish article system: they can either interpret the determiner as [+generic] or [+specific]. However, it seems that the type of noun

accompanying the determiner affects the interpretation of L1-English L2-Spanish learners. In the case of count nouns, since these nouns have non-*vague* clear cut-off points, it is easier for L1-English L2-Spanish learners to individuate them and get a specific reading and, therefore, allow transfer from their L1. On the other hand, mass nouns lack of these clear cut-off boundaries. Then, it is more difficult to individuate them, which makes obtaining a specific reading from a mass noun more difficult. As a consequence from this, L1-English L2-Spanish tend to interpret mass nouns accompanied by a definite article as generic in most of the cases.

Lastly, the answer to question 2 is 'No'. Although the statistical analysis has shown no statistically significant differences for the number of generic responses given by native speakers and L1-English L2-Spanish learners to mass nouns, this was not only true for mass nouns. The results for Study I with psych verbs showed no statistically significant difference in the number of generic responses given to count nouns by native speakers and L1-English L2-Spanish learners. Therefore, it cannot be concluded that they do not converge in their interpretations of count nouns when the main verb is a psychological verb. Importantly, the effect size obtained for the comparison with count nouns was medium (0.40), meanwhile the ones obtained for the comparisons for mass nouns were very small (-0.19 for psych verbs, and 0.14 for non-psych verbs). This indicates that further study with larger sample sizes is necessary in order to clarify this issue.

There is one more aspect that needs to be discussed. As it was shown in the results, the number of generic responses for psychological verbs was much higher than for non-psych verbs. I believe this might be due to two main factors: first, the syntactic-semantic characteristics of the psychological verbs used; and second, a possible bias towards the generic interpretation in the situations containing psychological verbs. With regard to the first point, psychological verbs

like *gustar* project the patient of the verb as the dative. Due to this particularity, the target questions containing psychological verbs always involved the participants in the situation. With psychological verbs, the participants were asked directly about what *they* like. For example, *Do (the) shoes please you?* Note that the subject of this sentence contains a definite plural, while the dative refers to the participants. In non-psychological verbs, the subject is also the theme of the action. However, these verbs do not allow for a dative as psych verbs do. Consequently, the questions with non-psychological verbs did not involve the participants in the questions. I believe this could have made the task more difficult to L2-learners and native speakers: they may have had an easier moment responding a question directed to them (psychological verbs) than responding a question about another issue in third person (non-psychological verbs). Turning now to the second point, it might be also the case that the situations used in the experiment with psychological verbs were a slightly more biased towards genericity than the ones in the experiment with non-psychological verbs. I believe that both factors can account for the different results obtained for psychological and non-psychological verbs, although I do not know to what extent each one could affect the responses of the participants.

In summary, one of the two hypotheses provided as response for the research questions of this thesis seem to be borne out by the results. First, the mass/count distinction seems to influence how L1-English L2-Spanish learners interpret definite plurals in Spanish; also, this semantic distinction does not affect how Spanish native speakers interpret definite plurals. The results showed hypothesis number 2 to be false: native speakers and L1-English L2-Spanish learners did not *only* converged in their interpretations of definite plurals containing mass nouns. With psych verbs, it could not be concluded that they did not converge in their interpretations of count nouns too.

CHAPTER 6

CONCLUSIONS

6.1. Concluding remarks

The specific aim of this thesis has been to investigate how the mass/count distinction could affect the interpretation of definite plurals in L1-English L2-Spanish learners. This specific aim has been accomplished by testing two hypotheses:

1. L1-English L2-Spanish will interpret definite plurals with count as specific and mass nouns as generic, while Spanish native speakers will tend to interpret definite plurals with both mass and count nouns as generic.

2. As a consequence from 1, L1-English L2-Spanish learners and Spanish native speakers will *only* converge in their interpretations of definite plurals containing *mass nouns*.

The statistical analysis conducted has supported the first hypothesis. In other words, statistically significant differences have been found for the number of generic responses in definite plurals containing count and mass nouns in L1-English L2-Spanish learners. Definite plurals containing count nouns were more often interpreted as specific (transfer), meanwhile mass nouns received generic interpretations in the vast majority of the cases. On the other hand, native speakers tend to interpret definite plurals as generic in all cases, independently of the type of noun used. Finally, although the results have shown that native speakers do converge in their interpretations of mass nouns, the results for psych verbs did not show a statistically significant difference in the way L1-English L2-Spanish learners interpret count nouns. Therefore, it cannot be concluded that they diverge in this case, which contradicts

hypothesis 2. Lastly, all these patterns were found in different experiment using different type of verbs, which gives more reliability to the results found.

The model used to theoretically explain these differences follows Chierchia (2010)'s article on the mass/count distinction. I argue that, since mass nouns do not have clear atomic parts, L2-learners will have problems adding specificity to this type of nouns. As a consequence, they tend to interpret definite plurals containing mass nouns as generic. On the other hand, count nouns do have clear cut-off parts. These clear atomic parts of count nouns will facilitate the interpretation of definite plurals as specific in L1-English L2-Spanish learners. Thus, because of these semantic differences, L1-English L2-Spanish are prone to transfer their L1-knowledge of the English article system with count nouns; meanwhile they are not with mass nouns.

In the next section of this chapter, I proceed to explain what the limitations of the current study are and how these limitations could have affected the results obtained. Lastly, I provide some suggestions for further research.

6.2. Limitations of the study

Due to time constraints, I could not control some of the methodological aspects of the present study, such as recruitment. Because of this, the final sample size was smaller than initially expected. A larger sample size would have provided more power to the statistical analysis used in the present study, decreasing the chance of making a Type II error.

Second and also related to the previous point, this study was designed for parametric data. Due to the small sample size, the data was not normally distributed. If the data were to be normally distributed, parametric tests as ANOVA could have been run. This could have benefitted the present study in one important way: by using ANOVA, the main effect of the type

of verb in the number of generic responses could have been also explored. This could have not been done with the statistical analysis used.

Another aspect which was also affected by the time constraints was the filler/target sentences ratio. Ideally, four experiments should have been carried out in order to keep a low filler/target sentence ratio. If this would have been done, then one experiment would have consisted only of psychological verbs + countable nouns, another one with psychological verbs + uncountable nouns, and so on. This way, 4 target sentences could have been used in a total of 12 situations. If this would have been done, each experiment would have been kept brief, but at the same time would have had a lower target sentence/filler ratio (1:3).

Lastly, time constraints prevented me from testing the participants' proficiency in Spanish. The proficiency test was instead replaced by a language background questionnaire, where the participants were asked to provide an approximation of the amount of years learning Spanish. Although this information is indeed useful, testing the participants' proficiency with a standardize test of Spanish would have been a more objective manner of exploring their proficiency in Spanish.

6.3. Suggestions for further research

First of all, replicating the results of this study with larger samples sizes would shed more light on why this study has found more native-like performance with psychological verbs than with non-psychological verbs. This could help determine if L1-English L2-Spanish learners have an easier moment interpreting psychological verbs due to their syntactic-semantic characteristics, or if the different results between psychological and non-psychological verbs

found in this study are due to a possible bias towards the generic option in the experiment with psychological verbs.

Another important aspect requiring further study is the influence of syntax in the interpretation of definite plurals in Spanish. It would be very interesting to test the participants' interpretations of definite plurals in postverbal and preverbal subjects, thereby neutralizing any semantic influence. I believe that the preverbal/postverbal feature will in some way affect how L2-Spanish learners interpret definite plurals in subject position.

Another aspect warranting further research is the knowledge (both implicit and explicit) of bare nouns in Spanish by L2-learners. The studies on this topic (i.e. Cuza et al., 2012) have mainly focused on the participants' explicit knowledge of ungrammatical bare subjects in Spanish. In other words, are L2-Spanish learners aware of the ungrammaticality of sentences such as **niños están jugando*? As it was explained in section 2.1.2., the issue of bare nouns in Spanish is very complex. Therefore, it would be extremely interesting to test the participants' knowledge of grammatical bare nouns in Spanish, since this issue is barely explained in L2 instruction.¹⁸ Therefore, L2-learners would have let themselves be led by their intuitions and by the input they hear. This research would address the following questions: Do L2-Spanish learners accept sentences like *gente de Madrid viene de vacaciones* or *faltan libros en la estantería*, where bare nouns function as a subject? And how do L2-Spanish interpret these

¹⁸ Out of the textbooks reviewed in the literature, only King and Suñer (1998) and Cunningham and Moor (2007) discuss the 'zero article' in Spanish.

sentences? Contrary to English, Spanish bare nouns do not have a generic interpretation, but a *semi-generic* interpretation (Laca, 1999).

Finally, there is one more aspect that could be taken into consideration for further study: the influence of aspect and genericity in Spanish. That is, how imperfective or perfective aspects interfere with determiners in Spanish. I believe that imperfective aspect will tend to trigger generic readings, while the perfective aspect will lead to specific readings. Studying how L2-learners interpret these differences will shed light on their ability to incorporate the imperfect/preterite distinction to other parts of the sentence. To the best of my knowledge, no Spanish textbook explains this relation between verb aspect and definite plurals. Thus, L2-Spanish learners will have to trust their intuitions to interpret these subtle differences.

APPENDIX A

INSTRUCTIONS AND LANGUAGE BACKGROUND QUESTIONNAIRE

INSTRUCTIONS

The goal of this research is to explore ways in which language learners answer some questions. You are going to see a sequence of stories on the screen, and I will read them to you. Then, you will hear a question, and you have to provide the answer (in Spanish) using the answer sheet provided. You can read the story again to find the answer to the questions, if you need to. There is no right or wrong answer, so do not worry too much about the correctness of your response. We are not trying to test your level of Spanish at all.

Example:

"Imagina que...

tienes dos hermanos pequeños. Como este fin de semana es homecoming, tu familia entera viene a verte. Sin embargo, uno de tus hermanos está muy enfermo y no puede ir a verte. Mientras estás con tu familia, uno de tus amigos te pregunta:"

¿Pero no tenías dos hermanos pequeños?

Possible answers:

- Sí, _____(here goes your explanation)_____.

-No, _____(here goes your explanation)_____.

Before we get started, I would appreciate it if you could answer a few questions about your own experience with learning languages:

1. What language(s) did you speak at home as a child? What language(s) were spoken to you?

2. How long have you been studying Spanish for? Do you speak any other language apart from English and Spanish?

3. Have you ever lived in a Spanish-speaking country? And if yes, for how long?

APPENDIX B

EXPERIMENTAL SITUATIONS USED

I. Situations with psychological verbs

1. Imagina que eres un escritor que adora los libros antiguos. Tus libros favoritos son las novelas del siglo XIX. No te gusta la poesía. Vas a una exposición de libros y ves un puesto de libros antiguos. Buscas novelas pero sólo encuentras libros antiguos de poesía. Cuando sales del puesto de libros, un vendedor te ve salir sin comprar nada. Te pregunta:

Pregunta: ¿Qué ocurre? ¿No le gustan los libros antiguos?

2. Imagínate que después de varios meses viviendo en tu nueva casa, te das cuenta de que necesitas una televisión nueva. Como te encantan las televisiones modernas, decides ir a comprar una a Wall Mart. En Wall Mart sólo ves televisiones modernas grises. Como odias el color gris, piensas no comprar ninguna tele. Al verte pensando, un vendedor de la tienda te pregunta:

Pregunta: ¿No le gustan las televisiones modernas?

3. Imagínate que es fin de semana y necesitas unos nuevos zapatos para salir con tus amigos, así que decides ir de compras con un amigo. Te encantan los zapatos y tienes ganas de comprarte unos nuevos para llamar la atención. Sin embargo, odias los zapatos negros. Crees que son muy aburridos. Cuando vas a la tienda, todos los zapatos que ves son negros, por lo que estás pensativo. Mientras estás mirando los zapatos, tu amigo te pregunta:

Pregunta: ¿No le gustan los zapatos?

4. Imagínate que te encanta la carne. Comes todo con carne, menos la cebolla. Odias la cebolla. Un día, tú y tu amigo decidís ir a un restaurante para comer carne. Sin embargo, cuando llegáis el camarero dice que el único plato de carne que tiene ese día es ternera con cebolla. Muy decepcionado, pides una ensalada. Tu amigo te pregunta:

Pregunta: ¿Cómo? ¿No te gusta la carne?

5. Imagínate que te encanta beber café. Tomas alrededor de tres cafés al día. Te encanta el café muy caliente. Sin embargo, odias las bebidas frías así que odias el café con hielo. Un día por la mañana, tu compañero de piso entra en casa y te trae un café con hielo gratis. Cuando lo tienes en la mano, te das cuenta de que tiene hielo. Por ello, le dices que no lo quieres. Entonces tu compañero de piso te pregunta:

Pregunta: ¿Cómo? ¿No te gusta el café?

6. Imagínate que te encanta el agua. Un día de verano decides salir a correr con tus amigos. Al día siguiente, tu cuerpo está tan cansado y te duelen tanto tus músculos que decides tomar agua con azúcar para calmar el dolor. Sin embargo, odias el azúcar. Le echas tanto azúcar al agua que sólo sientes el sabor del azúcar. Por ello, no te está gustando, así que dejas de beber rápidamente. Cuando uno de tus amigos te ve, te pregunta:

Pregunta: ¿No te gusta el agua?

II. Situations with non-psychological verbs

1. Imagínate que eres portero de discoteca. Después de trabajar muchos años, te das cuenta de que los porteros de discoteca tienen estrés. Supones que es algo normal, porque los porteros de discoteca trabajan de noche y no duermen mucho. Un día, mientras hablas con los porteros de la discoteca Paraíso, ellos te dicen que su trabajo es muy tranquilo y que no tienen estrés. Eso te extraña, así que decides decírselo a uno de tus amigos. Cuando se lo cuentas, él, sorprendido, te pregunta:

Pregunta: ¿No tienen los porteros de discoteca mucho estrés?

2. Imagínate que siempre has tenido un perro como mascota. Tristemente, todos tus perros tuvieron muchas enfermedades y murieron jóvenes. Como tu padre es veterinario, él cuidaba a tus perros enfermos y te decía que los perros tienen muchas enfermedades y que es común que mueran jóvenes. Un día, mientras paseas con tu padre, ves a un amigo tuyo con muchos perros. Mientras hablas con tu amigo, él te dice que sus perros son muy viejos, pero que no tienen ninguna enfermedad. Eso te extraña, así que le preguntas a tu padre:

Pregunta: ¿No tienen los perros muchas enfermedades?

3. Imagínate que eres alumno en un instituto. Tus profesores se quejan de que tienen poco dinero y de que tienen muchos problemas para pagar sus deudas. Sin embargo, un día conoces a varios amigos de tus padres que son profesores en un instituto muy prestigioso. Cuando te fijas, te das cuenta que todos llevan relojes de oro. Además, dicen que tienen mucho dinero y que les pagan muy bien. Sorprendido, te acercas a tu padre y le preguntas:

Pregunta: ¿No tienen los profesores problemas de dinero?

4. Imagínate que te encanta el oro. Como tienes poco dinero, necesitas vender el oro que tienes. Afortunadamente, el oro tiene mucho valor y no necesitas vender mucho para conseguir mucho dinero. Sin embargo, el oro blanco vale muy poco dinero. Se vende muy barato. Cuando intentas vender un reloj de oro blanco, el comprador te ofrece poquísimo dinero. Cuando le dices a un amigo lo que te pasó, él te pregunta:

Pregunta: ¿No tiene el oro mucho valor?

5. Imagínate que no te gusta la carne. Odias la carne porque tiene mucha grasa y eso te da asco. Sin embargo, tu novia te dice que sabe cocinar un tipo especial de carne sin grasa. Eso te parece muy raro, porque la carne siempre tiene grasa en tu opinión. Un día, tu novia te obliga a comer un trozo de carne cocinado por ella. Cuando lo pruebas, no sientes la grasa en la carne, así que te gusta mucho. Unos segundos más tarde, le preguntas a tu novia:

Pregunta: ¿No tiene la carne mucha grasa?

6. Imagínate que te encanta el chocolate. Sin embargo, el médico te ha recomendado que no comas alimentos con azúcar. Cuando le preguntas al médico si puedes comer chocolate, te dice que no porque el chocolate tiene mucho azúcar. Un día, mientras estás en el supermercado, tú y tu amigo véis un tipo de chocolate de dieta. Cuando véis la etiqueta, se dan cuenta que no tiene azúcar. Tu amigo, sorprendido, te pregunta:

Pregunta: ¿No tiene el chocolate mucho azúcar?

APPENDIX C

EXPERIMENTAL SITUATIONS TRANSLATED TO ENGLISH

I. Situations with psychological verbs

1. Imagine you are a writer who loves old books. Your favorite books are novels from the 19th century. You do not like poetry. One day, you go to a book exhibit and you see a bookstore with old books. You search for novels, but you only find poetry books. When you go out of the bookstore, the seller notices that you did not buy anything. He asks you:

Question: Don't you like (the) old books?

2. Imagine that, after living in your new house for a few months, you realize that you need a new TV. Since you love modern TVs, you decide to go to Wall Mart to buy a new TV. In Wall Mart, you only find grey TVs with modern designs. Since you hate the color grey, you do not want to buy anything. Because you look very pensive, the store clerk asks you:

Question: Don't you like (the) modern TVs?

3. Imagine it is the weekend and you need a new pair of shoes to go out with your friends, so you decide to go shopping with a friend. You love shoes and you feel like buying a new pair of shoes to show off. Even though you love shoes, you hate black shoes. You think they are very lackluster. When you are in the shoe-store, all the shoes you see are black, so you do not know what to do. While you are looking at the shoes, your friend asks you:

Question: Don't you like (the) shoes?

4. Imagine you love eating meat. You eat everything with meat, except onions. You hate onions. One day, you and your friend decide to go to a restaurant to eat meat. However, when you get there the waiter tells you the only meat dish being offered that day is 'veal with onion'. Very disappointed, you order a salad. Your friend asks you:

Question: Don't you like (the) meat?

5. Imagine you love drinking hot coffee. However, you hate cold beverages, so you hate iced coffee. One morning, your flat-mate offers you an iced coffee for free. When you are holding the coffee, you notice it is iced, so you say to your flat-mate that you do not want it. Then, your flat-mate asks you:

Question: Don't you like (the) coffee?

6. Imagine you love water. One summer day you decide to go jogging with your friends. The next day, your body is so tired and your muscles hurt so badly that you decide to drink sugar water to calm the pain in your muscles. However, you hate sugar. Without noticing it, you put too much sugar in the water. Therefore, you are not enjoying the water. When one of your friends sees this, he asks you:

Question: Don't you like (the) water?

II. Situations with non-psychological verbs

1. Imagine you work as a bouncer. After working for a long time, you realize that bouncers experience high levels of stress. You guess this is something common, since bouncers work during the nights and they barely sleep. One day, while you are talking with the bouncers of the Paraiso Pub, they tell you that their job is very stress-free. That surprises you, so you decide to share this with one of your friends. When you mention this to him, he, surprised, asks you:

Question: Don't (the) bouncers have a lot of stress?

2. Imagine you always had pet dogs. Unfortunately, all your dogs had many diseases and they died young. Since your father is a veterinarian, he used to take care of your ill dogs and he once told you that dogs have many diseases and that it is common for them to die young. One day, while you are walking with your father, you see one good friend of yours. He is walking his dogs. When you stop to talk to him, he talks about his dogs and tells you that his dogs are very old and healthy. This surprises you, so you decide to ask to your father:

Question: Don't (the) dogs have many diseases?

3. Imagine you are a High School student. Your teachers usually complain about how little money they earn and how difficult it is for them to pay their debts. However, one day you meet several of your father's friends who work as teachers in a very prestigious High School. When you look at them, you notice that they all have very expensive gold watches. Also, they say that they have a lot of money because they get paid a well for teaching. Surprised, you ask your father:

Question: Don't (the) teachers have financial problems?

4. Imagine that you love gold. Since you barely have money, you need to sell the gold you have. Fortunately, gold is very valuable and you do not need to sell a lot in order to earn a lot of money. However, white gold is not as valuable. It is not expensive. When you try to sell a watch made of white gold, the buyer offers a very low price for it. When you tell your friend what happened, he asks you:

Question: Doesn't (the) gold have a very high price?

5. Imagine you hate eating meat. You hate meat because it is very greasy. However, your girlfriend assures you that she knows how to cook non-greasy meat. That sounds very strange to you, since in your opinion all meat is greasy. One day, your girlfriend forces you to try the special meat she is able to cook. When you try it, you do not feel that the meat is greasy, so you like it a lot. A few seconds later, you ask your girlfriend:

Question: Isn't (the) meat very greasy?

6. Imagine you love chocolate. However, your doctor has told you to not eat food with sugar. When you ask your doctor if you can eat chocolate, he says that you cannot eat chocolate because chocolate has a lot of sugar. One day, while you are in supermarket, you and your friend see a type of diet chocolate. When you are reading its label, you realize that is sugar-free. Your friend, surprised, asks you:

Question: Doesn't (the) chocolate have a lot of sugar?

APPENDIX D

RESULTS FOR THE TESTS OF NORMALITY

Table 8. Results of the test of normality for psychological verbs

Tests of Normality							
	Type of speaker	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
No. of gen. responses	NS_C	.367	15	.000	.713	15	.000
	NS_M	.403	15	.000	.667	15	.000
	SL_C	.193	17	.092	.869	17	.021
	SL_M	.303	17	.000	.742	17	.000

a. Lilliefors Significance Correction

Table 9. Results of the test of normality for non-psychological verbs.

Tests of Normality ^b							
	Type_S peaker	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
No Gen Resp.	NS_C	.453	15	.000	.561	15	.000
	NS_M	.535	15	.000	.284	15	.000
	SL_C	.285	17	.001	.792	17	.002

a. Lilliefors Significance Correction

b. No Gen Resp. is constant when Type_Speaker = SL_M. It has been omitted.

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