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Acquisition of Noun Phrases with Kind Reference in L3 Italian

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by

Eleonora Boglioni

ORCID ID 0000-0002-3165-5371

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Abstract

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This dissertation examines the acquisition of noun phrases with kind and generic meanings in Italian as a third (or additional) language of adult formally instructed learners with prior knowledge of English and Spanish. This language triad presents an interesting two-way distinction in that Italian and Spanish behave alike on generic and existential subjects, while Italian is similar to English on number neutral (NN) objects. Patterns of crosslinguistic influence (CLI) from the L1 and L2 to the L3 are investigated, in order to establish whether CLI is driven by typological similarity or whether it happens in a complete or dynamic fashion. The former trajectory is predicted by the Typological Primacy Model (TPM) (Rothman *et al.*, 2019); the latter—by the Scalpel Model ((SM) (Slabakova, 2017) and Linguistic Proximity Model (LPM) (Westergaard, 2021a,b). For the TPM, early-stages CLI would originate from Spanish solely, easing the acquisition of subjects but hindering that of objects. For the SM and LPM, English could instead be beneficial on objects. Additionally, this research considers the roles of factors such as the high frequency of Italian definite phrases, expected to be beneficial, as well as language immersion, anticipated to have differential effects depending on structural similarities between the dominant prior language and the L3, in line with the SM predictions. The specific research questions probe how CLI manifests on L3 Italian generic nouns at the early and more advanced acquisition stages and how input frequency and language immersion impact acquisition. This dissertation is the first study to address the acquisition of generic nouns in L3/Ln Italian. It also constitutes the first research to investigate this pool of expressions with the same population.

The L3 learners were assessed on comprehension of Italian generics with an *acceptability judgement task* and an *interpretation task*, the latter being focused on the form–to–meaning direction. Additionally, oral use of generic nouns was tested with an *elicited production task*. Immersion scores in L2 English and Spanish and L3 Italian were calculated using the Language History Questionnaire (LHQ3) (Li, Zhang, Yu & Zhao, 2020), which provides aggregated measures of language usage and exposure on a cumulative and daily basis. C-Tests were deployed to assess L2 and L3 proficiency.

The trilingual participants were thirty L1 English–L2 Spanish–L3 Italian learners from England and thirty L1 Spanish–L2 English–L3 Italian learners from Spain, with L3 proficiency ranging from low to advanced. They were tested in the L2 and L3. The study also involved control groups of twenty-one Italian, ten English and ten Spanish native speakers. (Generalized) linear mixed effects models were used to analyse the participants' mean ratings in the acceptability judgement task,

and accuracy rates in the interpretation and production tasks. Measures of L2 and L3 immersion were obtained with paired-samples t-tests.

The results show successful acquisition of Italian generic nouns, as anticipated by the predictions of property-by-property CLI made by Slabakova and Westergaard's models. Learners' judgements of generic subjects were target-like, with some performative constraints observed in oral production. NN objects were also acquired overall, although L3 proficiency predicted performance. These findings indicate early-stages facilitative CLI from Spanish on subjects and English on objects, with the strength of CLI differing by property. However, a full mastery of existential subjects was not achieved, as judgments of acceptable forms were uncertain. A two-fold role of the input factor should be considered to explain these outcomes, together with linguistic transfer. On the one hand, the high frequency of the Italian definite article facilitated acquisition of generic subjects and NN objects, realised as definite phrases, over existential subjects, realized as indefinite phrases. On the other hand, the non-identical correspondence between structures across languages undermined the strength of facilitative CLI on objects and existential subjects, whose form–meaning associations are not very transparent. Whilst such outcomes are to some extent anticipated by Slabakova and Westergaard's models, an evaluation of the structures' degree of similarity could be also factored into the models. As regards language immersion, higher experience in the dominant background language structurally similar to Italian on a specific property was not always helpful, contrary to our expectations. The relative degree of learners' L2 immersion may explain some individual differences.

Table of Contents

List of Tables

List of Tables

List of Tables

List of Figures

List of Accompanying Materials

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Research Thesis: Declaration of Authorship

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I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
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7. None of this work has been published before submission.

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I would like to end along the lines of this Buddhist teaching. *No matter how educated, talented, rich or cool you believe you are, how you treat people ultimately tells all.*

Chapter 1 Introduction

1.1 Dissertation Goal

This dissertation addresses the acquisition of noun phrases (NPs) referring to kinds in Italian as a third or additional language (L3/Ln), with English and Spanish as background languages. More specifically, it investigates transfer effects from the L1 or the L2 to the L3 interlanguage grammar, from the early to the more advanced acquisition stages. The NPs investigated are *preverbal plural subjects* with generic and existential interpretations, and *singular objects* with number neutral (NN) interpretation. On each of these properties, the L3 (Italian) patterns together with one of the background languages only. On generic subjects, Italian and Spanish are the same, and deploy definite articles, while English predominantly resorts to bare (articleless) NPs. Spanish and Italian also pattern together on existential subjects, expressed with indefinite phrases in both languages, again, to the exclusion of English, which uses bare phrases (Chierchia, 1998; Longobardi, 1994). On the other hand, as far as NN objects are concerned, Spanish allows bare singular nouns (Espinal, 2010), but Italian and English require overt determiners, thus patterning together on this property. This two-way distinction enables us to evaluate which transfer trajectory is the most likely one in the L3 acquisition of these NPs.

In the United Kingdom, many students taking classes of Italian as a foreign language in university often have knowledge of another Romance language, for instance French or Spanish. On the other hand, most Spanish university students have already knowledge of English prior to acquiring Italian through formal instruction. As a matter of fact, then, for these populations Italian is a third or additional language. Such learning environments are particularly relevant to look at how language experience (i.e., use and exposure) can modulate acquisition. In this regard, the Scalpel Model of Third Language Acquisition (Slabakova, 2017) considers variables such as language experience and input characteristics possibly affecting L3 development, beside linguistic transfer. On its account, high experience in the background language sharing with the L3 a similar structure would favour L3 rate of acquisition and accuracy. Regarding Italian input, two of the constructions under investigation, namely generic subjects and NN objects, present the definite article. Given that in Italian the definite article is used in several semantic and pragmatic environments (Barton, Kolb & Kupisch, 2015), its high frequency might well facilitate the acquisition of these constructions. Models of L3/Ln acquisition focus more specifically on morphosyntactic transfer from the known languages to the L3. The most current ones make the following predictions. Under the Typological Primacy Model (TPM) (Rothman, 2015; Rothman, Gonzáles Alonso & Puig-Mayenco, 2019), early transfer is wholesale, being triggered by holistic typological similarity

between one source language solely and the L3. Under the Scalpel Model (SM) (Slabakova, 2017) and the Linguistic Proximity Model (LPM) (Westergaard, 2021a,b), transfer is property-based, being activated by abstract structural similarities between source language(s) and L3, along the full developmental acquisition span.

The existing body of studies on adult acquisition of preverbal generics in Romance mostly concerns Spanish or Italian acquired as an L2 (Ionin, Montrul & Crivos, 2011; Kupisch, 2012; Slabakova, 2006), or Brazilian Portuguese (BrP) acquired as an L3 (e.g., Ionin, Grolla, Santos & Montrul, 2015). This last study, which included language combinations with English and a Romance language (Spanish/Italian/French), found that transfer to L3 BrP is more pronounced from Romance than English, on this property. However, unlike other Romance languages, Brazilian Portuguese also allows bare plural subjects with generic interpretation, which opens the possibility of (facilitative) hybrid transfer from both English and Romance. To date, we are not aware of studies on generics in L3 Italian. Our research, then, brings novel data on L3 generics within the Romance paradigm.

Generic descriptions can refer to all the members of a kind (kind reading), or instances of a kind involved in habitual events or bearing a distinctive property (generic/characterizing reading) (Krifka, Pelletier, Carlson, ter Meulen, Chierchia & Link, 1995). From a cognitive perspective, the truth-value of generic statements is not dependent on the pragmatic contexts, but the strength of generic assertions may vary by the characteristics of the natural or artificial kind being described (Leslie, 2007; 2008). From a linguistic perspective, this domain (also referred to as genericity) lies at the interface between syntax and semantics, which posits interesting questions about its learnability (Montrul & Ionin, 2010; Slabakova, 2006, Sorace & Serratrice, 2009).

Several studies examining English/Italian child bilinguals (Serratrice, Sorace, Filiaci & Baldo, 2009), instructed adult learners of L2 English/Italian (Slabakova, 2006) and English/Spanish (Ionin & Montrul, 2010; Ionin, Montrul & Crivos, 2011; Montrul & Ionin, 2012) have shown transfer effects from English as stronger/first language on the acquisition of Romance generic nouns, evident in the acceptance or interpretation of plural bare NPs as generic in Italian by bilinguals and elementary/intermediate L2 learners of Spanish/Italian. In the Romance–English direction of acquisition, transfer has been found for L1 Spanish adult learners of L2 English in the high acceptance of definite plural subjects in generic contexts, and their interpretation as generic rather than specific nouns (e.g., Ionin, Montrul & Crivos, 2011). Therefore, for L2 learners of Romance generics, transfer effects appear to mostly occur at non-advanced acquisition stages, making these properties relevant for testing possible L3 transfer trajectories, and providing additional empirical evidence to the current acquisition models.

In the remainder of the introduction chapter, I present sections on the theoretical framework of genericity and the current models of L3 acquisition. This is followed by a discussion on the contributions to knowledge of this dissertation, with a focus on external factors such as language experience and article frequency. Finally, I present the research questions addressed by this study.

1.2 Genericity and kind reference: theoretical conceptualization and NP distribution

The capability of expressing generic meaning is relevant for human beings, as it allows them to establish an efficient relation with the environment, by describing regular events or properties of natural or artificial objects (e.g., *Tigers are ferocious animals*). To our knowledge, all natural languages are capable of expressing generic meaning without resorting to special overt linguistic devices in their grammars but using the determiner system (Carlson, 2011). More precisely, generic sentences describe a **kind** as an abstract individual, for example the kind "tiger", and they can be of two types, depending on the description they make of such kind. Sentences with a *kind reading* denote the whole genus**,** while sentences with a *generic reading* refer to instances of a kind being involved in habitual events, or bearing a distinctive property (Krifka, Pelletier, Carlson, ter Meulen, Chierchia & Link, 1995; Mari, Beyssade & Del Prete, 2012). In the former case, genericity is conveyed at the NP level, and is associated with verbs indeed referring to the totality of the members constituting a kind as in (1).

(1) a. The potato was first cultivated in South America.
b. Potatoes were first cultivated in South America.

The sentences in (1) are a description of the kind "potato". The NP *potatoes* (1b) denotes all the members of the kind "potato" as a plurality, while the subject *the potato* denotes the kind as a collective. In either case, the NP refers to the totality of the members constituting the kind. This NP type is also labelled as a "kind-referring" NP.

In the latter case, genericity is expressed through habitual and stative verbs, which allow for generalizations over instances of properties and situations, as in (2). This type of sentences describes a habitual event that the subject performs, or a property held by the subject.

(2) a. Lions eat meat.
b. Children love candy.
c. Jason smokes.
d. A potato contains vitamin C.

Unlike sentences containing kind-referring NPs as in (1), generic sentences such as (2) have no limitations on the NP type that can occur in them (Krifka *et al.*: 8). Nevertheless, the NP in example (2d) can only bear a generic reading, and not a kind reading. Likewise, (2c) is a generic statement about the subject (*Jason*), which however does not carry a generic reading itself. In fact, the NP *Jason* does not refer to a kind, but only to an existing individual. For this reason, the propositions in (2) are also called *characterizing* sentences. The NPs in (1) and (2a)–(2b) will be designated as having a **kind** or **generic** reading, respectively, in this dissertation.

On the other hand, episodic sentences make statements about concrete individuals that are involved in particular events, as in (3).

(3) a. Dogs are barking.
b. The dogs are barking.
c. Jason is smoking now.

The statements in (3) refer to real individuals, which are identifiable in the discourse and are performing contingent, isolated actions. In (3b), the NP *the dogs* refers to specific, contextually salient individuals that are performing the action of barking, and denotes all the dogs in the discourse. In (3a), the NP *dogs* also refers to relevant individuals that are performing the action of barking in a given context. However, unlike (3b), (3a) asserts the existence of (a group of) dogs that are barking, and is also compatible with the existence of other dogs that are not performing that same action (Ionin, Montrul & Santos, 2011b: 964–966). The meaning of (3a) is akin to *Some dogs are barking*. For this reason, only the NP in (3a) bears an *existential* reading. The NP in (3b) has a *specific* (definite) reading, while that in (3c) bears only an *episodic* one.

Although generic meanings are expressed in all languages, the syntactic realization of genericity is subject to crosslinguistic variation, in that languages differ in the use, or absence of articles in sentences with generic meanings. More specifically, generic interpretation can be expressed with bare NPs (4a) in English (Chierchia, 1998), or full determiner phrases (DPs) in Italian (4b) and Spanish (4c) (Longobardi, 1994).

(4) a. **Tigers** are dangerous. ENGLISH
b. **Le** **tigr-i** sono pericolos-e. ITALIAN
DEF.ART.PL tiger-PL are dangerous-PL
c. **Los** **tigre-s** son peligroso-s. SPANISH
DEF.ART.PL tiger-PL are dangerous-PL
'Tigers are dangerous.'

English also realizes subjects with existential readings with bare plurals as in (5a), whilst Italian (5b) and Spanish (5c) do so with indefinite plurals. In existential environments, English bare plurals also denote object-level instantiations of the kind (Dayal & Sag, 2020).

(5) a. **Dogs** are barking. ENGLISH

b. **Dei** **can-i** stanno abbaiando. ITALIAN
of.ART.PL(PRTV) dog-PL are barking

c. **Unos** **perro-s** están ladrando. SPANISH
INDF.ART.PL dog-PL are barking
'Dogs are barking.'

As far as the **specific** reading, namely reference to specific members of the kind, all three languages behave according to the same distributional pattern, requiring definite articles with singular/plural nouns (Montrul & Ionin, 2010: 451).[1]

Furthermore, Spanish (6) and Italian also allow bare plurals (BPs) with a generic reading, but as objects only. In contrast, English has no (syntactic) restrictions on the realization of bare plurals.[2]

[1] I provide the following glossary of key terms related to the domain of genericity.
Episodic reading: reading that applies to individuals involved in isolated as opposed to characterizing actions. Such reading can combine with a definite or an existential interpretation. To illustrate, example (3a), *Dogs are barking*, expresses an episodic existential reading, while example (3b), *The dogs are barking*, carries an episodic definite reading.
Existential reading: reading denoting the existence of individuals relevant in the discourse. Such individuals are involved in isolated actions, and their existence does not satisfy the maximality requirement, as exemplified in (3a).
Generics or generic NPs: NPs that refer to kinds. They can refer to all the members of the kind, or to the kind members in general. They do not denote specific, existing individuals.
Generic meaning/interpretation: the meaning carried by generic NPs.
Generic reading: reading expressed by generalizations over properties or behaviours of the kind members. Such generalisations tolerate exceptions.
Kind reading: reading that denotes all the instances of the kind in any possible world. This can be a natural kind (the kind "lion") or a class of artefacts (the class "chair").
Kind reference: reference to individuals as abstract kinds as opposed to concrete, existing objects. Across languages, kind reference can be mapped onto different types of nominals. This may also depend on their morphology (singularity, plurality), syntactic roles (argument, predicate) and temporal/aspectual properties of the verb.
NP-level genericity: generic meaning that comes from the NP itself, and often involves the use of kind predicates (e.g., be endangered). In this dissertation, I also address it as kind reading.
Sentential genericity: generic meaning that applies to the whole sentence, and does not come from the NP itself. In this dissertation, I also address it as generic reading.
Specific reference (specific reading): reference to specific members of the kind as opposed to members of the kind in general. In this dissertation, I identify specific NPs as those NPs that also carry a definite reading, be it in characterizing or episodic contexts. Because they are definites, these NPs refer to the maximal set of individuals salient in the context (maximality requirement).

[2] See Section 2.2 for a discussion on English bare plurals being unable to describe a maximal set of contextually salient individuals.

(6) a. Com-o **patata-s**. SPANISH
eat-PRS.1SG potato-PL
'I eat potatoes.'

b. ***Gato-s** son mamífero-s. SPANISH
cat-PL are mammal-PL
'Cats are mammals.'

Within the domain of genericity, Spanish differs further from English and Italian in that singular bare nouns are possible. A restricted class of Spanish verbs (e.g., *tener* 'to have') allows bare objects, which have singular morphology but are semantically numberless, as in (7c) (Espinal, 2010), rendered with a singular indefinite (7a) or definite (7b), in English and Italian.

(7) a. I have **a car**. ENGLISH

b. H-o **la** **macchina**. ITALIAN
have-PRS.1SG DEF.ART.SG car

c. Teng-o **coche**. SPANISH
have-PRS.1SG car
'I have a car.'

In other words, despite the genetic relatedness between the two Romance languages, Spanish and Italian noun phrases show only partial similarity in allowing bare plural objects with generic readings and disallowing bare subjects with kind/generic readings. By contrast, in Spanish bare singular objects are possible. In this regard, the distinctive behaviour of Spanish also allows us to disentangle the role of language family from that of structural (typological) similarity in the acquisition of generic nominals in L3 Italian.

1.3 L3/Ln acquisition: characteristics and current theoretical models

Research on generic meanings and their expressions in the second or third language can illuminate the differences between the two cognitive processes. While in L2 acquisition learners' initial linguistic repertoire is made of their L1 grammatical inventory only, L3 learners can potentially rely on (at least) two grammatical systems, i.e., the L1 and the L2 (or two L1s) to parse the L3 input. This means that L3 learners may be influenced by the L2 grammar, as well as that of their L1. Further, crosslinguistic influence could also occur simultaneously from the L1 and the L2 given the co-activation of all known, functionally established languages during the L3 acquisition process (Slabakova, 2017, 2021, 2023). In this dissertation, we argue that this is indeed the case for the populations examined, which exhibit hybrid transfer from both background languages when acquiring Italian generic subjects and NN objects, particularly in the early L3 acquisition.

More precisely, the populations investigated include adult learners of L3/Ln Italian, instructed in Italian in a formal setting (i.e., university), with English and Spanish being alternatively their L1 or L2. The learning environments were England for the L1 English and Spain for the L1 Spanish, Italian being their second (or third) foreign language (FL) in both cases. These learners are likely to identify Spanish and Italian as being the two "genetically" closest languages in the triads from a holistic perspective, thanks to their shared lexical similarities (Rothman & Cabrelli Amaro, 2010). Given these facts and the only partial overlap between Italian and Spanish on the NPs under investigation, these language combinations are relevant to test the likelihood of holistic (i.e., wholesale) and property-by-property transfer, as postulated by the L3 acquisition models. Before turning to an overview of such models, I address the question about the use of the terms "transfer" and "crosslinguistic influence" (CLI), which I resort to interchangeably in this dissertation.

Whereas L2 acquisition scholars have treated the terms "transfer" and "CLI" as synonyms in many cases, in the L3 literature the question about how to use the two labels is currently under debate (Westergaard, Mitrofanova, Rodina & Slabakova, 2023). In this regard, the Typological Primacy Model advocates have made use of the term "transfer" as strictly concerning grammatical representation. That is, when initially parsing the L3 input, the learner would transfer his/her underlying linguistic knowledge of one background language, by making a complete copy of the selected grammar (González Alonso & Puig-Mayenco, 2021: 3; Rothman *et al.*, 2019). Instead, to describe processing-related effects, which are transient and therefore lack systematicity (e.g., tips of the tongue effects), they deploy the phrase "crosslinguistic effects" (CLE). Under their view, "crosslinguistic influence" (CLI), then, is used as an overarching term, including both transfer and CLE. Because the theoretical framework adopted in this dissertation does not assume initial complete copying of one of the known grammars (but rather dynamicity from early on), it does not seem necessary to draw such a distinction between transfer and crosslinguistic influence. As has been the case so far, I will continue to resort equally to the two terms, while addressing effects related to processing or performative pressure as such.

The first hypotheses or models that endeavoured to account for L3 transfer patterns pinpoint the privileged role of either background language in the acquisition process. While the L1 Factor Hypothesis (Hermas, 2010; Jin, 2009) claims predominant influence from the native language as default source for transfer over the second language, the L2 Status Factor (Bardel & Falk, 2007; Falk & Bardel, 2010) argue for a stronger role of the second language in early L3 acquisition, due to the L2 learning mechanisms being akin to those of the L3.[3] In other words, similarly to L2

[3] Falk, Lindqvist & Bardel (2015) acknowledge that the L1 may also influence L3 learning early on, when its explicit metalinguistic knowledge is high.

learners, L3 learners would mostly rely on declarative memory to process grammatical forms, as opposed to a predominant use of procedural memory in L1 acquisition, as hypothesized by Paradis (2009).

However, a number of studies have shown ample evidence of the capability of both background languages (L1 and L2) to influence the L3 on the basis of typological (structural) similarity rather than order of acquisition, i.e., L1 vs. L2 status (see Rothman *et al.*, 2019, for a comprehensive review). In fact, most recently the major aims of L3 models have been to differentiate between holistic (wholesale) and property-by-property (hybrid) transfer, as well as its timing (early stages vs. full developmental span). More specifically, the current L3 acquisition models hinge on the idea originally proposed by Flynn, Foley & Vinnitskaya (2004) with the Cumulative Enhancement Model (CEM) that both L1 and L2 could possibly contribute to (facilitative) transfer to the L3, while also postulating that such influence may be nonfacilitative. As mentioned in Section 1.1, Rothman's Typological Primacy Model (TPM) (Rothman, 2015; Rothman *et al.*, 2019: 154–183) argues for (overall) typological similarity between languages as responsible for the parser's selection of either the L1 or the L2 for wholesale transfer (both positive and negative) at the initial stages of interlanguage development. Instead, the idea of a dynamic transfer from the L1 and/or the L2, acting property by property, has been put forward by Slabakova with the Scalpel Model of Third Language Acquisition (SM) (Slabakova, 2017), which also addresses the importance of input frequency and positive evidence, together with transfer, as factors involved in the L3 development at the advanced stages too. On her view, these factors might also hinder the precision of the 'scalpel', trumping beneficial effects deriving from structural similarities between languages. Likewise, the Linguistic Proximity Model (LPM) (Westergaard, Mitrofanova, Mykhaylyk & Rodina, 2017; Westergaard, 2021a;b) maintains the possibility of dynamic transfer to the L3 (Full Transfer Potential) , based on abstract structural similarities, no longer triggered by lexical closeness between languages as proficiency increases. Hence, the TPM and SM/LPM have divergent predictions about initial transfer stemming from one source language only (wholesale transfer), or potentially deriving from both source languages (property-based transfer), respectively, but share a similar expectation in that both background languages can possibly exercise influence at non-initial stages of L3 acquisition, or in L4 acquisition and beyond (Rothman *et al.*, 2019: 157).

In this dissertation, we contend that L3 transfer of generic NPs is likely to be dynamic, with facilitative effects from the source language structurally proximate to L3 Italian potentially increasing at higher proficiency levels in the target language. As to the timing of transfer, our data show that the temporal span required for learners to detect similarities between the background language(s) and the L3 may stretch beyond the initial stages, since we established negative

influence from the language typologically less close to the L3, even for intermediate learners. While input characteristics (i.e., high frequency of the definite article) seem to favour acquisition of generic subjects and NN objects across the board, learning setting does not substantially benefit either group on the property shared between the societal language and Italian. These results lean in favour of the predictions of the Scalpel Model and the Linguistic Proximity Model on these grounds: i) initial transfer is not wholesale, ii) crosslinguistic influence happens property-by-property and iii) input saliency facilitates acquisition.

1.4 Theoretical underpinning of the research

In the previous section, I described possible routes of L3 acquisition as postulated by the relative models, which are situated within a generative approach to language acquisition (González Alonso, 2023). The generative approach considers the language faculty to be composed of the following factors: 1) a genetic endowment specific to the human species, addressed to as Universal Grammar (UG); 2) experience with the linguistic input which the child is exposed to and internalizes, i.e., Primary Linguistic Data (PLD); 3) general cognitive principles, for example related to data analysis or to the computational system (Biberauer, 2019; Chomsky, 2005). This three-factor model accounts for the formation of an adult grammar, the I(internal)-language. The mental representations of this grammar have an external counterpart in comprehension and production, which constitute the speaker's E(xternal language). The relevance of UG is particularly evident in the acquisition of those grammatical properties for which there is no positive evidence or which are underrepresented in the input (the Poverty of the Stimulus Condition), and yet are easily acquired in the first language (White, 2020). Universal Grammar would contain all possible natural grammars, which are described in terms of principles and parameters. While principles are seen as properties common to all languages, and therefore universally fixed, parameters relate to the language-specific settings of such principles. What is to be worked out when acquiring a first language, then, is the right setting of the parameters. In the acquisition of a second (or additional) language, parameters must be reset to the target values in case of mismatches between the first and second language. This operation is likely to cause learning difficulties, which can be overcome thanks to an interaction between input exposure and UG.

These considerations lead to a line of enquiry distinguishing generative language acquisition, by which the variation in the parameter configurations between languages can cause crosslinguistic influence (or transfer effects), in the development of a non-native linguistic system. In this sense, the L3 acquisition models tested in this dissertation are generative models, as they primarily aim to pinpoint the mechanisms regulating the occurrence of transfer from the background to the target languages, and the acquisition trajectories arising from it. Under a strict definition, transfer

is seen as an operation mainly involved with the unconscious representations of the grammar of previously known languages, which would be replicated when parsing the target language input (e.g., Rothman *et al.*, 2019). As mentioned earlier, in this study, we embrace a broader definition, by which transfer (or CLI) also concerns language processing, in addition to the speaker's underlying linguistic knowledge (Westergaard *et al.*, 2023).

As the reader will see in detail in Chapter 2, the properties targeted in this study (i.e., generic NPs) can be analysed as varying between language families as a result of the different settings of the Nominal Mapping parameter (NMP) (Chierchia, 1998), with argumental bare plurals being legit in English but impossible in Spanish and Italian when being unmodified. However, such an account can effectively describe the behaviour of the languages belonging to the Germanic or Romance families to some extent only, which would not make the choice of working within a strictly defined Principles & Parameters framework a fully appropriate methodology.

Moreover, because they are located at the interface between linguistic modules, i.e., the syntax-semantics interface, generic nouns are involved with the mapping between forms and meanings. Under the semantic theory here adopted, bare plurals (which generic meaning can be mapped onto) may be seen as lexical items that do not express the same syntactic category crosslinguistically, this category being noun phrases in English but determiner phrases in Spanish and Italian (Dayal & Sag, 2019). Thus, we did not establish the learner's task in terms of acquisition of parameter settings, or figures' configurations of functional categories, a feature being the primitive grammatical unit associated with them, e.g., the feature definites of definite determiner phrases (Lardiere, 2009; Rothman & Slabakova, 2018). Rather, the learner's task would be to acquire the forms–meanings associations in the target language. Learning difficulties would then arise when such associations differ between the L1 or L2 and the L3, as is the case for English and Italian generic subjects, or a property carries the same readings but has different lexical forms, as Is the case for Spanish and Italian existential subjects. In other words, learners might transfer L1 and L2 mappings that correspond or do not correspond to those of the L3, with facilitative or non-facilitative effects, respectively.

1.5 Pinpointing the original contribution to knowledge of this dissertation

In this section I discuss the most relevant aspects in the dissertation that are set to enhance this field of study with novel contributions. First, I address the probability of transfer sources for generic NPs within the Romance paradigm, turning then to the role of external factors in the L3 acquisition process.

1.5.1 Probable transfer patterns for generic NPs in L3 Romance

As highlighted in Section 1.1, we believe that research on genericity in L3 Italian is particularly needed as the existing body of studies covering the acquisition of preverbal generics in Romance includes language combinations with Brazilian Portuguese (BrP) as L3 and, typically, Spanish as one of the background languages. To our knowledge, this study is the first to investigate the acquisition of NPs with generic readings in Italian as a third or additional language. More specifically, our data sets bring novel evidence on potential transfer effects from a Romance language, Spanish, that is similar to Italian regarding the ungrammaticality of bare plurals in these contexts. This is unlike Brazilian Portuguese, which allows both bare and definite plural generics. Thus, Brazilian Portuguese overlaps with English in the availability of generic bare plurals, and with Spanish in that of generic definite plurals. Given these facts, a possible prediction is that (facilitative) cumulative transfer from both English and Spanish might lead to target-like acquisition for L3 Brazilian Portuguese learners, which could well accept both bare and definite plural nouns in generic contexts from early on (Ionin, Montrul & Santos, 2011b). Yet, that study, together with subsequent research by Ionin, Grolla, Santos & Montrul (2015), reports on learners of L3 Brazilian Portuguese with English and Spanish (or other Romance patterning the same way) as L1or L2 expressing a preference for definite plural over bare plural generics. Thus, these learners predominantly exhibited transfer from one source language (Spanish). Hence, these data suggest that, in L3 acquisition of Romance generics, transfer patterns can be explained by (overall) typological similarity.

Nonetheless, the literature does not completely dismiss influence from English on properties within the genericity domain. In the 2015 paper, Ionin and colleagues also found (some) positive English transfer on plural subjects with existential readings in the learners' acceptance of (grammatical) BrP existential bare plural subjects. Recall that English bare plurals can express both generic and existential readings. In other words, within the same linguistic domain, L3 learners of Brazilian Portuguese in the said language combinations tend to pattern with Spanish on generic subjects, discarding the helpful English option. On the other hand, they make use of the English grammar with facilitative effects in existential contexts. Again, it appears that structural similarity is the deterministic factor in informing transfer trajectories, but it is restrained to one language per property.

In the populations examined herein (i.e., learners of L3 Italian), facilitative hybrid transfer from Romance and English cannot manifest on generic or existential subjects, given the ungrammaticality of Spanish and Italian bare plurals in subject position. In line with the literature on L3 Brazilian Portuguese, our findings suggest that Spanish is the language being responsible for

positive influence on the acquisition of generic subjects in L3 Italian. At the same time, facilitation from English occurs on another property (NN objects), further indicating that holistic transfer is not deterministic in L3 acquisition of nominals with kind reference.

1.5.2 Language experience

Our study presents an innovative design in that the participants, at the time of testing, lived in a country where the societal language is also their first language, namely England for the L1 English and Spain for the L1 Spanish. Under these circumstances, our participants are highly likely to be L1 dominant, which allowed us to control for dominance as a factor. Specifically, we consider a language as dominant when proficiency and experience in that language are higher (Li, Zhang, Yu & Zhao, 2020). Given such facts, it was possible to isolate language experience in the L1 (also referred to as immersion henceforth), being higher than in the L2, as a relevant variable modulating transfer from the two source languages. It follows that greater experience in English for the L1 English could boost transfer from this language to the L3 on the structurally similar property (singular objects), or even trump transfer from Spanish, expected on the basis of lexical similarity. Likewise, analogous conditions in language experience in L1 Spanish could prompt a better performance on generic subjects, expressed through definite plurals in both Romance languages. As the reader will see later on, these predictions are not fully supported by our results, which show a trend for the L1 English being more accurate on subjects, this possibly being due to reasons related to language activation.

Additionally, we also factored in L2 and L3 immersion as external variables, since between-group variability in language experience could possibly contribute to explaining differential L3 knowledge outcomes. Our data show a different degree of immersion (and therefore activation) in the L2 between the two groups. In particular, the learners' linguistic background information revealed higher immersion in the L2 for the L1 Spanish than the L1 English. Specifically, immersion is accounted for by cumulative use and exposure to the language throughout the life span, as well as on a daily basis (see Chapter 6). This means that the L1 Spanish engaged significantly more with English than the L1 English did with Spanish. Such facts point to a possible role for the L2 (English) in negative transfer, in relation to its level of immersion/activation. On the other hand, the two groups have similar low immersion levels in L3 Italian, which rules out L3 input exposure as an explanatory variable.

1.5.3 Grammaticalization of the definite article

Beside typological similarity, the Scalpel Model (Slabakova, 2017) stresses the importance of input frequency to account for the L3 knowledge outcomes, among other factors (see Section 1.1). Our methodology factors in the grammaticalization of the Italian definite article, as additional variable related to input frequency, further contributing to refining the predictive capability of this model. In this dissertation, I follow Barton, Kolb & Kupisch's (2015) definition of article grammaticalization as "[…] the use of articles in an increasing number of semantically and pragmatically defined contexts" (2015: 148). This phenomenon can also be seen as the mappings between form and meaning, that is the number of readings a given form (e.g., definite phrases) can carry. The more meanings a form carries, the more frequent it is. Despite requiring definite articles with preverbal generic subjects, Spanish and Italian present different levels of article grammaticalization. Building on Lyons (1999), Barton and colleagues highlight that among Romance languages, Italian is at an advanced stage of article grammaticalization, as definite articles are required with both specific and generic nouns, as well as with possessives. To illustrate, the Italian possessive phrase *I miei cani '*my dogs' presents the definite article "I", which must be dropped in English, i.e. *(*The) my dogs*, and Spanish, i.e. *(*Los) mis perros*. On this view, English occupies the least grammaticalized stage, as only specific (canonical) contexts require definite articles. Spanish occupies an intermediate position between English and Italian, since possessives are realized without definite articles. Overall, this comparison indicates that definite articles have a wider distribution in Italian than in Spanish. In other words, the same form (definite noun) can be used in a wider range of syntactic environments in Italian than in Spanish, as displayed in Table 1.

Table 1: Definite article grammaticalization in English, Spanish and Italian

Language	**Use of definite article**
English	canonical definite
Spanish	canonical definite, generic
Italian	canonical definite, generic, possessive

Adapted from Lyons (1999: 337), Table 1 shows the contexts of use of the definite article in the three languages examine herein. In English, the definite article expresses the prototypical value of definiteness as grammatical category, thus canonical definiteness. In addition, Spanish and Italian also present generic uses of definites. To explain this, Lyons argues that a grammatical category must not be limited to its central concept but can expand to others.

> […] the grammatical category created is not limited to expressing that concept. The original concept is likely, however, to continue to be the prototypical value of the grammatical category, so that the category can still be seen as expressing that concept in its central uses. (Lyons, 1999: 276)

In Section 1.2, I showed that English singular definite phrases can have a kind/generic reading, in addition to the canonical (specific) one presented in Table 1. To illustrate further, the phrase 'the lion' can refer to either a particular lion in a zoo or the lion as a species. Nonetheless, as will be explained in Chapter 2, according to Dayal (2009: 18), such interpretation of singular definites comes as a result of the lexicalization of the semantic operator 'iota', responsible for their canonical reading. On her account, English definite singulars actually denote taxonomic kinds, namely subspecies of a kind. Proper (non-taxonomic) kind readings are instead derived by the 'nom' operator, which regulates kind formation. This is indeed the case for plural definites in Spanish and Italian, which can bear both a canonical reading (derived by 'iota') and a kind/generic reading (derived by 'nom'). Therefore, Table 1 shows only canonical uses of definites in English.

Such facts can lead to pivotal implications for the language learning scenarios. On the one hand, the availability of multiple meanings for the same form could well facilitate the acquisition process, because this form is highly frequent in the input. On the other hand, one can envisage a scenario where the more meanings per form, the harder it is to learn to use the form generically. This is because the same form, let's say definite plurals, will be used in a wider number of contexts and it might be hard to narrow down the exact generic context. In this study, I pursue the idea that it will be easy to learn to use a form associated with multiple meanings, which we call the "Grammaticalization Hypothesis" (GH). In our proposal, the GH would predict that an advanced state of grammaticalization of a functional element will facilitate the acquisition of the form containing it, because the form is made salient in the input. Thus, the learner will find it easy to notice this form. The learner's task, then, would be to work out what meanings are associated with definite nouns in Italian to be able to use them successfully. Because definite nouns are highly frequent in Italian and are realized as both generic subjects and NN objects, it is hypothesized that such process should not be problematic for the learner, as these forms carry similar meanings (i.e., they both are generic expressions). This is indeed what our data show as to the acquisition of these two properties in Italian, which is generally successful across groups.

Let us now review the details of the underlying mechanism for acquisition. To this end, one should think of meaning as structured according to hierarchical interpretative layers, which might conflate or not conflate in a particular form (van Hout, 2007a: 2–3). In this regard, we should recall that the specific interpretation is part of the generic one in terms of truth-value (Montrul,

2008: 339). Indeed, a generic statement such as *Lions eat meat* always entails that there exist particular lions that do eat meat in a possible world, with the generic being an abstraction from the situation. In such a case, though, the two readings are conflated in Italian definites, and therefore the learner of Italian will have fewer morphological options from which to pick than the learner of English in order to use plural definites in either context. In other words, the learner of Italian will not have to differentiate between the generic and the specific reading to be able to correctly produce definite plurals in such contexts. Hence, when acquiring Italian generics, the learner will go through a more economical acquisition process thanks to the two readings being conflated in the same form.

The combinations between interpretations and forms may, however, vary across languages, and involve different types of forms (with overt or non-overt elements). This might lead to different acquisition scenarios, depending on the learning direction. For instance, in English articleless NPs can carry at least two readings, namely the generic and the existential reading, this last being subsumed in the generic one as to truth-value (Slabakova, 2006: 510; Gavarró, Pérez-Leroux & Roeper, 2006). In English, then, generic and specific (definite) readings are not mapped onto the same form, possibly leading to learning difficulties with English generics. Importantly, for the direction of acquisition of our participants, the task will be to add meanings to forms already existing in their L1, or keep them the same. So, as far as generic subjects, L3 Italian learners will have to go through this acquisition process. The L1 English will have to add the generic meaning to the specific one already available for definite plurals in English to their Spanish grammar first. The L1 English will not need further expansion of the grammar, as well as the L1 Spanish.

Furthermore, the difference in the degree of grammaticalization of the definite article between the two Romance languages is evident in the availability of bare singular objects in Spanish only. As regards Italian NN objects, realized as singular definites, the acquisition process will be as follows. The L1 Spanish will have to: i) unlearn the grammaticality of bare singular objects and ii) add a NN (weak) interpretation to the strong indefinite interpretation available in Spanish for objects of the designated verb class to their English grammar. The L1 Spanish will then have to shift the weak interpretation of NN objects from indefinite to definite, as well as the L1 English learners. The presence of an overt determiner in both Italian and English will sustain such process, although the reading shift might hinder its benefits.

The grammaticalization of Italian definite articles is here taken to be an additional factor affecting transfer to L3 Italian. In general, learners will find it easy to acquire structures containing the definite article (i.e., generic subjects and number neutral objects), regardless of typological similarities between the background languages and the L3. The prediction is supported by our

data. Additionally, article grammaticalization could have a twofold impact on the acquisition of definite phrases, interacting with transfer and immersion effects in this way. It could enhance the performance of learners who are benefiting from positive transfer, for instance positive influence from Spanish on generic subjects. For example, the UK group might well experience facilitation from Spanish on this property. However, their high immersion in English could disfavour them as opposed to the group in Spain, highly immersed in Spanish. The highly frequent Italian definite article, then, will reduce this disadvantage. This is indeed what we observed in our data. What is more, the highly grammaticalized definite article may sustain the acquisition of those properties not shared between languages. Specifically, it could facilitate the acquisition of singular definite objects by counterbalancing negative Spanish transfer, expected for the lexical closeness between the two Romance languages. This was the case for both the English and Spanish group, their accuracy rates being quite similar, on this construction. This outcome also suggests that the latter was able to overcome a possible disadvantage associated with their (high) immersion in Spanish. On the other hand, the large availability of the Italian definite article in the input does not seem to benefit as much the Spanish group on generic subjects, where they were rather outperformed by the English one. Questions about L2 (English) activation may be in order, as mentioned earlier. Hence, the Grammaticalization Hypothesis seems to have explanatory power through its central claim about overall ease of acquisition, while being only partially able to account for between-group differences.

1.6 Research questions

The research questions addressed by this dissertation are the following:

General research question

1) How does L1 or L2 knowledge influence the acquisition of a third or additional language knowledge of different expressions of kind and generic meanings?

Specific research questions

2) What is the most probable transfer trajectory in early acquisition of L3 Italian? In particular, i) Is transfer likely to be wholesale or property-by-property? and ii) Is it only facilitative or can it be non-facilitative as well?

3) How does transfer develop at more advanced stages?

4) In what ways do external factors modulate the L3 acquisition of generics? That is, i) To what extent is grammaticalization facilitative? and ii) How does L1/L2 experience impact L3 acquisition?

1.7 Dissertation structure

The remainder of this dissertation is organised as follows. In the next chapter, I present the theoretical background of genericity, starting with diagnostic tests for generic and existential NPs in English, turning then to crosslinguistic differences in their distribution. This is followed by a review of the relevant semantic literature on the formation of generic and existential meanings under a neo-Carlsonian approach (e.g., Chierchia, 1998; Dayal, 2009), and NN objects (Espinal, 2010). By elaborating on their proposals, I argue that the NP types under investigation pertain to the domain of genericity, thanks to their (differential) access to kind references and their syntactic status as arguments. I conclude by illustrating the learner's task in L3 Italian, assuming simultaneous availability of the grammatical structures in the background languages, i.e., L1 and (acquired) L2.

Chapter 3 deals with the acquisition of genericity in the three languages under investigation. I begin with reviewing L1 acquisition of generic NPs of English (e.g., Gelman & Raman, 2003) and Spanish (e.g., Pérez-Leroux, Munn, Schmitt & DeIrish, 2004) monolingual children. These studies show that English children can discriminate between bare and definite plural forms, overall associating generic readings to the former and specific ones to the latter. The Spanish children are found to express a preference for the generic reading of plural definites. I then continue with the literature on English/Italian bilingual children (e.g., Serratrice *et al*., 2009), which reports on crosslinguistic influence mostly in the English-Italian direction of acquisition, with children tolerating ungrammatical Italian bare plurals in generic environments. I continue with a review of previous studies on adult acquisition of generics in L2 English and Spanish/Italian. Their findings explain the performances of elementary and intermediate L2 learners on the basis of L1 (negative) influence, with the L1 English tolerating bare plurals and overinterpreting definite plurals as specific in L2 Spanish/Italian, and the L1 Spanish interpreting definite plurals as generic in L2 English. Non-facilitation is overcome at advanced acquisition stages. Finally, I review studies on L3 acquisition of generics, focusing on L3 English (Hermas, 2019a) and Brazilian Portuguese (Ionin *et al.*, 2015). Their findings point to differential acquisition rates of generic NPs, possibly depending on typological similarity between the background and target languages, as well as L3 proficiency.

In Chapter 4, I present the most recent models of L3 acquisition, which pinpoint typology as deterministic factor for L3 morphosyntactic transfer, be it initially wholesale (Typological Primacy Model) or property-based throughout (Scalpel Model and Linguistic Proximity Model). In particular, I discuss the notion of initial stages, which for the Typological Primacy Model is taken to be the crucial time period for complete transfer to happen, arguing against its strict definition. This critique is grounded in the idea that a full copy of the grammar is not necessarily in place, but rather all prior linguistic knowledge can potentially transfer (Westergaard, 2021a,b). Hence, detection times for structural similarities across languages might stretch well beyond the initial stages. The chapter also deals with another model of L3 acquisition, namely the L2 Status Factor, which closely relates with the sociolinguistic profile of our participants, being foreign language learners of the L2 and L3. Finally, I highlight the key structure on which the typology-driven transfer models make divergent predictions, i.e., Italian (ungrammatical) bare singular objects, to elaborate the core predictions for this study.

Chapter 5 describes the study design deployed to assess the acquisition of NPs with reference to kinds in L3 Italian, and the most probable transfer trajectories for such nominals in early and developmental stages. This is followed by sections that recapitulate the research questions of this dissertation, and present the predictions arising from the L3 models. The remainder of the chapter illustrates the methodology chosen to answer the research questions.

In Chapter 6, I present the results from the study. I start with the English experiment as taken by the English natives and the L1 Spanish–L2 English–L3 Italian learners, to continue with the Spanish experiment as taken by the Spanish natives and the L1 English–L2 Spanish–L3 Italian learners, turning then to the Italian experiment, administered to the Italian natives and the two L3 learners' groups. Regarding the native controls' performances, the results generally reflect the NP distribution described by the theory for each language. In addition, most of the targeted constructions were found to have been acquired in L2 English and Spanish. In general, these facts back up the possibility of crosslinguistic influence to occur from both background languages, in L3 acquisition of Italian generics. As regards L3 Italian, the two trilingual groups performed well on generic subjects and number neutral (NN) objects, while acquisition of existential subjects was less successful. These facts point to (early-stages) positive transfer from Spanish, on generic subjects, and from English, on NN objects. At the same time, proficiency in Italian was found to predict accuracy on objects, indicating that learners' behaviour on this property became fully target-like with advanced proficiency. These findings provide evidence in support of property-based transfer as the strongest predictor in L3 acquisition of Italian generics. As to the interpretation of generic subjects, definite plural nouns were observed to be preferentially interpreted as specific. In production, L3 proficiency predicted accuracy. Further analyses of the

judgements' data looked into individual behaviour, revealing interference from the source language structurally more distant from Italian on a specific property, i.e., negative transfer from English on subjects and Spanish on objects. Matters related to the input characteristics and language activation may explain unexpected negative transfer effects.

In the final chapter, I discuss how these results can answer the research questions and contribute to the understanding of transfer trajectories in L3 acquisition for adult instructed learners of Italian as a foreign language. Specifically, our interpretation of the results generally supports dynamic transfer models such as the Scalpel Model (Slabakova, 2017) and the Linguistic Proximity Model (Westergaard, 2021a,b), in particular as to the early stages of L3 acquisition. Construction saliency (i.e., article grammaticalization) is also found to facilitate acquisition, in line with the Scalpel Model predictions. In addition, I suggest a "similarity ranking" between constructions, to identify the properties that are more easily acquirable, within the language combination examined. Finally, I consider the study's limitations and possible avenues for future research.

Chapter 2 Genericity and NP distribution

2.1 Introduction

In this chapter, I present the syntactic distribution of the nominals investigated by grounding it in the semantic literature on genericity. Specifically, I follow the stream of the literature that explains kind reference principally by means of semantic operators and their interaction with nominal types in English, as expressed in the introduction to "The Generic Book" (Krifka, Pelletier, Carlson, ter Meulen, Chierchia & Link, 1995). In this research line, referred to as the neo-Carlsonian approach, Chierchia (1998) and Dayal (2009) further elaborated on the semantic operations at play in this process, in order to account for the variation in the realization of generic NPs across languages. In particular, Dayal's work clearly establishes that the same operator ("nom", standing for nominalization) is responsible for kind formation in both English and Romance, but its lexicalization in these languages follows different patterns. That is, to express kind reference, English deploys non-overt forms (bare plurals), while overt forms (definite plurals) are used in Italian (and Spanish).

The structure of Chapter 2 proceeds as follows. Section 2.2 provides diagnostic tests for defining the readings associated with English bare plurals and definite plurals, modelled on those in Krifka *et al.* (1995). In Section 2.3, I highlight the paradigms of preverbal subject NPs with kind/generic readings in English and Italian, showing that the main difference lies in the unavailability of definite plural phrases with these readings in English, as well as that of bare (plural) generics in Italian (and Spanish). I then account for the distribution of existential subject NPs in the three languages, by exemplifying that, while English deploys bare plurals in this context too, Italian and Spanish require indefinite plural articles. The next section discusses the theoretical background of generic interpretation by considering the formation of NP-level genericity (kind reading) and sentential genericity (generic reading), the former being mostly dependent on the verb predicate, while the latter on the interplay of the semantic operator GEN (Krifka *et al.*, 1995) and tense/aspect (Gelman, 2004). Following Chierchia (1998) and Dayal's (2009) theorizations, I introduce other operations involved in the formation of kind ('nom' operator), canonical definites ('iota' operator) and existential interpretations. By endorsing their view that English bare plurals with existential readings are derived kind predications, I justify the choice of investigating existential plural subjects in this dissertation. I then proceed by presenting an analysis of Spanish singular bare objects with number neutral interpretation. Relying on Espinal's (2010) account of such nominals as referring to properties of kinds rather than atomic kind or existing objects, I further elaborate on their syntactic status as (pseudo)arguments as key element allowing us to

situate these nominals within the genericity domain. Finally, I provide empirical evidence on the acquisition of this property in L1 Spanish (Miller & Schmitt, 2003). The last section of the chapter illustrates the learner's task for the acquisition of the target structures in L3 Italian. I show that L3 learners can rely on their Spanish grammar to acquire generic and existential subjects (with a lexical adjustment for the latter forms), and their English one for NN objects (with a reading shift on the determiner).

2.2 Diagnostic tests for generic and existential NPs

In order to precisely identify the readings of the subject NPs investigated, which differentially relate to the notion of kinds, a diagnostic is needed.

Kind-selecting predicate test

In English, subject NPs with *kind readings* are selected by kind predicates (e.g., *be/become extinct, be endangered)* (Krifka *et al.*, 1995: 95). In English, only bare plurals (8a) can occur in association with these verbs. Instead, with the same predicates, definite plurals (8b) are generally disallowed.

(8) a. **Rhinos** are endangered in India. KIND PREDICATE
b. #**The rhinos** are endangered in India.

It must be noted that, although kind readings are discarded for English definite plurals by the semantic framework here adopted, scholars such as Lyons (1999) have pointed out that, despite being typically not used generically, definite plurals can be felicitously used in generic expressions with certain "names of animals and plants representing groups larger than the species" (1999: 181–182). Lyons reports instances such as *The dinosaurs dominated the earth for a very long time* to be acceptable. It remains unclear, though, if these "groups larger than the species" truly denote the totality of the kind "dinosaur", or rather multiple (sub)species of dinosaurs. As Lyons himself states, the felicitousness of such instances appears restricted to certain vocabulary items, which cannot account for the full distribution of this NP type in English. All in all, English definite plurals fail to pass this test.

Habitual and stative predicates test

In this test, we consider episodic verbs with habitual aspect and stative verbs, for example copular constructions with individual level adjectives (i.e., defining a permanent quality of the noun). Subjects of these predicates have a generic reading, in absence of spatial anchoring in the discourse. That is, these nouns do not describe individuals that are salient in the context. In plural environments, only bare plurals are possible in English, as in (9a–b).

(–LOCATIVE)

(9)	a.	**Oranges** are juicy.	STATIVE
	b.	**Lions** roar.	HABITUAL

If the NP is spatially anchored in the discourse (+LOCATIVE), English subject NPs hold a *specific reading* and are rendered with definite plurals, as in (10a) and (10c). In the same contexts, bare plurals are ungrammatical, as in (10b) and (10d). Contextual saliency might be rendered overtly, through locative expressions (e.g., in the basket) that modify the noun, making it identifiable in the discourse.

(+LOCATIVE)

(10)	a.	**The tomatoes** (in the basket) are red.	STATIVE
	b.	***Tomatoes** (in the basket) are red.	
	c.	**The tigers** (in this zoo) eat meat.	HABITUAL
	d.	***Tigers** (in this zoo) eat meat.	

Hence, English bare plurals pass the *habitual and stative verbs test* only when the NP is not made contextually salient (–LOCATIVE). Conversely, definite plurals are to be used when the NP is salient in the discourse (+LOCATIVE). Locative expressions might be uttered or non-uttered.

Progressive verb test

Bare plurals and definite plurals are both possible as arguments of episodic verbs with progressive aspect, as exemplified in (11a–b).

(11)	a.	**Lions** are roaring now.	PROGRESSIVE
	b.	**The lions** are roaring now.	

The sentences in (11) have episodic readings. In addition, bare plurals also have an existential interpretation, while definite plurals a specific (canonical) one (see Section 1.2). Thus, in terms of grammaticality, both NP types pass this test, but the presence or absence of the definite article give rise to the different readings.

I now turn to presenting an overview of the NP types deployed in the three languages under investigation to express genericity.

2.3 NP distribution in English, Spanish and Italian

2.3.1 Generic NPs

In English the following NP types are deployed to express generic meaning (Krifka *et al.*, 1995; Ionin, Montrul & Santos, 2011a): i) count definite singulars, ii) count indefinite singulars, iii) mass and iv) count bare plurals.

Definite singular (DefS)[4]

(12) a. **The lion** is common in Central Africa. [√ kind]

b. **The lion** lives in the savanna. [√ generic]

Indefinite singular (IndefS)

(13) a. ***A lion** is extinct. [* kind][5]

b. **A lion** eats meat. [√ characterizing][6]

Mass noun (MN)

(14) a. **Water** is scarce in this region. [√ kind]

b. **Water** is clear. [√ generic]

Bare plural (BP)

(15) a. **Orangutans** are endangered. [√ kind]

b. **Orangutans** sleep in trees. [√ generic]

In contrast, bare nouns are unacceptable as preverbal subjects in Italian (16)–(20) and Spanish, which both require definite expressions. I present examples for Italian only, as Spanish is the same with regard to these properties.

Definite singular (DefS)

(16) a. **Il** **leone** è comune in Africa centrale. [√ kind]
the lion is common in Africa Central
'The lion is common in Central Africa.'

b. **Il** **leone** vive nella savana. [√ generic]

[4] Recall from Section 1.5.3 that Dayal (2009) rather considers this to be a taxonomic kind reading.
[5] Indefinite singulars are legitimate only when referring to taxonomic kinds (e.g., a type of lion).
[6] Because singular indefinites cannot bear generic meaning consistently, they are here labelled as having a characterizing reading.

the lion lives in.DEF.ART.SG savannah
'The lion lives in the savannah.'

Indefinite singular (IndefS)

(17) a. ***Un leone** si è estinto. [* kind]
a lion REFL.3SG is extinct
'A lion is extinct.'

b. **Un leone** mangia la carne. [∨ characterizing]
A lion eats DEF.ART.SG meat
'A lion eats meat.'

Mass noun (MN)

(18) a. **L' acqua** è scarsa in questa regione. [∨ kind]
DEF.ART.SG water is scarce in this region
'Water is scarce in this region.'

b. **L' acqua** è chiara. [∨ generic]
DEF.ART.SG water is clear
'Water is clear.'

Definite plural (DefP)

(19) a. **Gli orangh-i** sono in via di estinzione.
DEF.ART.PL orangutan-PL are in way of extinction
'Orangutans are endangered.' [∨ kind]

b. **Gli orangh-i** dormono sugli alber-i.
DEF.ART.PL orangutan-PL sleep on.DEF.ART.PL tree-PL
'Orangutans sleep in trees.' [∨ generic]

Bare plural (BP)

(20) a. ***Orangh-i** sono in via di estinzione.
orangutan-PL are in way of extinction
'Orangutans are endangered.' [* kind]

b. ***Orangh-i** dormono sugli alber-i.
orangutan-PL sleep on.DEF.ART.PL tree-PL
'Orangutans sleep in trees.' [* generic]

Nonetheless, in Italian (and Spanish) bare nominals (mass and plural nouns) are possible in object position, or as preverbal subjects in rich syntactic contexts. Bare nominals are available in the following conditions: i) objects with existential and generic readings, ii) modified preverbal subjects with existential and generic readings.[7] See examples (21) for objects (Longobardi, 1994: 613) and (22a–b) for subjects (Longobardi, 2001: 340).

Objects

(21) Bev-o sempre **vino**. [∀ generic]

drink-PRS.1SG always wine

'I always drink wine.'

Subjects

(22) a. **Elefant-i** **di** **colore** **bianco** hanno creato in passato

Elephant-PL of colour white have raised in past

grande curiosità.

great curiosity

'White-coloured elephants raised a lot of curiosity in the past.' [∀existential]

b. **Elefant-i** **di** **colore** **bianco** possono creare grande

Elephant-PL of colour white may raise great

curiosità.

curiosity

'White-coloured elephants may raise a lot of curiosity.' [∀ generic]

In examples (21) and (22a–b), the absence of a definite article is licensed by the syntactic environment, i.e., the noun *vino* being in object position and the noun *elefanti* being modified. What is more, instances such as (22a–b) are restricted to certain input types, which are characterized by a formal register, for example distinguishing literary texts. Instead, instances of preverbal bare subjects are not available in contemporary, daily spoken Italian, which thereby does not provide for conflicting input with regard to subject bare plurals. Hence, preverbal subjects, namely English bare plurals and Italian/Spanish definite plurals, constitute a clear cut-off point of crosslinguistic difference for the acquisition of generic NPs.

[7] Italian bare nouns are also possible as inverted subjects of unergative verbs, or as topicalized subjects (Longobardi, 1994: 616).

2.3.2 Existential NPs

In Italian and Spanish, bare plurals are also disallowed as existential subjects. Existential nouns require the projection of an indefinite determiner, being a partitive article (23b) and an indefinite article (23c), respectively (Chierchia, 1998: 341–342).

(23) a. **Dogs** are playing in the garden. ENGLISH

b. **Dei** **can-i** stanno giocando in giardino .ITALIAN
of.ART.PL(PRTV) dog-PL are playing in garden

c. **Unos** **perro-s** están jugando en el jardín. SPANISH
INDF.ART.PL dog-PL are playing in the garden
'Dogs are playing in the garden.' [∨ existential]

However, unmodified bare pluras with existential interpretation may be found in Italian input, for instance in certain genres such as (oral or written) news reports. To exemplify, in the statement *Manifestazioni sono previste per domani,* 'Protests are expected tomorrow'), the subject *manifestazioni* is an acceptable bare plural noun. Although these bare nominals might be noticed by the learner in these environments, albeit restricted, this is likely to occur at very advanced proficiency levels. Indeed, the lexical and morphosyntactic complexity of such texts make them hardly accessible at earlier acquisition stages. Furthermore, as is the case for generic contexts, existential bare subjects are not commonly used in the spoken language in Italy. This is proven by our data, with the Italian natives' group rejecting BPs as ungrammatical with any readings (see Chapter 6). Therefore, we believe that such limited counterexamples in the input should not interfere with the acquisition of the ungrammaticality of Italian subject bare plurals, in our study.

As I will illustrate in Section 2.4, because English existential subjects are expressed with bare plurals and argumental bare plurals are kind-referring terms (Dayal, 2018: 10), our investigation also concerns the acquisition of existential subjects in the target language (Italian).

2.3.3 Specific (definite) NPs

English, Italian and Spanish overlap as far as the specific reference, similarly expressed with plural definites, as in (24).

(24) a. **The cats** meow. ENGLISH

b. **I** **gatt-i** miagolano. ITALIAN
DEF.ART.PL cat-PL meow

c. **Los** **gato-s** maúllan. SPANISH
DEF.ART.PL cat-PL meow

'The cats meow.' [√specific]

To summarize, Italian and Spanish singular and plural definites can express both generic and specific interpretations. In English, plural definites bear a specific reading only, while singular definites can convey generic meaning.

2.3.4 The NPs investigated in this research

In Table 2, I present a summary of the properties investigated in English, Spanish and Italian, which also include objects with NN (number neutral) interpretation. Recall that only Spanish allows for bare singular objects (7c), whereas English and Italian require the presence of an indefinite article (7a) and a definite article (7b) (see Section 1.2). Again, we consider the behaviour of bare singulars (BSs) as objects with NN semantics as distinctive to Spanish, and the similar presence of an overt determiner as structural similarity between English and Italian.

Table 2: Target properties in English, Spanish and Italian

Property	**English**	**Spanish**	**Italian**
Subjects with kind/generic readings	BP	DefP	DefP
Subjects with existential readings	BP	IndefP	PartP
Objects with NN interpretation	IndefS	BS	DefS

Note. The abbreviations in the table have the following meanings: BP (bare plural), BS (bare singular), DefP (definite plural), DefS (definite singular), IndefP (indefinite plural), IndefS (indefinite singular), PartP (partitive plural).

2.4 Theoretical framework of genericity

2.4.1 Generics as preverbal subjects

Krifka, Pelletier, Carlson, ter Meulen, Chierchia & Link (1995)

As highlighted in section 2.1, scholars distinguish between two types of genericity, namely NP-level and sentential genericity. Specifically, in the introduction to "The Generic Book", Krifka *et al.* (1995: 4–5) maintain that, unlike NP-level genericity as in (1), sentential genericity (i.e., generic sentences) expresses regularity of properties or events characterizing instances of a kind. Sentences with generic readings refer to sets of individuals representative of the kind, without necessarily covering the entirety of such kind. Generic propositions, in fact, can also hold for some exceptions as in (25). For example, (25) makes a generalization over the kind "bird", by asserting

that flying is a distinctive quality of birds although there exist birds like penguins that do not fly. Despite this exception, (25) is evaluated as True by most speakers.

(25) Birds fly.

When a generic sentence contains a definition of a species, such proposition can be true about all the species members, as in (26).

(26) Penguins are birds.

Furthermore, kind-referring NPs are often associated with kind predicates (e.g., *be endangered*), while generic sentences contain habitual or stative verbs (e.g., *fly*, *love*), typically in the present tense. According to Krifka *et al.* (1995: 23–30), while the generic meaning of propositions containing kind-referring NPs derives from the NP itself, in generic sentences such meaning applies to the whole sentence. On their view, the generic meaning in the latter type of sentences results from a hidden generic operator (GEN). The generic operator is a phonologically unrealized quantifier that functions as an adverb in the composition of the sentence meaning. For example, In English, adverbs like *always*, *often* or *usually* are close in meaning to the generic operator.[8] GEN freely binds variables in its scope, namely the restrictor and the matrix. Because it is unselective, the generic operator can yield the two interpretations of (27), depending on whether the restrictor (x) is *typhoons* (27a) or *this part of the Pacific* (27b).

(27) Typhoons arise in this part of the Pacific.

a. GEN[x; y](x are typhoons; y is this part of the Pacific & x arise in y)
'Typhoons in general arise in this part of the Pacific.'

b. GEN[x; y](x is this part of the Pacific; y are typhoons & y arise in x) = GEN[x;](x is this part of the Pacific; ∃y[y are typhoons & y arise in x])
'There are typhoons arising in this part of the Pacific.'

GEN is at play in both generic (*Birds fly*) and characterizing (*A bird flies*) sentences as an operator creating generic meaning. In the former, GEN yields a generalization over instances of the kind (kind reference). In the latter, it generalizes over instances of a subspecies of the kind (taxonomic reference).

Gelman (2004)

[8] The postulation of GEN has been questioned for other languages, for example Russian, where genericity is claimed to "arise as a pragmatic effect in certain discourse contexts" (Seres, 2020: 155).

Beside the generic operator GEN, morphosyntactic cues contribute to generic interpretation as well. Gelman (2004) stresses that tense and aspect also function as an indication of genericity. In particular, she notices that statements in the past tense typically do not bear a generic meaning. An exception to this are historic past utterances, for example the statement *Woolly mammoths roamed the earth many years ago* (2004: 7). On the other hand, she explains that propositions in the present tense may have either a generic or a non-generic reading, with aspect playing a crucial role in this case. More specifically, verbs in the present tense with non-progressive aspect (e.g., *Cows moo*) can support a generic reading, but verbs with progressive aspect (e.g., *Cows are mooing*) cannot. In this last example, the noun *cows* bears an existential reading (see Section 2.3).

Chierchia (1998)

Within the neo-Carlsonian approach, Chierchia (1998) proposes a semantic explanation for kind reference through the Nominal Mapping Parameter (NMP). For Chierchia, languages across the world vary in that bare nouns can be either arguments (designating kinds) or predicates (designating properties of kinds). Across languages, nouns can be mapped onto their semantic interpretation as arguments or predicates, according to the language-specific settings of the NMP. In Germanic languages like English, bare nouns are grammatical in both argument and predicate positions [+arg, +pred]. By contrast, Romance languages allow bare nouns as predicates only [–arg, +pred]. A third language type (i.e., Chinese) allows bare nouns as arguments only [+arg, –pred]. The behaviour of Chinese will not be discussed further, as it falls outside of the scope of this investigation. Examples (28) and (29) illustrate the parameter settings for English, with the bare noun *doctors* being legitimate in both subject (argument) and predicate positions.

(28) **Doctors** work hard. ARGUMENT

(29) Liam and Jenny are **doctors**. PREDICATE

For Chierchia, in English, a semantic operator (‘nom’) turns nouns from predicates into arguments through a type shift, which makes bare nouns grammatical in subject position. We can think of ‘nom’ as a mechanism that regulates the matching between semantic type and syntactic category. To illustrate, semantic predicates are of type <*e,t*>, and denote properties of individuals, while semantic arguments are of type *e*, and denote individuals (i.e., kinds). NP (noun phrase) and DP (determiner phrase) are instances of syntactic categories. So, through ‘nom’, the individual counterpart of properties of common nouns are originated. This way, common nouns get to designate individuals (kinds), as well as their properties. In other words, in English, (bare) NPs can denote kinds, as arguments, or properties of kinds, as predicates, and this is made possible by a semantic shift implemented by ‘nom’. Chierchia explains this process as follows.

> […] kinds can be regarded as the 'nominalization' of (predicative) common nouns and predicative common nouns as the 'predicativization' of kinds. (Chierchia, 1998: 349)

Being the simpler structure, bare noun phrases (NPs) prevail over determiner phrases (DPs), according to an economy strategy (Avoid Structure Principle). Instead, in Romance languages like Italian, bare NPs are possible only as predicates, and require the projection of an article (D) in argument (subject) position. The behaviour of Italian is illustrated in (30)–(31).

(30)	**I**	**dottor-i**	lavorano	duramente.	ARGUMENT
	DEF.ART.PL	doctor-PL	work	hard	
	'Doctors work hard.'				

(31)	Liam	e	Jenny	sono	**dottor-i**.	PREDICATE
	Liam	and	Jenny	are	doctor-PL	
	'Liam and Jenny are doctors.'					

Therefore, on his account, kind reference is expressed with bare NPs in English and DPs in Italian. English is considered the most economical option because, in this language, nominals "avoid" determiners to express generic readings, that is, generic readings are expressed through bare NPs. Instead, Italian NPs require the projection of a definite determiner, to yield such interpretations. Hence, to convey the same (generic) meaning, Italian resorts to a more complex structure than English, and therefore the Italian option could be more costly for the learner to acquire. Chierchia's economy principle could also shed light over possible negative influence from English, in the acceptance of ungrammatical generic bare plurals in Italian, these nominals being simpler than definite plurals, as hypothesized by Serratrice *et al.* (2009: 244). In this regard, as we will see later in Chapter 6, our data on L3 Italian acquisition show that some of the L1 English and L1 Spanish trilinguals in fact accepted Italian bare plurals in generic contexts, providing evidence in support of acquisition being (in part) governed by an economy principle. This explanation may also account for the unexpected tolerance for bare plurals in specific (anaphoric) contexts, especially for the Spanish group. This behaviour cannot be accounted for with crosslinguistic influence from English, which patterns together with Spanish in making use of definite nouns in these environments.

Following Longobardi[9] (1994), Chierchia too points out that the availability of bare nouns in Romance can be dependent on the syntactic environment, as in (21) (see Section2.3.1). Finally, it

[9] Longobardi (1994, 2001, 2005) offers a syntactic account for the realization of generics in English and Italian. Because all nominals are treated as DPs, arguments may have an overt or null D. More precisely, at the level of overt syntax (s-structure), English allows for argumental bare nouns, with D remaining empty. In Italian, instead, D gets filled with an expletive article. According to the Referentiality Parameter

is worth mentioning that Chierchia's Nominal Mapping Parameter has been questioned for Brazilian Portuguese, which also allows preverbal bare subjects (Schmitt & Munn, 1999).

Dayal (2009)

As Chierchia's parameter does not cover all languages, Dayal (2009) readdresses the role of the semantic operators in kind formation. On her account, according to the presence or absence of determiners in a language, the semantic operators 'nom' (responsible for the meaning of kinds) and 'iota' (responsible for the meaning of canonical definites) can operate overtly in the syntax through determiners, or non-overtly. Consequently, in English 'nom' functions covertly (i.e., English lexicalises 'nom' via bare NPs), while in Italian it operates overtly (i.e., Italian lexicalises 'nom' via DPs). To the contrary, in both English and Italian the canonical reading of definites is derived by 'iota' overtly, that is via DPs. Hence, definite phrases express (canonical) definite readings in all the three languages under investigation.[10] This applies to both singular and plural definites. How does then Dayal explain the seemingly possible kind reading of definite singulars, shown in Section 2.3.1? She does so by considering their reading to denote a taxonomic kind, as opposed to a nontaxonomic kind. Building on her (2004) work, she claims the following.

> […] *nom* is not responsible for singular kind terms. Rather, they are formed by the application of *iota* to a property of *taxonomic/sub kinds*. In languages in which *iota* is lexicalized, we get the definite singular generic […]. (Dayal, 2009: 13. Emphasis added)

Dayal's explanation of definite singulars denoting taxonomic kinds is supported by an experimental study on the distribution of generics in English and Romance. With respect to English, Ionin, Montrul & Santos (2011a) proved that the use of definite singulars is indeed more restricted than that of bare plurals, which are inherent kind terms, as also claimed by Krifka *et al.* (1995). To illustrate, sentences such as *The wounded tiger is dangerous* are infelicitous, since "the wounded tiger" does not constitute a *well-defined kind* (WDK restriction) (Ionin *et al.,* 2011a: 965). This study is further discussed in Chapter 3.

In summary, Dayal's classification of the semantic operators at play in the process of kind formation is a refinement of that of Chierchia's. Her theory clearly assigns one function to 'nom' (formation of kinds) and one function to 'iota' (derivation of canonical definites), which are

(Longobardi, 2001), English has a weak R feature, while Romance languages have a strong R feature, entailing non-overt and over D, respectively. As far as the specific reference, D behaves as a quantificational operator in both languages.

[10] As also explained in Ionin, Montrul & Santos (2011a: 964), canonical definites denote maximal reference to specific individuals, which are contextually salient.

maintained the same across languages. Table 3 summarizes these operations in English and Italian.

Table 3: Formation of kinds and (canonical) definites in English and Italian

Reading formation	**English**	**Italian**
Kinds	'nom' (Dayal and Chierchia)	'nom' (Dayal), 'iota'* (Chierchia)
Canonical definites	'iota' (Dayal and Chierchia)	'iota' (Dayal and Chierchia)

* Intensionalized version of 'Iota'

Importantly, Dayal (2018) and Dayal & Sag (2020) hold that English bare plurals maintain kind reference even in existential environments. In such contexts, bare plurals undergo a local type shift that enables them to denote object-level instantiations of the kind. This is obtained by means of an operation called *derived kind predication* (DKP), originally introduced by Chierchia (1998: 364). Specifically, DKP allows inherently kind-referring expressions such as argumental bare plurals to match stage-level (episodic) predicates. For example, in (32) the predicate can trigger an object-level interpretation on the nominal thanks to DKP. That is, in this environment, the bare plural subject *dogs* refer to concrete, existing animals, this meaning being derived by that of *dogs* interpreted as an abstract plurality (the kind "dog"). Hence, through DKP, English bare plurals can acquire an existential reading in episodic environments. Further, DKP imposes a narrow scope on the NP in the original position below the negation, before the NP moves up occupying a preverbal position, as in (33).

(32) Dogs are not barking.

(33) [dogs [not [t are barking]]]

On the other hand, in negative sentences, indefinites can have a narrow or wide scope. Indeed, unlike bare plurals, indefinites relate to the negation as a variable. For example, the indefinite *a dog* in (34) may mean; i) 'There is a dog that is not barking' (wide scope) or ii) 'No dogs are barking' (narrow scope). Thus, the availability of only a narrow reading for bare plurals as in (32) distinguishes them from indefinites as in (34).

(34) A dog is not barking.

In light of Dayal's analysis, we addressed the acquisition of preverbal NPs in these semantically related environments: i) kind readings, ii) generic readings and iii) existential contexts. In particular, English (argumental) bare plurals stand as a relevant type of nominals for the expression of genericity, since they are inherently kind-terms, in both kind-level and object-level predications, as Dayal (2018) reiterates.

> The basic premise of the neo-Carlsonian approach is that *bare plurals* in argument position *refer to kinds*, not only in the case of *kind-level predication* but also in the case of *object-level predication*, as originally proposed in Carlson (1977). (Dayal, 2018: 10. Emphasis added)

In the next section, I discuss the distinct distribution of another NP type pertaining to the genericity domain, namely object bare singular nouns. Such distribution is possible in Spanish only, within our language combinations. Spanish bare singulars are possible in restricted contexts and, like kind terms, can have a narrow scope only.

2.4.2 Number neutral (singular) bare nouns as objects

2.4.2.1 A theoretical analysis (Espinal, 2010)

In the literature reviewed so far, count bare singulars are deemed to be unavailable as arguments (subjects and objects) in English, Spanish and Italian. For instance, the sentence **I have car* is ungrammatical as the singular count object *car* doesn't have an article. Nonetheless, an alternative view is held by Espinal (2010) with regard to Catalan and Spanish objects. Indeed, she contends that, in these languages, a restricted class of verbs, including Spanish *tener* ('have') or *usar* ('use'), allows bare singular objects. More concretely, her claim is that these bare nouns (BNs) are underspecified for number and definiteness. BNs refer to properties of atomic kinds and not to atomic kinds per se, nor to concrete, existing individuals. In other words, they refer to kinds as properties but not as individuals. Further, under Espinal's analysis, Spanish BNs are characterized by number neutrality, lack of determined referent and narrow scope. On the basis of these characteristics, she suggests that BNs could be treated as pseudo-incorporated into the verb.[11] So far, I have referred to this type of nominals as bare singulars (BSs), to distinguish them from English bare nouns, which in the literature generally include mass and plural nouns. In this dissertation, I will then continue to address BNs as BSs, i.e., bare singulars. I present again examples (7c) for Spanish, (7a) for English and (7b) for Italian.

(7)	a.	I have **a car**.				ENGLISH
	b.	H-o	**la**	**macchina**.		ITALIAN
		have-PRS.1SG	DEF.ART.SG	car		
	c.	Teng-o	**coche**.			SPANISH
		have-PRS.1SG	car			

11 Pseudo-incorporation occurs in languages where the object does not form a morphosyntactic unit with the verb, but still acts as its modifier.

'I have a car.'

The meaning of *coche*, then, is that of 'one or more car(s)', as the speaker does not commit to a number of cars, nor does he/she indicate the kind "car" or a concrete, existing object (e.g., a BMW). Importantly, in Spanish, object bare singulars do not have the same interpretation as singular indefinites or definites. In this regard, Espinal (2010: 1001) argues that BSs fill in a gap in the nominal system as unmarked forms able to convey unmarked (least informative) meaning. As shown in examples (7a) and (7b), Spanish bare singulars are rendered in English with an indefinite singular and in Italian with a definite singular. Both English and Italian determiner phrases have arguably weak readings, as they do not describe (abstract or existing) individuals, in such contexts. In this regard, McNally & Van Geenhoven (1998) have proposed that all nominals with weak readings denote properties rather than individuals, irrespective of their having or not having a determiner. Hence, Spanish determinerless (bare) singular nouns, on the one hand, and English/Italian determined singular nouns, on the other hand, overlap in being property-denoting expressions, thus in having a weak reading. Furthermore, Spanish BSs occur in object position only when they provide a characterizing property of the subject by combining with the verb, for example being a car owner (7c). Crucially, according to Espinal (2010) and Espinal & McNally (2007a, 2011), Spanish bare singulars can occur productively in object position, and therefore cannot be considered as part of idiomatic expressions solely. In particular, the class of verbs allowing for object BSs is lexically restricted to 'to have' predicates and others with similar meaning. Espinal (2010: 992) mentions the following verbs as being suitable to bare singular objects: i) verbs of possession and acquisition such as *tener* ('have') or *comprar* ('buy), ii) intentional verbs such as *buscar* ('look for') or *necesitar* ('need) and iii) others such as *llevar* ('wear') or *usar* ('use). However, Spanish bare singular nouns can combine productively with such verbs, which leads her to conclude that, in Spanish, object BSs are not lexically but only contextually restricted.[12]

As mentioned earlier, Espinal (2010) argues for object bare singulars being noun phrases (NPs) rather than determiner phrases (DPs), thus lacking a determiner projection. Such NPs should be regarded as denoting properties of atomic kinds rather than atomic kinds per se. Therefore, bare singulars cannot be considered as proper kind-level expressions. To illustrate the matter, let us review the following examples.

[12] Beside the more frequent *tengo coche* ('I have a car'), we can also find instances such as *Tommy tiene juguete* ('Tommy has a toy'). Such an utterance requires a supportive context in order to be felicitous, though. For example, in a nursery a teacher distributes a toy to each child for an activity. Before the activity starts, he/she checks if every kid in fact has a toy, that toy standing as the characterizing property of the subject by distinguishing a kid with a toy from another kid without it.

(35) a. Teng-o fiebre. SPANISH
have-PRS.1SG fever
'I have a fever.'

b. Teng-o la fiebre amarilla.
have-PRS.1SG the fever yellow
'I have (the) yellow fever'.

In (35a), *fiebre* 'fever' is a common count noun unmarked for number, which denotes a characterizing property of the speaker as being someone with a fever, without denoting the kind "fever". Instead, in (35b) the definite determiner *la* yields a generic reading in combination with the noun *fiebre*, and therefore the resulting DP refers to the class of fevers known as "yellow fever".[13]

I now turn to illustrating the treatment of object bare singulars as nominals pertaining to the domain of genericity, which I propose in this dissertation. Firstly, despite not being bona fide kind-referring expressions, Spanish bare singulars do appear in generic contexts in connection with the subject, of which they denote a characterizing property. Thus, from a semantic perspective, BSs contribute to creating a generalization about the subject by referring to a distinctive property associated with the noun (e.g., the property of the kind "car"). In terms of the structure of the generic operator (GEN), one could then argue that BSs occupy its matrix/nuclear scope (see Section 2.4.1). From a syntactic perspective, Espinal (2010) proposes that bare singular nouns have a unique role in the Spanish nominal system as noncanonical arguments modifying the verb. On her view, BSs are simple bare nouns, distinguished from number phrases (including bare plurals) and determiner phrases, that is, they are numberless and determinerless (Mari *et al.*, 2012: 20–21). Notably, Espinal's analysis is at odds with Chierchia's (1998) postulations on object bare nouns, deemed to be DPs with a null determiner (D) and not small NPs, in Italian (and Spanish). For Chierchia, bare nouns in object position can have a generic or existential reading. Instead, for Espinal, Spanish BSs are non-canonical arguments, referring to properties of kinds. As to the possibility of Romance bare objects of having a non-canonical status as arguments (i.e., being pseudo-incorporated into the verb), Dayal (2018: 14–15) speculates that this could be the case also for Italian bare plural objects. On her account, pseudo-incorporation could explain the limited distribution of Italian bare plurals, possible mainly as objects, and their baring a narrow scope (without being proper kind terms). However, it does not seem clear how such facts would square with an analysis under which Italian bare nouns are considered DPs with a null determiner, as illustrated by Chierchia (1998) and Longobardi's (1994) theories. Such analyses are in fact later

[13] In English, the noun *fever* with the meaning of medical condition causing high body temperature can have the form of a count or a mass noun (Cambridge Dictionary, online).

endorsed by Dayal (Dayal & Sag, 2020). Summarizing Espinal's view, on the one hand, and Chierchia and Dayal's ones, on the other hand, the core characteristic shared between bare singular and bare plural objects in the two Romance languages seems to be their narrow reading. Hence, I suggest that object BSs can be considered generic expressions for the following (syntactic) reasons: i) they are bare nouns and ii) they occur in argument position.[14]

2.4.2.2 Acquisition of bare singulars (BSs) in L1 and L2 Spanish

As far as the acquisition of object bare singulars in Spanish as a first or second language, very few experimental studies have tested this construction. To our knowledge, the only research of this type is a paper by Miller & Schmitt (2003) on L1 Spanish, which investigated the interpretation of singular indefinites and singular bare nouns as objects in negative contexts. Under negation, these NPs have different scopal properties. As shown in Section 2.4.1, singular indefinites can be interpreted as having either a narrow or a wide scope. Instead, (Spanish) bare singulars carry a narrow reading only. Miller & Schmitt administered a Truth-Value Judgment Task to one group of L1 Spanish speaking children (aged between 4 and 5 years) and one of adults, all participants being from the same city in Chile. Like adults, children distinguished between bare singulars and indefinite singulars, assigning predominantly narrow readings to the former, while allowing both readings of the latter. These results confirm that Spanish-speaking children are able to differentially interpret these two NP types as early as 4 years of age, although they are still not fully target-like on bare singulars, with the adults performing at ceiling on this property. Similarly to Espinal (2010), Miller & Schmitt noticed that the verbs BSs can be complement of "[…] seem to belong to a semantic class associated to HAVE or not HAVE" (2003: 93). Although this study investigated negative environments only, these findings offer a clear account of the acquisition of bare singular objects in L1 Spanish. Indeed, given that in positive statements bare singular nouns have the same scopal properties (i.e., a narrow scope only) as in negative ones, it seems plausible to assume a similar acquisition outcome in the two contexts.

As to our participants, whereas for the L1 Spanish trilinguals the representation of bare singular objects in their Spanish grammar appears unproblematic, for the L1 English trilinguals this might be dependent on their L2 proficiency. This is because BSs are not a salient construction in Spanish, given their low frequency and restricted semantic capabilities, and therefore their acquisition may require great input exposure. We hypothesized that the English participants who are advanced in Spanish will successfully acquire these nouns, since at these acquisition stages learners are more likely to notice them in the input. Although object BSs might not be covered in classroom

[14] Rinaldi (2018: 73–83) disagrees with Espinal's account of Spanish bare singulars being pseudo-incorporated to the verb. She argues that BSs are (defective) DPs, whereby the null D is licensed by the *to have* predicate. For this reason, they have the status of syntactic arguments.

instruction, exposure to this construction can otherwise occur through authentic linguistic materials (e.g., videos or podcasts), as well as naturalistic input (e.g., for students in a Study Abroad Programme). This is indeed the case for more frequent constructions represented in naturalistic speech such as Clitic Left Dislocation (Leal & Slabakova, 2019). In this regard, although Spanish bare singulars do not seem to be highly frequent, the verbs in the class licensing them (e.g., 'have' or 'wear') are very frequent. Furthermore, because Spanish (and English) singular objects typically require an article, the availability of BSs in the input may trigger their noticing as "unusual" structures. Given these facts, we can hypothesize that highly proficient L2 Spanish learners may have knowledge of object BSs, thus bare singular nouns may be part of their nominal system, albeit as objects of some specific verbs only. Our data support this speculation, with roughly one third of the English participants having learnt this property in L2 Spanish.

2.5 The learner's acquisition task in L3 Italian

In this section, I establish the acquisition task for L3 Italian learners, by summarizing the form-meaning mappings for the properties investigated. To this end, I assume that they are functionally established in the L2, and their representations are shared in the learner's linguistic system (Slabakova, 2023). The learner's task is visualized in items (36)–(41), which are modelled on Slabakova's (2023) matrices illustrating feature bundles of finite Tense. Our matrices, though, describe the feature expressions rather than the features themselves. The structures preceded by the symbol * are ungrammatical, while those introduced by the symbol # are infelicitous with the target meaning. In addition, (^) describes those forms whose acquisition may be affected by the advanced grammaticalization of the definite article.

Generic plural subjects

Kind/generic readings are mapped onto bare plurals (BPs) in English and definite plurals (DefPs) in Spanish and Italian, as illustrated in (36). To acquire generic subjects, all the learners of Italian can draw on the Spanish grammar, by disallowing bare plurals and allowing definite plurals, with no further adjustment of the grammar. The highly grammaticalized Italian definite article will sustain this process, by boosting positive transfer from Spanish.

(36) [ENGLISH = √BPs, #DefPs(only specific)
SPANISH = *BPs, √DefPs(^)] ➡ ITALIAN = *BPs, √DefPs(^)

(^) Article grammaticalization boosts (positive) transfer from Spanish

Beforehand, to acquire the L2 Spanish form-meaning mappings, the L1 English learners will have to i) unlearn the availability of bare plurals and ii) add kind/generic readings to the specific ones already available for English definite plurals (37).

(37) ENGLISH = √BPs, #DefPs(only specific) ➡ SPANISH = *BPs, √DefPs

Existential plural subjects

Existential readings are mapped onto bare plurals (BPs) in English, indefinite plurals (IndefPs) in Spanish and Italian. The lexical forms of the Spanish and Italian indefinite plurals, though, are not the same since they are realized as partitives (PartPs) in Italian (38). To acquire existential subjects, both groups could rely on the Spanish grammar, by disallowing bare plurals and allowing indefinite plurals. They will also have to adjust the lexical form of the plural indefinite article by disallowing the Spanish form and learning a new one in Italian (partitive article).

(38) [ENGLISH = √BPs, #DefPs
SPANISH = *BPs #DefPs, √IndefPs] ➡ ITALIAN = *BPs, #DefPs, √IndefPs(partitives)

In the first place, to acquire the L2 Spanish form-meaning mappings, the L1 English learners will have to i) unlearn the availability of bare plurals and ii) learn a new form dedicated to expressing existential readings (indefinite plurals), as in (39).

(39) ENGLISH = √BPs, #DefPs ➡ SPANISH = *BPs, #DefPs, √IndefPs

Number Neutral (singular) objects

Numberless (weak) interpretations are mapped onto bare singulars (BSs) in Spanish and determiner phrases in English, i.e., indefinite singulars (IndefSs), and Italian, i.e., definite singulars (DefSs), for objects of the 'to have' verb class. Spanish singular determiner phrases are possible but infelicitous in these contexts, namely they can carry a strong reading only. This is displayed in (40). To acquire singular definite objects, all the learners of Italian can make use of the English grammar, by disallowing bare singulars and allowing determiner phrases. An adjustment will be required, by shifting the weak reading of the determiner from indefinite to definite phrases. In this process, the highly grammaticalized Italian definite article will counter negative transfer from Spanish, expected on the basis of lexical proximity to Italian.

(40) [ENGLISH = *BSs, √InddefSs, #DefSs(strong)
SPANISH = √BSs, #IndefSs(strong), #DefSs(strong)] ➡ ITALIAN = *BSs, #InddefSs(strong), √DefSs(^)

(^) Article grammaticalization reduces (negative) transfer from Spanish

First, to acquire the L2 English form–meaning mappings, the L1 Spanish learners will have to i) unlearn the availability of bare singulars and ii) learn that, in these contexts, the weak reading is expressed by means of a determiner, and add it to the strong one available for Spanish indefinite singulars. (41) illustrates this.

(41) SPANISH = √BSs, #IndefSs(strong), #DefSs(strong) ➡ ENGLISH = *BSs, √InddefSs, #DefSs(strong)

2.6 Summary

In Chapter 2, I illustrated the theoretical background concerning genericity and kind formation, which the choice of the nominals investigated is grounded in. I began with key diagnostic tests for the use of bare plurals (BPs) and definite plurals (DefPs) in English. I showed that English bare plurals are possible as subjects in most syntactic environments, but their interpretation varies depending on the verb predicate they are argument of, as well as its tense and aspect. In addition, the absence or presence of a spatial anchoring to the discourse can also affect their availability. On the other hand, kind or generic readings are disallowed for English definite plurals, although it has been claimed by Lyons (1999) that a few lexical items may be felicitous with these meanings. Therefore, in English definite plurals typically carry a specific (canonical) reading only. This is the case also in episodic environments. After this, I presented the paradigm of preverbal generic NPs in English, following Krifka *et al.* (1995) and Ionin *et al.* (2011a). Likewise, I provided the paradigm for Italian as representative for the two Romance languages examined. Whilst Italian realises generic subjects with definites, English does so with bare nouns. A caveat is that singular definites are possible as generic NPs in both English and Italian, but they rather refer to well defined kinds (WDK restriction), as explained in the following section. I then exemplified the distribution of existential subject NPs, realized in English with bare plurals and in Spanish and Italian with indefinite plurals, being partitives in the latter. As regards Italian subject bare plurals, I noted that they are possible with certain registers or genres, which however do not constitute the input of contemporary, conversational Italian, and therefore are unlikely to provide conflicting evidence for the learner. As to number neutral objects, I highlighted their realization as bare singular nouns in Spanish, and determiner phrases in English and Italian.

Chapter 2 continued with a review of the relevant semantic literature on genericity, in the line with the neo-Carlsonian approach, which postulates the status of kind terms for English bare plurals in argument position. I first reviewed the core claims expressed in the Introduction to "The Generic Book" (Krifka *et al.*, 1995): i) the distinction between two types of genericity, namely NP-

level and sentential genericity and ii) the postulation of the semantic operator GEN as covertly triggering the generic meaning at the sentence level. In addition to a generic operator, Gelman (2004) also pointed to a role of tense and aspect in creating generic meaning. I then turned to discussing the contributions of Chierchia (1998) and Dayal (2009), who examined the distribution of bare plurals crosslinguistically. Whereas both semanticists maintain that kind reference is expressed through bare plurals in English and definite plurals in Italian (and Spanish), Dayal argues for a unique semantic operator being responsible for kind readings, namely 'nom'. On her account, 'nom' operates covertly in English) (via bare plurals) and overtly in Italian (via definite plurals). As to canonical definiteness, both scholars attribute its derivation by the operator 'iota'. Chierchia and Dayal also similarly assume existential bare plurals to be a derived kind predication (DKP), in English. Therefore, I took the inherent nature of English bare plurals as kind-referring terms as explained in Dayal (2009) to justify the selection of both generic and existential subjects as properties to investigate in L3 Italian. This section concluded with an insight into another construction related to generic meaning, namely bare singular objects with number neutral interpretation (BSs). Being contextually restricted to a class of verbs including 'to have' predicates, Spanish bare singulars are defined as determinerless, as well as numberless by Espinal (2010). Espinal further argues that these nominals are noncanonical arguments, and their relationship to kinds is defined as expressing only their properties. Because the (kind) property bare singulars express characterizes the subject, I proposed to situate Spanish BSs within the domain of genericity. Syntactically, my claim is backed by their bareness and argumental status. In terms of L1 acquisition, I discussed findings on children and adults' interpretation of objects bare singulars under negation, which pattern alike in both groups (Miller & Schmitt, 2003). As for L2 acquisition, I suggested that learners of Spanish would acquire this property only with advanced proficiency.

After this, I summarized the learning tasks for the three properties examined in L3 Italian, assuming the availability of both the L1 and L2 grammars. For generic subjects, the L3 learners will make facilitative use of their Spanish grammar. The L1 English will have learnt first that Spanish definite plurals carry kind/generic readings, in addition to specific ones. The L1 Spanish will need no adjustment of the grammar. For existential subjects, learners will need to adjust their Spanish grammar with regard to the lexical form deployed in plural indefinite environments (partitive article). The L1 English will have previously learnt that Spanish uses overt morphology in these contexts (indefinite article). As to number neutral objects, learners can draw from their English grammar, which resorts to determiner phrases like the Italian one in these contexts. The task will be to shift the weak reading of the determiner from indefinite to definite. The L1 Spanish will have already learnt that in English these objects are rendered with overt morphology (indefinite article). In addition, the highly grammaticalized Italian definite article will facilitate the acquisition

of generic subjects, boosting positive Spanish transfer, and definite objects, countering negative Spanish influence.

Chapter 3 Acquisition of genericity

3.1 Introduction

This chapter presents a review of the most relevant studies on the acquisition of generic noun phrases in the three languages investigated herein, including studies on L1, L2 and L3 acquisition. As regards the acquisition of generics as concepts (category-based inferences), most studies have been conducted in English (e.g., Gelman, Star & Flukes, 2002; Hollander, Gelman & Star, 2002), and show that young children are able to distinguish between generic forms (e.g., bare plurals) and other linguistic quantifiers such as universals (*all*) and indefinites (*some*), behaving similarly to adults in doing so. Narrowing down the focus on forms potentially competing for the expression of generic meaning, namely bare plurals and definite plurals, L1 acquisition studies generally indicate that monolingual English-speaking children are able to discriminate between the interpretation of bare plural nouns as generic and definite plural nouns as specific, while equally making use of pragmatic cues (e.g., Gelman & Raman, 2003). As to Romance definite plurals, which are ambiguous between generic and specific readings, monolingual Spanish-speaking children were observed to express a preference for their generic interpretation (Pérez-Leroux, Munn, Schmitt & DeIrish, 2004). Data on Italian-speaking monolingual children are presented in Serratrice, Sorace, Filiaci & Baldo (2009), showing that school children are at ceiling in judging bare plural subjects as incorrect and definite plural subjects as correct, in either a specific or generic context, patterning like their adult counterparts. The same study also offers empirical evidence about child early bilinguals exhibiting crosslinguistic influence mainly in the English–Italian direction of acquisition, with children accepting (incorrect) generic bare plurals in Italian.

Such premises, then, can make sense of data on adult L2 acquisition of generics, which demonstrate transfer from the L1, particularly for elementary learners, with negative effects being observed in cases when the L1 and L2 differ typologically in the expression of generic meaning. In general, in L2 English, transfer patterns from L1 Spanish lead to the rejection of bare plurals in generic contexts and the interpretation of definite plurals as generic. In L2 Spanish or Italian, instead, learners tend to accept bare plurals as generic, and overinterpret definite plurals as specific (e.g., Ionin, Montrul & Crivos, 2011). L1–L2 negative transfer effects are overcome along the acquisition span, with L2 advanced learners becoming target-like in the acceptance and interpretation of generic subjects, in both the English–Romance and Romance–English directions of acquisition. As for L3 acquisition, the literature has mostly focused on English (e.g., Hermas, 2019a) or Brazilian Portuguese (e.g., Ionin, Grolla, Santos & Montrul, 2015). Their findings indicate

that (advanced) L3 acquisition of generics can also be non-target-like, unveiling transfer patterns from both the L1 and L2. There are no studies on L3 Spanish or Italian.

Chapter 3 presents in detail the most important studies in each acquisition area, as representative examples, and is structured in the following way. Section 3.2 illustrates findings on L1 acquisition of English monolingual children (Gelman & Raman, 2003), English monolingual and Spanish monolingual children (Pérez-Leroux, Munn, Schmitt & DeIrish, 2004), and Italian monolingual and English/Italian early bilingual children (Serratrice, Sorace, Filiaci & Baldo, 2009). The two studies targeting English-speaking children indicate that both pre-school and school children can associate generic readings to bare plural nouns, but present differential results on their interpretation of definite plural nouns. Although the proportions of incorrect interpretations of English definite plurals as generic (the 'generic error') are lower in the Gelman & Raman study than in the Pérez-Leroux *et al.* one, these differences could be partially due to reasons related to task design. The section ends with data on Italian monolingual children (Serratrice *et al.*, 2009), which were found to judge definite plurals as correct and bare plurals as incorrect, in line with the adults' judgments. Section 3.3 illustrates the methodology deployed in the Ionin, Montrul & Santos (2011a) study to assess the acceptability of generic NPs in English and Romance, taken as baseline in subsequent research on this linguistic domain. The next section discusses L2 acquisition of generics with two bidirectional studies on L2 English/Spanish (Ionin, Montrul & Crivos, 2011) and L2 English/Italian (Slabakova, 2006) adult learners. As mentioned above, these findings revealed L1–L2 negative transfer effects for early or intermediate learners, and recovery from such effects for the advanced learners. Section 3.5 is dedicated to the acquisition of generics in L3 English and Brazilian Portuguese, within language combinations that include Moroccan Arabic and French (Hermas, 2019a), and English and Spanish (Ionin *et al.*, 2015), respectively. The chapter ends with an assessment of the most relevant gaps in the literature on L2/Ln acquisition of genericity in English and Romance, and, particularly, in L3 Italian.

3.2 L1 acquisition of genericity in English, Spanish and Italian

Gelman & Raman (2003)

Gelman & Raman (2003) investigated the acquisition of generics of English-speaking preschool children and adults, revealing similar findings for the two populations; that is, their use of both linguistic and pragmatic cues in the interpretation of generics. To this end, Gelman & Raman tested their participants with two sets of experiments. Studies 1A and 1B were focused on formal linguistic cues, depending on the presence or absence of the definite article, while Studies 2A, 2B and 2C addressed pragmatic cues too, involving anaphoric reference. Studies 1A and 1B

addressed the matter related to linguistic forms by testing four-year-old children and adults, and two- and three-year old children, respectively. All the participants were administered drawings depicting two entities (e.g., two penguins), bearing an unusual characteristic of the species they belonged to (i.e., penguins are birds but do not fly). Participants were then asked either a generic question, signalled by the presence of a bare plural noun (*Do birds fly?*), or a non-generic (specific) one, signalled by the presence of the definite determiner (*Do the birds fly*?). They were not presented with more than two items of the same condition in a row. As to the generic question, in principle participants could provide two types of answers. In case they relied on extra-linguistic knowledge only, the answer could be either 'yes' (based on world knowledge) or 'no' (based on the picture). If they relied on the linguistic form (bare plural), the only possible answer would be 'yes', because this form expresses only generic interpretations when associated with non-progressive verb forms, as those presented in the stimulus. On a conceptual level, such readings are possible if a participant knows that birds are natural entities that typically fly. For both groups, the authors found a significant wording effect (i.e., generic vs. non-generic wording) in that 'yes' answers were more frequent with generic forms (bare plurals) and 'no' answers with specific forms (definite plurals). For example, in the generic condition (*Do birds fly?*), children gave 'yes' answers 58.80% of the times and 'no' answers 21.20% of the times. Vice versa, in the specific condition (*Do the birds fly?*), they gave 8.80% of 'yes' responses and 82.5% of 'no' ones. The adults exhibited (numerically) more decisive interpretations, with a greater gap between the two answer types, in each condition. These findings were confirmed by an analysis of individual response patterns, as well as individual items. In other words, (four-year-old) children and adults similarly interpreted generics on the basis of linguistic form classes (bare nouns vs. definite nouns), despite the presence of a context triggering specific readings. These findings were confirmed by Study 1B, which assessed two- and three-year-old children, suggesting that even young children can readily grasp the semantics of generics.

Data from this set of studies are compelling as results are confirmed on both an aggregated and an individual level, with no or little variation by item. Nonetheless, a methodological observation is in order. For ease of presentation, I have reported on 'yes' or 'no' question types only. However, the stimuli also included questions requiring other types of responses, e.g., *What colour eyes do (the) girls have?* The validity of such stimuli might be questioned on the basis of at least two things. First, it appears unclear what eye colour girls have in general, even when ruling out green for being presented as an atypical case in the picture. Second, as the authors acknowledged themselves, some answers may point to inappropriate choices (i.e., white) for describing eye colour, otherwise commonly identified with the iris hue. It must be noted, though, that such

procedure might have been preferred so as to make the experiment more engaging to the children, which could well get bored with answering the same question type.

To assess at what point in development pragmatic cues become relevant for children's interpretation of generics, studies 2A, 2B and 2C presented three conditions. In one condition, the mismatch between a single referent (an idiosyncratic atypical entity of its kind, for example a short-necked giraffe) and the plural pronoun *they* in the prompt question was expected to yield a generic answer (e.g., the answer 'long necks' to the question *Do they have short necks or long necks?*). In the other two conditions, the match between referent and pronoun (either singular referent + singular pronoun or plural referent + plural pronoun) should prompt a non-generic (specific) answer. As hypothesized, Study 2A showed that, in general, adults produced generic responses in the mismatch condition and specific ones in the match conditions. Study 2B replicated these results for two-, three- and four-year-old children, for whom the mismatch condition cued a generic reading and the (singular) match condition a specific reading. Study 2C examined children of the same age groups on the mismatch and (plural) match condition, to ascertain that the participants were not simply responding to the question, disregarding the context. The results confirmed that, like adults, three- and four-year olds differentiated between generic and specific contexts, while two-year olds did not. Taken together, these findings clearly indicate that children as young as three are sensitive to a combination of linguistic and pragmatic cues, when interpreting noun phrases generically, whilst younger children mostly rely on linguistic cues for the same purpose.

Pérez-Leroux, Munn, Schmitt & DeIrish (2004)

Pérez-Leroux, Munn, Schmitt & DeIrish (2004) examined child acquisition of generic nouns in English and Spanish, taking into consideration the effects of (plural) definite determiners, as well as tense. They built a Truth-Value Judgement Task, including context stories describing unusual kind members (e.g., spotted zebras) and yes-no questions. Generic interpretation of noun phrases was assigned to positive answers about canonical characteristics of the kind (*Do zebras have stripes?*) and negative answers about non-canonical characteristics (*Do zebras have spots?*). The opposite response pattern was associated with the specific interpretation. The forms presented in the English experiment were bare plurals and definite plurals, while they were definite plurals and demonstratives in the Spanish one. The English experiment included two groups of monolingual children, one aged between 4 and 6 years and the other between 6 and 7 years, as well as one group of adults. Results indicate that both the children and adults' groups patterned alike in giving generic interpretations to questions with bare plurals, but they behaved dissimilarly on questions with definite nouns. Specifically, while the adults clearly expressed specific interpretations of such

stimuli, the two children's groups exhibited a 'generic error', allowing for generic readings of definite plural nouns about 70% of the time. The authors explained the generic bias emerging from this set of results at the representational level, rather than with a task effect, since the proportion of incorrect generic responses with demonstratives (used in questions about the story comprehension, at need) was low. However, it is possible that the task design could have played a role in failing to elicit an anaphoric (specific) reading of the definite nouns, as the atypical animals were mentioned in the story by means of their proper names, making definite nouns a marked option, in this context.

The Spanish experiment presented a setup similar to the English one, except for the forms selected to express generic and specific readings. Whilst definite plurals can be interpreted either generically or specifically in Spanish, plural demonstratives were deployed as forms triggering a specific reading only. Consequently, questions containing definite plurals could potentially have both a 'yes' and a 'no' answer, depending on the assigned interpretation. Monolingual Spanish-speaking children from age groups comparable to those of the English experiment were recruited. Results reveal the children's preference for generic readings of plural definites (assigned about 85% of the time), and their capability to differentiate between definites and demonstratives, by assigning a significantly lower proportions of generic responses to the latter. Data on adults are not available for this version of the study.

In order to evaluate the extent of the 'generic error' for definite plurals in the child data, Pérez-Leroux and colleagues replicated the two studies by changing the tense of the verbs in the stories from present to past, in both languages. As to the prompt questions, they presented only definite plural nouns as targets, alternating verbs in the present and past tense. The animals were now introduced by numerals and the common noun designating their species (e.g., two zebras) rather than their proper names. Since in English episodic verbs in the past tense typically carry a non-generic reading, children were expected to express significantly lower proportions of generic responses to questions in the past, as opposed to questions in the present. However, this was not what was found, although such proportions generally diminished in the replicated study compared with the original one. Indeed, the English children still exhibited a high number of generic responses (30–40% of the time) to plural definites in past questions, unlike the adult controls. As to the Spanish version, the setup was the same as the English one, the only difference being the choice of the imperfect as past tense carrying a habitual reading, in both stories and questions. In contrast to questions in the present tense, in questions with past imperfective definite plurals could only refer to the atypical individuals being described in the story, with the imperfective aspect losing its characterising force. Results from both child and adult groups confirmed higher rates of generic responses in the present tense than in the past tense, despite

the former being underspecified for aspect. Compared with the English, the Spanish children similarly dropped the proportion of generic responses in the present tense, but, importantly, showed sensitivity to the discrimination between questions asked in the present and the past tense.

All in all, both English and Spanish monolingual children allowed for possible generic readings of definite plurals, being preferred over specific readings by the Spanish ones. At the same time, the English children also assigned generic readings to bare plurals, which are appropriately preferred over definite plurals with the same interpretation. These results partially diverge from those in Gelman & Raman (2003), where English children interpreted definite forms generically only marginally (5–10% of the time). In this regard, one could note that the tasks administered in the Gelman & Raman study, on the one hand, and the Pérez-Leroux *et al.* study, on the other hand, differ in their degree of complexity, the former presenting a simpler context (pictures) than the latter (short stories), as well as sets of questions, with different processing loads for the relative child populations.

Serratrice, Sorace, Filiaci & Baldo (2009)

A certain degree of tolerance for inappropriate uses of definite plurals was also observed by Serratrice, Sorace, Filiaci & Baldo (2009) in English monolingual children's judgments of specific and generic plural noun phrases in subject position. In a large-scale study addressing the directionality of crosslinguistic influence (CLI) for English/Italian child early bilinguals, they found clear evidence of CLI from English to Italian only, in the bilingual children's acceptance of ungrammatical Italian bare plural subjects in generic contexts, with input frequency modulating the magnitude of CLI. Their study involved several profiles of participants, including adult English and Italian monolinguals and children, aged between 6 and 10 years. The participants were English and Italian monolinguals, Spanish/Italian bilinguals living in Spain and English/Italian bilinguals living in UK and Italy. The community languages of the latter participants' type, then, were English and Italian, respectively.

The experiment used an Acceptability Judgment Task with binary responses, consisting of a picture depicting typical entities of their kind (e.g., red strawberries) and a test sentence, presented auditorily, with bare plurals and definite plurals being the target forms. An important feature of the task was the presence of pragmatic cues provided with the adjuncts *here* (for specific contexts) and *in general* (for generic contexts). Participants had to accept or reject sentences such as *Here, *(the) strawberries are red*, for specific readings, or *In general, (*the) strawberries are red*, for generic readings. The English experiment was more taxing than the Italian one, given that participants had to integrate the semantics of both noun phrases and

adjuncts, with the adjunct expected to determine the correct interpretation. On the other hand, in Italian participants were to mainly discriminate between grammatical definite plurals and ungrammatical definite plurals, potentially disregarding the semantics of the adjuncts. Indeed, in Italian sentences with definite plural subjects are true with both the specific and the generic reading, when describing a characterizing property of the kind members, as is the case in this study. The difference in design between the English and Italian versions are likely to have impacted the performances of the Italian monolingual children and adults, and those of the Spanish/Italian bilinguals, all being virtually at ceiling, as opposed to the accuracy of the English adult and child monolinguals. The differences in design could also partially explain the English participants' tolerance for ungrammatical generic definite plurals and specific bare plurals, in the English task. In other words, while the Italian monolingual children clearly accepted grammatical definite plurals and rejected ungrammatical bare plurals, their English counterparts seemed certain about the grammaticality of bare plurals when being introduced by *in general*, and that of definite plurals when being introduced by h*ere*, but appeared somewhat uncertain in judging as incorrect bare plurals matched with *here* and definite plurals matched with *in general*. It should be noted that the adult English monolinguals, although they did better than the children, showed a similar trend. This suggests that the latter population in particular might not take into account the entirety of the test sentences when processing the experimental materials, ending up mainly judging the (un)grammaticality of the noun phrase itself in English. The children, then, would have difficulty rejecting bare and definite plurals, in any syntactic contexts.

As regards findings on the child bilinguals, whereas the Spanish/Italian speaking children were target-like in their judgments of Italian generic and specific NPs, the English/Italian speaking ones generally accepted incorrect generic subjects significantly more often than all the other participants in the study. This indicates that CLI is at play for both bilinguals' groups, having positive effects from Spanish and negative effects from English to Italian. Furthermore, negative English influence on Italian was observed to be more pronounced for the English/Italian bilingual children living in the UK than those residing in Italy, suggesting that the low frequency of bare plurals in Italian input reduced such effects, in this population. On the other hand, negative influence from Italian to English on the acquisition of definite plurals, that is the acceptance of their generic reading, was not found, since the English/Italian bilinguals patterned similarly to their English monolingual peers, in this condition. The authors explain these facts on the basis of economy considerations, in that bare plurals are more economical forms than definite plurals and therefore less costly to acquire, as proposed by Chierchia (1998). See also Section 2.3.4 for additional detail.

In sum, the seminal studies reviewed above on L1 acquisition of generic and specific nominal subjects suggest that for Italian and/or Spanish speaking children discriminating between grammatical definite forms and ungrammatical bare forms is unproblematic, as much as for adults. Additionally, the preferred interpretation associated with definite plurals seems to lean in favour of the generic one, at least for the Spanish monolingual children. This is the case no matter whether the context is supportive or non-supportive of the generic interpretation. As far as English monolingual children are considered, in general, data show that they associate generic readings with bare plurals and, less straightforwardly, specific readings with definite plurals. In fact, depending on the task design, English-speaking children may tolerate inappropriate generic readings of definite plurals, or even specific readings of bare plurals. However, when tested with less complex or cognitive costly methodologies, (young) children look decisive in their interpretations of bare vs. definite plural nominals.

3.3 A methodological baseline for adults' judgements on generics

Before presenting a review of work on adult L2 acquisition, it appears necessary to address the methodology utilized to examine native adults' comprehension of generic noun phrases in English and Romance languages. In this sense, the study by Ionin, Montrul & Santos (2011a) on the expression of genericity in English, Spanish and Brazilian Portuguese is remarkable. By empirically investigating the distribution of generic NPs in preverbal subject position, they tested the well-defined kind (WDK) restriction, proving that uses of definite singulars are constrained, in the sense that they are possible when denoting canonical kinds, namely existing kinds ("Coke bottle"), but are not when referring to non-canonical kinds, namely not readily identifiable kinds ("green lamp"). To illustrate, in sentences such as *The Coke bottle has a narrow neck* the definite singular subject is felicitous, while in ones such as *The green lamp has a narrow neck*, the definite subject is infelicitous (Ionin *et al.*, 2011a: 965). This is true across languages. At the same time, plural forms deployed for the expression of kind reference, namely bare plurals in English and definite plurals in Spanish and Italian, are confirmed to designate both canonical and non-canonical kinds, as hypothesized by Dayal (2004, 2009). In doing so, Ionin *et al.* provided additional data sets supporting previous findings on the forms generic and specific meanings are mapped onto by English adult natives, namely bare plurals for the former and definite plurals for the latter. Their results on the natives' judgments are in line with those on the English-speaking and Romance-speaking adult monolinguals discussed in the previous section.

Ionin and colleagues looked into the expression of NP-level and sentential genericity of native speakers of English, Spanish and Brazilian Portuguese, with an Acceptability Judgment Task in context. The task included a short introductory story, followed by five test sentences, presented

at once, which the participants were to rate (but not rank) on a 1–4 Likert scale, whereby ratings of 1 or 2 indicated rejection, and 3 or 4 —acceptance. In the test sentences, the subject NP was presented in preverbal initial position, and varied by five types, including definite singulars, indefinite singulars, bare singulars, definite plurals and bare plurals. This procedure may have facilitated the natives in expressing their ratings, as they could directly compare grammatical and ungrammatical (or infelicitous) options, possibly contributing to making their judgments more straightforward. The nouns described canonical kinds (e.g., "dodo bird") in the NP-level genericity context and non-canonical kinds (e.g., "green lamp") in the sentential genericity context. It appears noteworthy to mention that this methodology was adopted in studies on genericity also in languages beyond the Germanic and Romance paradigms (Lazaridou-Chatzigoga & Alexiadou, 2019; Hermas, 2019a,b).

Here, I report on the main results for English and Spanish, as those for Brazilian Portuguese fall outside the scope of our investigation. As anticipated by Dayal's theory, bare plurals were accepted by the English natives in both genericity types, and rejected by the Spanish. Definite plurals were rejected by the English speakers, and accepted by the Spanish. Additionally, singular definites with non-well-defined kind were rejected by all the natives for sentential genericity. By contrast, in the same environment, bare plurals were largely rated as acceptable by the English natives, and definite plurals were similarly rated highly by the Spanish. Crucially, in order to empirically test the presence of the WDK restriction on singular definites with generic readings, modified NPs were chosen as target forms. For example, by adding the modifier (adjective) *green* to the noun *lamp*, a non-canonical kind was obtained. This design certainly proved successful with singular definites, but it could be seen as less appropriate for the ratings of bare plurals. In this regard, we should recall that heavy syntax could prompt higher tolerance for bare plurals in Romance, as explained in Section 2.3 (Chierchia, 1988; Longobardi, 1994), possibly affecting the participants' judgments. Data on unmodified NPs could have provided compelling evidence on the unavailability of bare plurals in Spanish. Nevertheless, in this study, generic plural NPs were confirmed to have a clearly different distribution in English and Spanish, being realized with bare plurals and definite plurals, respectively. The data on English and Spanish natives also indicate the unavailability of subject bare singular nouns in adults' grammatical representations, in line with the theory discussed in Chapter 2.

3.4 L2 acquisition of generics in English and Spanish/Italian

3.4.1 L2 English and Spanish

Turning to second language acquisition of generics, Ionin, Montrul & Crivos (2011) addressed the acquisition of bare plurals and definite plurals of adult instructed L2 English and L2 Spanish learners with Spanish and English as L1, respectively. They investigated the acquisition of the (un)grammaticality of the two types of nominals with an Acceptability Judgement Task in Context (AJT) and their interpretation with a Truth-Value Judgement Task (TVJT), combining methodologies focusing of forms (AJT) and meaning (TVJT), which were deployed separately in the studies on monolingual and bilingual children presented above. The study also examined native speakers of both languages as control groups.

The Truth-Value Judgment Task was administered first, and followed Pérez-Leroux *et al*.'s (2004) design, in that it consisted of context stories describing unusual animals of their kind (e.g., spotted zebras), a picture depicting these animals and test sentences including bare plurals, definite plurals and demonstratives in the English version, and definite plurals and demonstratives in the Spanish version. Each story was presented together with one test sentence, and was repeated accordingly throughout the task(s). In the Ionin *et al.* study the materials were presented in the present tense, and were administered in a written format, unlike those in Pérez-Leroux *et al*, presented in an oral format. The interpretations of the English test sentences were counterbalanced in their truth-values. For example, items like *Zebras have stripes* and *The zebras have spots* were both supposed to be interpreted as true*,* the former with a generic reading (regardless of the story context), the latter with a specific reading (with regard to the story context). Half of the items had the opposite pattern of interpretations. Transfer from Spanish to English was not expected on generic sentences, as subject bare plurals are unavailable in Spanish, but was anticipated on specific sentences, which the L2 learners could interpret generically in English, due to the availability of both generic and specific readings of Spanish definites.

As far as the truth-values of the Spanish items are concerned, their interpretations were counterbalanced in this way. Sentences with definites describing a typical characteristic of the species (*Las cebras tienen rayas*, 'The zebras have stripes') were set to be true half of the times on the generic reading, and half of the times on the specific reading. Likewise, half of the sentences describing an atypical characteristic of the species (*Las cebras tienen manchas*, 'The zebras have spots') were set to be true on the specific reading and false on the generic one. The rest of the items presented the opposite pattern of interpretations. Transfer from English to Spanish would generally determine a preference for the specific reading of definites. Sentences with

demonstratives were to be interpreted specifically by all learners, as they carry the same meanings in English and Spanish.

As hypothesized, in the English experiment, L1 Spanish transfer was confirmed in the proportion of generic responses to definite plurals, which was high for low proficient learners but decreased for the advanced English learners. In this condition, the behavior of the beginning learners resembled that of the native Spanish speakers in the Spanish version, which similarly exhibited a preference for the generic reading of (Spanish) definite plurals, regardless of the items' truth-value. On the other hand, the advanced L2 English learners' performance was closer to that of the English natives, as to their interpretation of definites as specific. In the Spanish task, again, transfer from the L1 (English) manifested at non-advanced proficiency levels, with beginning learners showing a preference for the specific interpretation of definites, unlike the intermediate and advanced L2 Spanish learners and the native speakers, as aforementioned. The tendency of Spanish native speakers to opt for generic readings of definite nominals is reminiscent of the generic bias observed by Pérez-Leroux *et al.* (2004) in monolingual Spanish children, and might be due to the task design in this case too, as demonstratives could trigger specific readings more effectively than definites. Even so, the beginners' data clearly unveiled L1 English–L2 Spanish initial transfer patterns.

The Acceptability Judgment Task (AJT) consisted of a short introductory story setting the context for learners to evaluate the target forms, by means of a 1-to-4-point rating scale. These forms where bare plurals and definite plurals for both the English and Spanish tasks. In the generic context, the test sentences would describe a typical property of an entity (e.g., toy animals), with no specific representatives of such entities being mentioned in the story. Sentences with bare plurals were grammatical in English, with their acceptance indicating target-like behaviour and their rejection negative transfer from Spanish. In the Spanish task, definite plurals were grammatical options, with their acceptance being target-like and their rejection showing negative transfer from English. In the specific context, the test sentences described an unusual property of an entity (e.g., orange chairs), which would make their generic interpretation odd in terms of truth-value. The plural nouns were anaphorically bound to the story context (e.g., two chairs). In both English and Spanish, bare plurals were expected to be rejected and definite plural accepted. Negative Spanish transfer effects were observed for the beginning and intermediate L2 English learners, which showed a smaller contrast between generic bare plurals (correct) and definite plurals (incorrect). Likewise, In the Spanish task transfer from L1 English was evident at non-advanced proficiency levels, that is when learners showed a smaller contrast between generic definite plurals (correct) and bare plurals (incorrect). To the contrary, the L2 English learners' performance in the specific condition was not explainable with influence from Spanish, with

learners allowing for specific readings of bare plurals and generic readings of definite plurals, unavailable in both languages in these environments. Similar findings were also revealed about English monolingual and bilingual child populations by Serratrice *et al.* (2009).

Overall, these results show convergence to the L2 grammar for the intermediate and advanced learners in both directions of acquisition, but notable presence of L1 transfer effects for the beginners. In other words, advanced learners were target-like in judging the (un)grammaticality of bare plurals and definite plurals in generic and specific contexts, as well as in their interpretation. For the L2 English, transfer from Spanish was evident in the relatively high rating of the generic definites and low rating of the bare generics (AJT), and the over-judgement of the definites as generics (TVJT). The L2 Spanish learners showed transfer from English in the low acceptance of the generic reading for the definites and the high acceptance of bare plurals, as well as in the preference for a specific interpretation of definites. As far as the learnability of grammaticality vs. interpretation, the two language groups had more difficulty with the latter, confirming that interpretation is hard to acquire for its involvement of the syntax-semantics interface (see Section 1.1). In this study, then, the use of an AJT and a TVJT crucially offered specific data on the learnability of generics. It should be noted that, despite having similar linguistic profiles, the participants are not the same in the two tasks, nor is their proficiency classification (the low and intermediate in the AJT are merged in one group). One could argue that having the same participants in the whole study would provide more generalizable data by proficiency level. However, this would also imply changes in the overall study design, as participants might well get fatigued from repeating the same job in both tasks, that is, judging a sentence in the context of a story. To avoid such an issue, grammaticality and interpretation could both be tested with an Acceptability Judgment Task, designed accordingly.

A number of studies on the acquisition of L2 English of L1 Spanish (Ionin & Montrul, 2010; Ionin, Grolla, Montrul & Santos, 2014) and L2 Spanish of L1 English (Montrul & Ionin, 2012) confirm target-like acquisition of plural generics and possible L1–L2 transfer effects for beginning and intermediate learners. Thus, if present, transfer manifests with the acceptance of the generic reading for English definites (from L1 Spanish), or the acceptance of generic (ungrammatical) bare plurals and a tendency for overinterpreting definite plurals as specific in Spanish (from L1 English). Table 4 summarizes such transfer trajectories.

Table 4: L1–L2 transfer effects on generic subjects for English and Spanish

Transfer direction	**Grammaticality**	**Preferred interpretation**
L1 English–L2 Spanish	BPs accepted as generic	DefPs accepted as specific
L1 Spanish–L2 English	BPs rejected and DefPs accepted as generic	DefPs accepted as generic

Note. The abbreviations in the table have the following meanings: BPs (bare plurals) and DefPs (definite plurals).

In the next section, I illustrate findings on adult learners of L2 English/Italian (Slabakova, 2006), which similarly show convergence to the L2 grammar(s) at advanced stages of acquisition, but (some) instances of L1 negative transfer for intermediate learners, especially in the English–Italian direction, as far as the acquisition of generic nominals is concerned.

3.4.2 L2 English and Italian

Research on the acquisition of Italian generics similarly reveals possible transfer effects from English, resulting in the acceptance of ungrammatical bare plurals in Italian. As illustrated in Section 3.2, much literature has examined child bilinguals with English as dominant language (Serratrice *et al.*, 2009; Sorace & Serratrice, 2009), but very few studies have tested adult instructed learners of L2 Italian (Slabakova, 2006).

Slabakova (2006) conducted a bidirectional study on the acquisition of English and Italian bare plural NPs. The study aimed at testing Longobardi's (2001) Bare Noun/Proper Name Parameter, which links the acquisition of proper names to that of bare nouns. Specifically, this parameter concerns the semantic contrast between English and Italian bare (mass and plural) nouns, in that modified nouns of this sort can have both existential and generic readings as arguments of episodic verbs in English, but existential readings only in Italian. Additionally, argumental bare nouns can have kind or distributive readings in English, while Italian allows for distributive readings only. On the syntactic side, English and Italian contrast in the order in which proper names and adjectives are combined. Whereas in English adjectives must precede proper names (e.g., *Ancient Rome*), in Italian adjectives follow them (e.g., *Roma antica*).

The participants were adult L2 English learners with Italian as L1 and L2 Italian learners with English as L1, at intermediate and advanced L2 proficiency levels. They were administered a Truth-Value Judgment Task (TVJT), on the semantics of bare nouns, and a Grammaticality Judgment Task (GJT), on adjectival placement. The Truth-Value Judgement Task presented two conditions, the Bare Noun Interpretation and the Anaphoric Binding condition. In the former, learners had to interpret as accurate or inaccurate two sentences, each appearing once as a continuation of a story supportive of an existential reading, and once of a story triggering a generic reading, in episodic contexts. The forms being tested were modified object bare plurals, e.g., *At 5, the Creator is going to see white-coloured elephants*. In the latter, the two sentences contained bare plurals in subject position, each appearing once with a story endorsing distributive

interpretations, and once with a story pulling for kind readings (e.g., *Large cats have a very high opinion of themselves*).

Results unveiled instances of (negative) L1 transfer in the TVJT, principally in the Bare Noun Interpretation Condition, while they showed successful acquisition of adjectival placement (GJT) across the board. As regards the TVJT, in the Italian direction the advanced learners were target-like in their interpretation of bare plurals in both story categories, but the intermediate still exhibited transfer from English in incorrectly interpreting bare plurals in episodic contexts as generic. In the opposite direction, transfer from Italian to English was not observed at any proficiency levels, as participants correctly assigned both existential and generic interpretations to bare plurals. The behaviour of (some of) the intermediate learners is not surprising, given that the Italian native speakers themselves did not perform at ceiling (albeit significantly different from chance) in this condition, this being likely due to dialectal variation. These facts, together with the general good performance of both intermediate and advanced learners in the Anaphoric Binding condition, indicate that the semantics of bare nouns is indeed acquirable, although its acquisition rate may be lower in Italian than in English.

Another goal of this research was to test the learnability condition for these properties. For example, in the Bare Noun Interpretation condition, the L2 Italian learners were confronted with a more taxing task, i.e., unlearning the generic reading of bare plurals in episodic contexts, than the L2 English, i.e., adding this interpretation. Indeed, the L2 Italian learners performed less accurately than the L2 English learners, indicating that contracting the grammar is more challenging than expanding it. In other words, crosslinguistic influence was found to be at play mainly in the English-Italian direction of acquisition, namely from the superset (existential and generic readings of English bare plurals) to the subset (existential readings of Italian bare plurals) direction. Similarly, Seratrice *et al.* (2009) observed that negative influence from English to Italian occurred in bilingual children's acquisition of generic subjects in Italian (see Section 3.3). Taken together, findings from the two studies demonstrated (non-facilitative) transfer effects from English to Italian on generic NPs, across age groups and syntactic positions.

Finally, from a methodological standpoint, one could advance the following observation on the TVJT story design deployed in the Slabakova (2006) study. As highlighted in Section 2.3, we should recall that in Italian, modified bare plurals may be possible in episodic environments when the register gets formal, for example in literary texts. So, in order to make the stories sound plausible, in this task a formal register was chosen. This type of text, though, does not match the linguistic skills of beginning learners, which therefore could not be tested on the targeted property.

3.5 L3 acquisition of generics

3.5.1 L3 Romance

As far as the acquisition of NPs with kind reference in L3 Romance is considered, a number of studies were conducted by Ionin, Montrul and collaborators on the interpretation of kind and generic subjects (Ionin, Montrul & Santos, 2011b; Ionin, Grolla, Montrul & Santos, 2014), as well as existential and generic subjects (Ionin, Grolla, Santos & Montrul, 2015), in L3 Brazilian Portuguese. These populations were adult L3 learners with English and Spanish as background languages. Their findings revealed primary helpful transfer from Spanish on generic subjects, and some (L1) English transfer on existential subjects.

Building upon the 2014 paper, Ionin *et al.* (2015) looked into L3 Brazilian Portuguese (BrP) learners' interpretation of both generic and existential NPs. Similarly to that study, here, learners had English and Spanish alternatively as L1 and L2, but larger samples were recruited. In lieu of Spanish, or in addition to it, participants could also have knowledge of another Romance language that patterns alike in this domain, namely French or Italian. As to the expression of generic meanings, BrP has an unusual NP distribution within the Romance paradigm, since it encodes kind reference with both bare and definite phrases. In addition to generic readings, BrP bare plurals can also carry existential readings. So, Brazilian Portuguese combines the properties of English and Spanish in allowing existential and generic bare plurals, like English, but also generic definite plurals, like Spanish. Subject (unmodified) bare plurals are disallowed in Spanish, Italian and French, with either an existential or generic reading. In English, definite plurals are typically unavailable in generic environments. With respect to possible transfer patterns, English and Spanish may cumulatively facilitate acquisition of generic subjects, while only English would be helpful on existential subjects. Learners' proficiency in BrP ranged from elementary to advanced, in both groups; however, the L1 Spanish were found to be statistically more proficient than the L1 English, which undermines the comparability of the two groups, as the authors acknowledge. Interestingly, perception of which background language would be overall closer to BrP was assessed with a language distance questionnaire. Spanish was indicated as being more proximate to Brazilian Portuguese, by both learners' groups. This was done to provide empirical support to a possible account of transfer patterns based on general typological similarity.

Participants were administered an Acceptability Judgement Task in Context, with short stories followed by test sentences containing the target subject NP, this time presented individually, each being associated with one story passage only so as to avoid direct comparisons between the nominals. A 1–4 Likert scale was deployed for the ratings. The task included two target categories,

namely existential contexts and generic contexts. While bare plurals were tested in both categories, the definite plural appeared as target nominal only in the generic one. Beside the bare plural, the other form being tested in both cases was the bare singular. In Brazilian Portuguese, bare singulars are licit when carrying a generic reading (e.g., *Gato adora leite*., 'Cat adores milk.') but not an existential one (e.g., **Gato subiu na minha cama*, 'Cat climbed onto my bed.'). So, If learners rate bare singulars highly in both generic and existential contexts, this would reflect judgments based on their grammaticality but not their semantics. Instead, if bare singulars are accepted in the generic context only, this would indicate acquisition of their interpretation as well. On the bare singular, positive transfer from English and Spanish cannot occur, since this form is ungrammatical, in these languages. Then, including bare singulars among the nominals being tested was relevant to ascertain that a possible acceptance of bare plurals across the board would in fact indicate acquisition of forms–meanings mappings, because bare plurals are possible with both generic and existential readings, in Brazilian Portuguese.

To overcome the comparability issue mentioned above, learners' performances were statistically compared within groups, but not between groups. In the existential context, learners rated highly both bare plurals and bare singulars, across the board. Learners' tolerance with existential bare singulars was not in line with the baseline data. In the generic context, definite plurals were rated significantly more highly than bare plurals by the L1 Spanish, while the L1 English ratings of definite plurals were numerically higher. This indicates facilitation from Spanish for both groups. Indeed, the lack of significant differences for the L1 English might be due to their lower proficiency in the L3, as opposed to the L1 Spanish. Moreover, a cross-category comparison revealed that both singular and plural bare forms were rated significantly more highly in the existential than in the generic context. Although this behaviour is not completely target-like, the fact that the L1 Spanish accepted bare plurals in existential contexts, and not in generic contexts, might tentatively indicate English positive influence, in the former environments. In addition to this, in both categories, there was a marginal significant difference in the ratings of bare plurals against bare singulars for the L1 English, again, suggesting English positive influence. The overall group results are confirmed by analyses of individual patterns, in both the existential and generic context. Therefore, these findings point to a general facilitative role of Spanish on generic subjects, and (to some extent) of English on existential subjects, with the evidence on Spanish facilitation being clearer for the L1 Spanish, and on English facilitation for the L1 English. On the other hand, learners' (non-target-like) acceptance of existential bare singulars is explainable through the overgeneralization of their grammaticality, from generic to existential contexts.

All in all, in L3 Brazilian Portuguese acquisition of generics, there is evidence of primary beneficial influence from Spanish, or one of the Romance languages behaving similarly, on generic subjects,

irrespective of order of acquisition of the L1 and L2. On existential subjects, English was observed to be facilitative, although data were compelling only when it was the first language of the participants. Holistic transfer from Spanish was not observed.

A methodological observation is now in order. Since they were not tested on their second language, we cannot be sure that learners had a stable representation of the properties investigated in their L2 grammar. However, because the study did not include beginning learners (learners who scored less than 24 out of 50 in the proficiency test), this could still be the case (Cf. Ionin, Montrul & Santos 2011b). Nonetheless, as the authors suggest, an account of the results based on the properties of L3 input rather than linguistic transfer could also be provided. In Brazilian Portuguese, definite plurals, bare plurals and bare singulars have different degrees of frequency, in that generic definite nouns are more common than generic bare nouns, across registers. Learners' performances in the generic context, in fact, reflects these nouns' frequency, with definite plurals being the preferred forms. Again, the tolerance with existential bare singulars would come as a result of overgeneralization, based on their availability as generics in L3 input.

3.5.2 L3 English

Hermas (2019a,b) addressed L3 acquisition of English mass and count nouns with kind and generic readings, investigating populations speaking Moroccan Arabic as first language, with knowledge of French as second language. Here, I report on the 2019a study, which is focused on count nouns, as mass nouns fall outside the scope of this research. Within the language triad examined, both NP-level genericity (kind readings) and sentence-level genericity (generic or characterizing readings) are expressed in the same way in Moroccan Arabic (MA), while English and French distinguish between the two environments. More specifically, in MA indefinite singulars are illicit with both kind and characterizing readings, while in English and French they are possible with characterizing readings only. To illustrate, sentences like *A panda feeds n bamboo leaves* (characterizing readings) is not licit in MA, while being fine in French and English. Again, MA indefinite singulars are also illicit as kind referring NPs, for example **An Atlas lion died out long ago*, similarly to French and English. With respect to the use of bare vs. definite phrases, Moroccan Arabic and French pattern alike in making use of definite forms and disallowing bare forms, as generic nouns. This is unlike English, which exhibits the opposite noun distribution. Furthermore, in MA (singular and plural bare nouns are possible but carry an existential reading only. This is unlike French, where bare nouns are ungrammatical, across the board. Hence, Moroccan Arabic and French overlap in the use of definite nouns as generics, and in the unavailability of singular indefinites with kind readings, while diverging on the use of indefinite

singulars with characterizing readings, possible only in French. Moroccan Arabic and English behave similarly in disallowing kind readings of singular indefinites.

Following Ionin *et al.* (2011a), this study probed both genericity types by means of an Acceptability Judgment Task with context stories. Like in Ionin and colleagues, the stories were followed by test sentences, presented at once, each starting out with a target NP. Judgements were also expressed on a 1–4 rating scale. The learners were advanced in L3 English, while their proficiency in L2 French ranged from post-intermediate to advanced. As was the case for the Ionin *et al.* (2015) study, L3 learners were not tested in the L2 (French), which implies that eventual acquisition of the target nominals in their second language is assumed (but not ascertained), as the author himself concedes. A group of English native speakers was also tested as controls.

Assuming full acquirability of L3 English generics, Hermas anticipated target-like performances in the acceptance of bare plurals, in both NP-level and sentential genericity contexts, and indefinite singulars, in the sentential genericity context. On the other hand, definite plurals were expected to be rejected, in the two environments. As for NP-level genericity, the L3 learners met these expectations, in that they rated bare plurals more highly than indefinite singulars and definite plurals. However, while bare plurals were correctly accepted in sentential genericity contexts, this was not the case for indefinite singulars. Additionally, although the within-group analysis found acceptance of bare plurals against definite plurals, statistical differences between the L3 learners and the native controls were observed on the latter form.

Overall, the data showed differential acquisition routes for generic NPs in ultimate attainment of L3 English. On the one hand, bare plural nouns were equally accepted with both kind and generic readings, in a target-like fashion. This means that the advanced learners overcame negative L1 transfer, expanding their L1 grammar to include generic readings of bare plurals, in addition to the existential ones already available in Moroccan Arabic, and (possibly) negative L2 transfer, since this form is ungrammatical in French. On the other hand, learners also showed some acceptance of definite plurals, with both readings, in a non-target-like fashion. This last set of results indicates persistence of (cumulative) negative influence from both the L1 and L2, where definite nouns are possible as generics. Moreover, the participants failed to acquire the distinction between NP-level and sentence-level genericity, in that indefinite singulars were rejected in both environments, again, indicating negative influence from the L1, where this form is illicit with these readings. Therefore, the learners' sensitivity to semantic nuances related to generic nominals seems to vary by property. In order to verify that acquisition of generic NPs can in fact be successful across the board, the author properly suggested that near native stages of L3 English should be examined.

From a methodological standpoint, one could note that instances of negative transfer on English definite plurals were unveiled by the presence of significant between-group differences, in that the L3 English learners rated definite plurals more highly than the English natives, across the board. Although a within-group analysis was appropriately performed, a closer look into individua behaviors on this nominal might have led to similar observations, possibly replacing (or complementing) statistical comparisons with the English nativves.

3.6 Taking stock

As can be seen from this overview, the existing literature on the acquisition of generics in the languages investigated herein mainly involved L1 and L2 acquirers of English, Spanish or Italian; but did not examine L3 learners within this language combination. What is more, whilst there exists research on plural generic subjects in L3 English (Hermas, 2019a) and Brazilian Portuguese (Ionin *et al.*, 2015), this is not the case for L3 Spanish or Italian. As regards the target language in our study (i.e., Italian), research mostly investigated child early bilinguals of English/Italian (Serratrice *et al.*, 2009), adult early bilinguals and L2 naturalistic learners with L1 German (Kupisch, 2012), or formally instructed adults with L1 English (Slabakova, 2006). This research on English-speaking adults taking classes of L2/Ln Italian, as well as data on Italian unmodified subject NPs, is scarce. Hence, with this dissertation, we attempt to fill in the gap in the literature on the acquisition of genericity in Italian, with a particular focus on L3 acquisition of plural subject generics by adult populations, formally instructed in the L3. Additionally, by targeting learners with Spanish as one of the background languages, we can examine how the interaction between overall structural closeness and specific structural similarities between the two Romance languages impacts on the acquisition of Italian generic nouns. In fact, the only partial correspondence between forms (nouns) with kind reference in Italian and Spanish (e.g., corresponding plural subjects vs. non-corresponding singular objects) makes this investigation of great relevance to enhance our knowledge of L2/Ln acquisition of genericity in Italian.

Moreover, this dissertation aims to offer a comprehensive account on the acquisition of plural NPs in relevant semantic environments. Indeed, as far as we know, previous studies on Romance have either addressed L2/L3 acquisition of NPs with generic readings (Ionin, Montrul & Crivos, 2011; Montrul & Ionin, 2012), kind and generic readings (Ionin, Grolla, Montrul & Santos, 2014; Ionin, Montrul & Santos, 2011b), or generic and existential readings (Ionin, Grolla, Santos & Montrul, 2015; Slabakova, 2006), but none has included these three readings for the same participants. Indeed, we should consider that generic and existential interpretations are interconnected in such a way that one interpretation has logical implications for the other since the existential reading is subsumed into the (kind and) generic one(s). Therefore, probing the

acquisition of generics in all these three semantic contexts seems paramount for a fine-grained understanding of the targeted properties.

3.7 Summary

In this chapter, I reviewed the most relevant literature on the acquisition of generics in L1 and L2 English, Spanish and Italian for the populations investigated herein. As regards child language acquisition, these studies deployed methodologies that aimed at assessing comprehension of generics, targeting either their interpretation (Gelman & Raman, 2003; Pérez-Leroux et *al.*, 2004) or acceptability (Serratrice *et al.*, 2009). In general, findings on English child monolinguals suggest that both preschool and school children are able to map generic readings onto bare plural nouns and specific readings onto definite plural nouns. However, unlike adults, the children also allowed generic readings of English definite nouns, exhibiting a 'generic error' to various degrees, depending on the task. Regarding monolingual child acquisition of Romance, results point to a preference for generic readings of plural definites in Spanish, and a clear discrimination between ungrammatical bare plurals and grammatical definite plurals in Italian.

Turning to L2 acquisition of English and Spanish/Italian, the literature revealed non-facilitative L1 influence for elementary or intermediate learners. Negative influence from L1 English is evident in the acceptance of (ungrammatical) bare plurals in generic contexts and a preference for the specific reading of definite plurals in L2 Spanish (Ionin, Montrul & Crivos, 2011), as well as the interpretation of (modified) bare plurals as generic in L2 Italian (Slabakova, 2006). Negative influence from L1 Spanish manifests in the rejection of (correct) bare plurals and the overinterpretation of definite plurals as generic in L2 English (Ionin, Montrul & Crivos, 2011). With respect to L3 acquisition of genericity, a study by Ionin, Grolla, Santos & Montrul (2015) on generic and existential subjects in Brazilian Portuguese (BrP) does include English and Spanish, being alternated as first and second language of the participants. Although BrP allows for generic readings of both bare and definite plurals, with transfer potentially manifesting in a (positive) cumulative manner, the evidence points to a privileged role of Spanish in facilitating acquisition. On existential subjects, which can be expressed with bare plurals in both Brazilian Portuguese and English, beneficial effects from the latter language were observed, especially for the L1 English learners. These findings suggest that both background languages are activated during L3 acquisition of generics. What also emerges from this review is the paucity of research on adult formally instructed learners of L2/Ln Italian, in general, and with English as a background language, in particular. As to the acquisition of generics in L3 Italian, there seem to exist no data at all. Finally, in addition to filling in these gaps in the research, our study provides a

comprehensive investigation of nominals pertaining to the genericity domain, i.e., subject NPs with kind, generic and existential readings.

Chapter 4 Third language acquisition and transfer models

4.1 Introduction

The term *third language (L3)* has been used in the literature to address the acquisition of a non-native language being learned sequentially after two other previously known languages. These background languages can be the two L1s of early bilingual individuals (e.g., Westergaard *et al.*, 2017), or the L1 and the L2, this last being acquired after infancy, for example a foreign language studied at school (e.g., Falk & Bardel, 2011). According to a classification based on linear order of acquisition, a language learnt right after an L3 should then be regarded as a fourth language (L4). In this dissertation, I maintain consecutiveness as a key defining criterion, but I adopt a less stringent view of the label *third or additional language (L3/Ln)* as referring to a non-native language acquired by an individual that "already has knowledge of one or more L2s in addition to one or more L1s" (Hammarberg, 2010: 97).[15] Indeed, this scenario reflects more precisely the ecological circumstances of acquisition of the multilingual learners investigated herein, which, in many cases, had knowledge of more than one foreign language prior to being instructed in the target language (Italian). Given their previous linguistic knowledge, then, L3 learners may potentially exhibit morphosyntactic transfer from either or both background languages in their acquisition process. This chapter offers an account of the most current acquisition models, which endeavour to predict and explain possible L1 or L2 transfer trajectories in early and developmental L3 acquisition.

Chapter 4 begins with a discussion on the role of typology as the most relevant factor being currently under debate for linguistic transfer to the L3, either at a holistic or abstract structural level, together with the timing of its occurrence. This is followed by sections on the current acquisition models, namely the Typological Primacy Model (TPM) (Rothman *et al.*, 2019), the Scalpel Model (SM) (Slabakova, 2017) and the Linguistic Proximity Model (LPM) (Westergaard, 2021a,b,c), which deferentially postulate typological similarity between background and target languages to determine transfer effects to the L3 interlanguage system. Specifically, whereas the TPM holds initial wholesale (holistic) transfer, the SM and LPM argue for dynamic structural transfer happening on a property-by-property basis from early on. After this, I present a section on the L2 Status Factor (L2SF), which predicts a privileged role of the L2 in determining

[15] Hammarberg (2010) also stresses the idea of current use of the target language in this definition, which is not endorsed here.

crosslinguistic influence to the L3, in particular for classroom learners of both the L2 and L3, as is the case for the populations under investigation in this study. These sections also include an overview of the relevant literature providing empirical evidence in support of each model. The chapter ends with the models' predictions on the acquisition of the ungrammaticality of bare singular objects (BSs) in Italian, by which we can crucially differentiate between the learning outcomes hypothesized by the Typological Primacy Model, on the one hand, and the Scalpel Model and Linguistic Proximity Model, on the other hand, as to non-facilitative influence. In fact, negative transfer (from Spanish) is more likely to manifest in this than in other conditions.

4.2 Typology as deterministic factor

In formal linguistics, the term "typology" concerns an analysis of language structures as grammatical categories, aiming at drawing generalizations about languages (Chomsky & Kenstowicz, 1999; Croft, 2002). For example, languages can be compared with respect to having the same typology of Verb Phrase, in terms of verb and object distribution (or headedness). If two languages are head-initial or VO (i.e., the object follows the verb), they share the same typology of Verb Phrase. If one language follows a VO pattern and the other language follows an OV (object-verb or head-final) pattern, they are not typologically the same. In other words, languages sharing the same (or a similar) type of Verb Phrase have the same (or a similar) structure, i.e., distribution of the Verb Phrase constituents. Examples of VO-languages are English and Italian, while German is an OV-language. To illustrate further, let us consider the category subject in English and Romance such as Spanish and Italian. In English, preverbal subjects with kind reference are realized as articleless NPs, while in Spanish and Italian they are determiner phrases (DPs). So, generic subjects have the same structures in Spanish and Italian but a different one in English. That is, Spanish and Italian are typologically or structurally similar when it comes to the expression of generic subject noun phrases. Henceforth, we refer to languages as being *typologically close* with the meaning of being *structurally close*.

As mentioned in Section 1.3, the possibility of each of the background languages to drive transfer to the L3 is now widely acknowledged, as well as empirically supported (e.g., Bardel, 2019; Puig-Mayenco *et al.*, 2020). Rather, what is still to be formally established is whether the selection of the language(s) source for transfer is realized by the parser depending on overall structural similarity (as claimed by the Typological Primacy Model) or abstract structural similarities between languages (as claimed by the Scalpel Model and Linguistic Proximity Model).

In the former case, when initially exposed to the target language, the inner parser would select one background language solely, depending on its perceived typological closeness to the L3, first through lexical or phonological cues, or relying on syntactic cues (i.e., abstract structural similarities) for more distant languages. Thus, under the TPM, "transfer is argued to happen holistically, that is, not on a structure-by-structure basis" (Rothman, 2015: 2). Specifically, real time parsing of the input is not seen as the only mechanism involved in L3 acquisition. Once the parser has selected the typologically closest language to the L3, the grammatical representations of that language would be fully copied, and therefore "wholesale transfer" would take place, causing either positive or negative effects to the L3 system. On this view, full copying stands as an additional cognitive operation, which should act as a "shortcut" to incremental input parsing in changing the L3 grammar (Rothman *et al.*, 2019: 23). This theory implies a high level of inhibition of the language non-selected for transfer, a fact that is deemed to facilitate L3 acquisition. Copying fully the source grammar is then considered an economical mechanism by the Typological Primacy Model.

In the latter case, the Scalpel Model and the Linguistic Proximity Model point to a simultaneous activation of all (functionally established) languages in the multilingual mind as a baseline condition that makes it possible for both the L1 and L2 grammars to trigger transfer, mostly on the basis of abstract structural similarities between individual features and properties. Importantly, the LPM emphasizes the role of parsing as the cognitive device being responsible for language acquisition, which incrementally determines stable linguistic representations in the target language, making their full copying unnecessary (Westergaard, 2021a: 396). During the L3 acquisition process, the L1 and L2 structures (or properties) are in competition, and likely to be activated at a different degree of strength in the learner's mind. The amount of linguistic proximity between the L1 and L2 structures and the L3 structures that the parser can detect depends on the strength of their activation in the background languages. More precisely, Westergaard (2021b) suggests that proximity can be measured as "the amount of abstract structure shared between (the current version of) the L3 and the previously acquired languages" (2021b: 505).

While learning by parsing might well be seen as an advantageous mechanism that could avoid non-facilitation, misleading input could actually prompt the learner (especially in early stages) to parse the L3 input with the background language not sharing similarities with the L3, resulting in negative effects. Likewise, insufficient L3 input can lead the learner to make incorrect assumptions on similarities between languages, again, resulting in non-facilitative effects. Westergaard *et al.* (2017) explain non-facilitation in the following way.

> Non-facilitative influence occurs when learners misanalyze L3 input (and/or have not had sufficient L3 input), and mistakenly assume that a property is shared between the L3 and either or both of the previously acquired languages. (Westergaard et al., 2017: 671)

Westergaard (2021b: 506) highlights that input misanalysis might occur during processing in comprehension. For example, she illustrates a situation where a German-speaking learner of Norwegian definite nouns may mistakenly overlook the presence of the article (realized as a suffix in Norwegian, as opposed to a morpheme distinct to the noun in German), resulting in incorrectly analysing the definite noun phrase as a bare NP in Norwegian. The same could be said of English-speaking learners of Norwegian. As regards insufficient L3 input, Westergaard notices that incorrect assumptions on similarities between properties are more common during processing in production. This is because, when the L3 representations are weak, learners would make use of structures from one of the background languages. In this context, both the L1 and L2 structures will be activated. However, because they will be coactivated also at the lexical level, typological lexical similarity could well take over structural similarity, causing negative influence in L3 production. According to the LPM, these learning outcomes are mostly expected in early L3 acquisition, and abstract structural similarity should prevail as the grammatical representations in the L3 stabilize, i.e., with more input exposure.

Moreover, because the Scalpel Model and the Linguistic Proximity Model hypothesize transfer to be dynamic, as opposed to complete, both background languages may be involved in influencing the L3 acquisition process, causing hybrid transfer. In this regard, Rothman *et al*. (2019: 220) discuss the notion of hybrid transfer and the scenarios in which it may occur. For example, in an experiment testing the same group on one or more conditions, hybrid transfer can be viewed as a combined influence on the same linguistic property, i.e., "a truly hybrid or amalgamated effect", or influence on distinct properties (2019: 220). The second type of hybrid transfer refers to influence happening from the L1 on one condition, and from the L2 on another condition. Both types of situations appear to be compatible with postulations about transfer happening at a property-by-property level, but not at a wholesale level.

4.2.1 The timing of transfer

The notions of wholesale transfer, as proposed by the Typological Primacy Model, and property-by-property transfer, as proposed by the Scalpel Model and Linguistic Proximity Model, strictly concern the timing of transfer itself, and therefore which acquisition stage(s) it is most likely to take place at. As will be explained in the next section, being grounded in the Full Transfer/Full Access model (FTFA) by Schwartz & Sprouse (1996), complete (wholesale) transfer should take

place at the initial state of L3 acquisition, as is the case for L2 acquisition. However, because in absolute terms the initial state of L3 acquisition should consists of both the L1 and L2 grammars, the TPM advocates (Rothman, 2015; Rothman *et al.*, 2019) later opted for the phrase *initial stages*, to address the time period in which full copying of the selected grammar can occur. This time period would not only coincide with the very first moments of exposure to the L3 system (the proper *initial state*), but, more generally, with the start of L3 exposure. During the initial stages, beginning learners are considered more prone to manifesting transfer effects in their interlanguage grammar, as Rothman *et al.* (2019) explain.

> […] the initial stages are a time at which the L3 interlanguage is at an obvious state of underspecification; thus, by definition, there will be more instances of transfer for us to examine. (Rothman *et al.*, 2019: 41)

However, attempting to establish a time window for the initial stages comes with a certain degree of approximation, which makes it hard to test potential wholesale transfer adequately. While acknowledging the relevance of pinpointing transfer effects at early (beginning) stages of L3 acquisition, a narrow focus on the initial state is no longer in place for the Scalpel Model and Linguistic Proximity Model's scholars, who also take into account developmental stages of L3 acquisition, seen as a dynamic process in which all known languages may transfer (Slabakova, 2017: Westergaard, 2021a,b,c). In the next sections, I detail the models' postulations, together with the relevant supportive literature, starting with the Typological Primacy Model.

4.3 The Typological Primacy Model (TPM)

The Typological Primacy Model (Rothman & Cabrelli Amaro, 2010; Rothman, 2011, 2015; Cabrelli Amaro, Amaro & Rothman, 2015; Rothman, Gonzáles Alonso & Puig-Mayenco, 2019) holds that morpho-syntactic L3 transfer happens at the start of the acquisition process in a holistic manner, can occur from either background language, and depends on the actual or perceived typological closeness of the L3 to the previously known languages. The TPM elaborates on the Full Transfer/Full Access model's (Schwartz & Sprouse, 1996) postulation that the initial state of L2 acquisition coincides with the final state of L1 acquisition, in that the L1 properties are fully transferred at the onset of the L2. The TPM similarly maintains wholesale transfer in L3 acquisition, notion being recently endorsed by Schwartz & Sprouse (2020) as well. More precisely, for the Typological Primacy Model transfer occurs as the parser has sufficient input to determine which language is most proximate to the L3, by assessing four linguistic cues, starting from the least ambiguous, in this order: i) lexicon, ii) phonology, iii) functional morphology and iv) syntactic structure (Rothman, 2015: 7). Once the selection has happened, the learner makes a full copy of

such grammar. Wholesale transfer can lead to facilitation, when the properties are similar, or non-facilitation, when the properties are different in the source language and target language.

As far as L3 acquisition is concerned, wholesale transfer is deemed by Rothman *et al.* (2019) to be the most efficient acquisition mechanism, as it provides the inexperienced multilingual mind with the linguistic system in its entirety rather than as a pool of selected properties. On this view, complete transfer is seen as the most economical cognitive process since the parser can rely on a fully transferred grammar, to parse the input. However, property-by-property transfer models (i.e., Scalpel Model and Linguistic Proximity Model) disagree with this idea, considering complete transfer redundant, and therefore unnecessary, as will be discussed in the next two sections.

As mentioned earlier, a central (but controversial) postulation of the Typological Primacy Model is that of 'initial stages', that initial period of time during which the L3 learner is first exposed to the target input, and complete L1 or L2 transfer is supposed to happen. Rothman *et al.* (2019) argue for the initial-stages' interlanguage grammar being of crucial interest for L3/Ln acquisition theories, as it constitutes the foundation of the subsequent developmental stages. This seems especially true in the case of developmental acquisition paths of learners from different language backgrounds, acquiring the same target language (Rothman *et al.*, 2019: 154). Specifically, testing learners at the initial stages would help distinguish between real representational transfer and acquisition of the target language itself. However, as highlighted by scholars advocating alternative L3 acquisition models (e.g., Westergaard, 2021b: 503), the concept of initial stages appears somewhat elusive in nature, since it proposes a circular idea hinging on the existence of a limited time window for wholesale transfer to occur. It follows that establishing an exact temporal span for testing the TPM predictions does not seem a straightforward operation either.

To address this circularity issue, Puig-Mayenco & Rothman (2020) proposed as ideal candidates to test representational transfer at the L3 initial stages *ab initio* learners. For them, *ab initio* learners differ from generally low proficiency ones in that the former have not received any amount of exposure to the target language prior to the start of instruction. Puig-Mayenco & Rothman (2020: 220) suggest verifying these facts by means of carefully designed background language questionnaires. Although such tools can certainly facilitate their recruitment, dealing only with *ab initio* learners so as to find evidence of initial-stages transfer may well limit the range of properties possibly being investigated, or the methodologies deployed in their investigation. To illustrate, in order to interpret the meaning of subject NPs (with or without articles) the learner would also need to comprehend a given context, for example a short story in an Acceptability Judgement Task. In such an experimental setup, a "more than a minimal" amount of exposure to L3 input is required for the learner to comprehend the full experimental items (i.e., context story

and test sentence). In other words, *ab initio* learners may successfully be examined on the constructions presented in their (2020) paper (i.e., negative quantifiers and negative polarity items), but methodologies that require greater L3 exposure for the learner to process the experimental material, or indeed detect structural similarities between background and target languages might not fit these very beginning acquirers. A detailed presentation of the (2020) Puig-Mayenco & Rothman paper is offered later in this section. For these reasons, we believe that a more flexible notion such as that of *early stages*, for example including beginning and elementary learners, would be able to capture L3 transfer effects on a wider range of properties and methodologies.[16] Within this time frame, the L3 interlanguage system is still very likely unstable, and therefore susceptible to crosslinguistic influence.

A number of studies provide empirical evidence for the Typological Primacy Model claims about holistic structural L3 transfer, many of which address the acquisition of L3 Brazilian Portuguese (BrP) of English/Spanish bilinguals (e.g., Cabrelli Amaro, Amaro & Rothman, 2015; Giancaspro, Halloran & Iverson, 2015; *a.o.*). For example, Cabrelli Amaro, Amaro & Rothman (2015) addressed the questions of L3 transfer at the initial stages of acquisition and its developmental trajectory, including possible recovery from initial negative effects. The study examined language combinations with a mirror image methodology, thus keeping the L3 (BrP) constant and alternating the L1 and L2 (i.e., L1 English–L2 Spanish and L1 Spanish–L2 English). They examined these triads on the acquisition of subject raising across experiencers (RExp). RExp is available in English and Brazilian Portuguese but disallowed in Spanish. This difference is attributed to the featural configuration of the functional category T(tense) in the embedded clause, being finite in Spanish and non-finite in English and Brazilian Portuguese. In these last two languages, the experiencer must raise to the matrix clause, to get nominative case (subject case) assigned by finite T. At the initial stages, both language groups rejected RExp in Brazilian Portuguese, exhibiting negative transfer from Spanish; that is, the learners showed negative influence from the background language typologically closest to Brazilian Portuguese (Spanish), in an overall fashion. Hence, beginning learners overlooked (facilitative) similarity between English and the L3 on this property. Additionally, this study also tested advanced L3 BrP learners with English as L1 and Spanish as L2, proving their convergence to the L3 grammar on this property, and therefore recovery from negative Spanish transfer in developmental stages.

In this regard, Cabrelli, Iverson, Giancaspro & González (2020) and Cabrelli & Iverson (2023) have more recently suggested that the amount of input received in each of the background languages (L1 or L2) determines how fast L3 learners can overcome possible negative transfer effects from

[16] According to the competence levels established by the Common European Framework of Reference for Languages (2001), beginning and elementary learners would match learners at A1 and A2 levels.

either language, and therefore converge to the L3 grammar. Specifically, they argue that recovering from non-facilitative influence takes longer when the cumulative input of a structure is greater in the language source of transfer than in the language that is not source of transfer (Cumulative Input Threshold Hypothesis). Such predictions would hold for any language combinations, on the basis of the language transferred in the first place. It must be noted that this hypothesis assumes that transfer originates from a privileged source language, as stipulated, for instance, by the Typological Primacy Model. However, it is less clear what the predictions of this hypothesis would be in case of hybrid transfer, for example with transfer occurring dynamically from both L1 and L2 on the same property.

A narrow focus on the initial stages of L3 acquisition is offered in the 2020 methodological article by Puig-Mayenco & Rothman, discussed earlier in this section. They examined data from highly proficient Catalan/Spanish bilinguals, with Catalan and Spanish being alternatively their L1 and L2. In these language triads, Catalan is argued to be the source language typologically closest to English, on the basis of phonological cues (e.g., Puig-Mayenco, Rothman & Tubau, 2022: 14). Puig-Mayenco & Rothman reported on the learners' performances in a Sentence-Picture Matching Interpretation task, testing the acquisition of negative quantifiers (i.e., n*obody*, *nothing*) and negative polarity items (i.e., *anybody*, *anything*) as subjects and objects of transitive verbs. Interestingly, each pair of lexical items is rendered with one item only in both Spanish and Catalan, but their interpretations vary by the context. Specifically, as preverbal subjects in the presence of sentential negation (e.g., *Nobody does not drink coffee*), English *nobody* and its Spanish equivalent *nadie* both give rise to a double negation interpretation. Instead, in the same syntactic context, the Catalan item *ningú* is only compatible with a single negation interpretation. On the other hand, in conditional contexts (e.g., *Laura will call us if Peter says anything*), English and Catalan behave similarly in that both lexical items (English *anything* and Catalan *res*) express an existential reading, but Spanish *nada* has a negative reading, which is the same as that expressed by English *nothing*. Thus, in conditional contexts, the Spanish item *nada* has always the same (negative) reading as the English quantifier *nothing*, while the Catalan item *res* always carries the same (existential) interpretation as the English polarity item *anything*. In the analysis of results, Puig-Mayenco & Rothman distinguished between true beginners, namely *ab initio* learners, and beginning learners who had some exposure to English prior to the start of instruction. Data revealed that Catalan was the only source of transfer for *ab initio* learners across conditions, but also showed evidence of hybrid transfer for the *non-ab initio* learners on negative quantifiers in conditional contexts. Here, the former group incorrectly interpreted the negative quantifier *nothing* existentially (i.e., they experienced negative transfer from Catalan only), while the latter group also showed a target-like interpretation of the quantifier as in fact expressing

negation (i.e., they experienced positive transfer from Spanish and negative transfer from Catalan). This holds for all the groups, regardless of order of acquisition of the background languages. In other words, only *ab initio* learners were observed to exhibit transfer from a single source (Catalan), in accordance with the TPM predictions about initial-stages wholesale transfer. Instead, learners with previous exposure to L3 English showed a dynamic transfer pattern from both background languages (Catalan and Spanish), on the same property. Therefore, only learners with no (or very little) exposure to the L3 seem to predominantly rely on one grammatical system to process the L3 input. These results lead the authors to conclude that indeed L3 exposure should be factored into methodologies that look at proper initial-stages transfer effects. That is to say, L3 exposure could be treated as a variable possibly predicting complete vs. dynamic transfer.

To summarize, the Typological Primacy Model maintains influence from one background language solely at the representational level (i.e., wholesale transfer), taking place at the initial stages of the L3 interlanguage grammar. On this account, transfer effects can be positive or negative, depending on (overall) typological closeness between background and target languages.

4.4 The Scalpel Model (SM)

In the Scalpel Model, Slabakova (2017, 2021) puts forward the idea of transfer being dynamic for the full L3/Ln developmental trajectory. The predictions that are made by the Scalpel Model for third language acquisition elaborate on those made by the Bottleneck Hypothesis (Slabakova, 2014) for second language acquisition. Specifically, the Bottleneck Hypothesis states that working out the form-meaning mappings of functional morphology is the core (and most challenging) task in the acquisition of a second language. This is because the functional morphology contains all the features that have to be reassembled, when they differ between the L1 and L2. Such mappings are in fact likely to be subject to much variation across languages. Once the learner has acquired the functional morphology, then learning the other linguistic modules would be easier since they are universal, although experiential factors such as input exposure and processing load can also differentially impact the acquisition process. As for L3 acquisition, the major claim of the Scalpel Model is that crosslinguistic influence happens property-by-property (like a “scalpel”) from either or both background languages, and therefore argues against initial wholesale transfer. Furthermore, Slabakova highlights that complete transfer is not the most economical mechanism, as otherwise contended by the Typological Primacy Model advocates (e.g., Rothman *et al.*, 2019; Schwartz & Sprouse, 2020). If transfer is wholesale, an entire grammatical system already available to the parser would be indeed blocked off or inhibited. This would be costly in terms of processing resources. The passage below illustrates her point.

> Why would the LAD/parser expend resources on blocking off some crosslinguistic influence that may turn out to be profitable later on? In fact, […] it may be more economical, as Amaral and Roeper (2014) suggest, to proliferate and then differentiate sub-grammars. (Slabakova, 2017: 8)

In this regard, Slabakova (2021: 97) reiterates that the TPM stipulation about the initial decision in fact may not always be beneficial to the L3 acquisition process. Indeed, if we assume that one language only is initially selected by the parser, this implies that the language not chosen remains inactive. As such, the unselected language cannot serve as a source of transfer, even when transfer would be helpful.

On the Scalpel Model account, property-by-property influence is made possible by the availability and activation of all (sub)grammars from the previously acquired languages, all of them contributing to the L3 learner's cumulative linguistic competence. This is because grammatical knowledge is functionally interconnected in the mind of a multilingual individual. In this regard, it is noteworthy to mention that Rothman *et al.* (2019: 149–151) do not fully reject the idea of mental grammatical resources other than those coming from the language selected for transfer remaining accessible. However, for them, such activation would not be strong enough to prevail over complete transfer, at least at the initial stages of L3 acquisition. The original claim of the Scalpel Model is, then, that the background languages' activated grammars jointly function as a scalpel in selecting the property to be transferred, to enhance L3 acquisition. Moreover, for the Scalpel Model, as is the case for the development of the L2 grammatical system, other variables can be involved in L3 acquisition too, for example external factors such as construction frequency and positive evidence. For instance, even in the presence of structural similarities between languages, the low frequency of a given construction may hinder the precision of the "scalpel", causing negative influence. In other words, the potential benefits deriving from structural proximity may be trumped by the property characteristics itself, which could compromise successful L3 knowledge outcomes (Slabakova, 2017: 12).

For the Scalpel Model, then, each of the background languages could be selected for transfer on the basis of typological similarity to the L3, to ease the acquisition process, although external factors may potentially undermine such facilitation. In this regard, scholars have questioned the model's predictive validity, pointing out that it does not seem certain how a language would be selected for transfer (Bardel, 2019; Rothman *et al.*, 2019). In particular, Rothman *et al.* (2019: 234–235) consider unclear what weight external variables have in the model so as to make testable predictions, especially on non-facilitative effects. They, however, acknowledge the epistemological value of such factors for defining developmental patterns in L3 acquisition. On

the contrary, we believe that external variables such as input frequency (i.e., grammaticalization) and immersion can be successfully factored in the model, and testable predictions related to specific circumstances of acquisition can be made, as the reader will see in Chapter 5.

The Scalpel Model is supported by findings from studies on populations of the triads L1 Basque–L2 Spanish–L3 English and L1 Spanish–L2 Basque–L3 English (García Mayo & Slabakova, 2015; Slabakova & García Mayo, 2015). In their (2015) paper, Slabakova & García Mayo investigated discourse-syntax constructions, including topicalization and left dislocation, for the triads aforementioned. In the Spanish topicalization (Clitic Left Dislocation), the fronted constituent is doubled by an argumental clitic. Conversely, in English and Basque there is no pronoun doubling. On the other hand, left dislocation requires an adjunct phrase and an underlying argumental pronoun in English and Spanish, but not in Basque. Both language groups (advanced in English) had difficulty with the topicalized constructions only, rated around the middle of the scale in both grammatical and ungrammatical conditions, suggesting detrimental transfer from Spanish. Low frequency and ambiguity of English topicalization might have impeded facilitative transfer from Basque, which would be otherwise expected on the basis of property-by-property influence solely. As Slabakova (2017: 9–10) highlights, when investigating more salient constructions such as overt and null objects, data straightforwardly point to (facilitative) property-by-property transfer. This is what García Mayo & Slabakova (2015) observed in their study on (mostly) advanced learners of L3 English, with the same language combinations, on the acquisition of pronominal objects. On this property, English and Spanish behave alike, with (standard) English disallowing null objects across the board and Spanish optionally allowing them in limited semantic environments (i.e., generic contexts). In Basque, instead, object pronouns can be dropped in any contexts. Both the L1 Spanish–L2 Basque and the L1 Basque–L2 Spanish rated significantly more highly overt than non-overt pronouns, showing successful acquisition of English objects, thanks to positive transfer from Spanish. Therefore, in these populations, (abstract) structural similarities between English and Spanish triggered facilitative transfer from Spanish, irrespective of order of acquisition of the L1 and L2.

All in all, while both the Typological Primacy Model and the Scalpel Model share the possibility of transfer being facilitative or non-facilitative (albeit for different reasons), only the SM hypothesizes property-based transfer from early on in L3/Ln acquisition. In addition, for the SM, external factors (e.g., construction complexity and frequency) may also impact (facilitative) transfer trajectories based on property-by-property similarities between languages. In the next section, I discuss the Linguistic Proximity Model, which theorizes dynamic transfer, alongside the Scalpel Model. I also present additional studies in support of both models.

4.5 The Linguistic Proximity Model (LPM)

In the same research vein as the Scalpel Model, the Linguistic Proximity Model (LPM) (Westergaard *et al.*, 2017; Westergaard, 2021a,b,c) proposes crosslinguistic influence from either or both previously acquired languages, based on abstract structural similarities, playing a major role over perceived typological closeness as proficiency increases. Westergaard (2021a) grounds her analysis of the development of the L3 system in her Micro-cue Model. According to this model, language learning is incremental, and occurs through parsing. Because learners are sensitive to subtle distinctions in the grammar (micro-cues), crosslinguistic influence at the initial stages of L3 acquisition is unlikely to be full or wholesale. Rather, she introduces the notion of Full Transfer Potential, by which any property of the L1 or L2 can be transferred to the L3 as such grammars are always accessible. As Westergaard (2021c) puts it, "[…] the LPM argues for *Full Transfer Potential*, i.e., that the complete grammar(s) of previously acquired languages remain active and available for crosslinguistic influence. (Westergaard, 2021c: 3)

As shown in FFigure 1 below, according to the LPM, the L3 acquisition process happens in a stepwise fashion, with the learner incrementally adding more micro-cues to his/her L3 grammar, by parsing both background languages. When the parser cannot find a micro-cue in the L3 input that matches either the L1 or the L2, it resorts to Universal Grammar (UG).

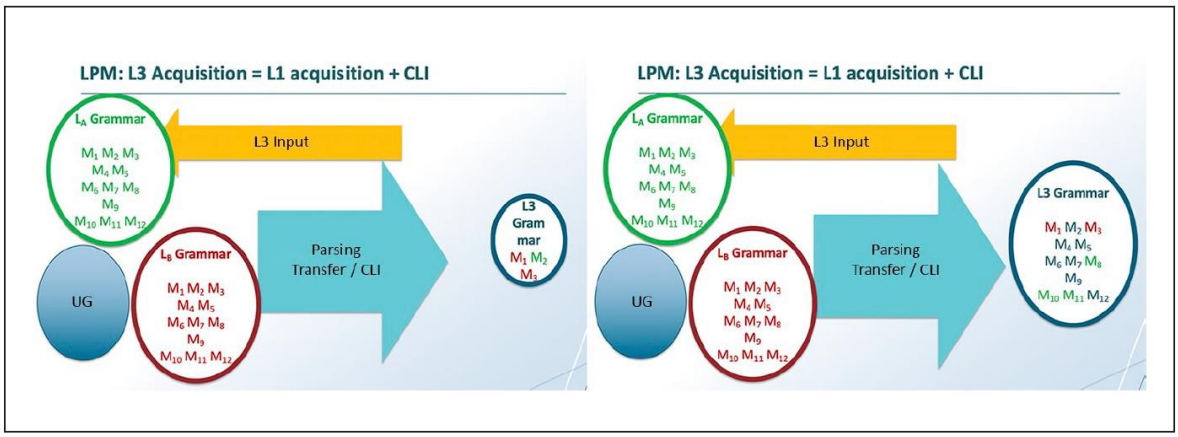


Figure 1: Visualization of L3 learning by parsing according to the LPM (Westergaard, 2021a: 395)

The Linguistic Proximity Model shares with the Typological Primacy Model and the Scalpel Model the idea of transfer being non-facilitative or facilitative. Whereas for the TPM non-facilitation can come as a result of wholesale transfer, for the SM and LPM the intrinsic advantage purportedly deriving from incremental parsing, and therefore property-based influence, may be overturned by other factors, as stated in the previous section. While for the SM such factors could be (low) input frequency, for the LPM this factor is input misanalysis. In other words, non-facilitation might stem

from the learner's misanalysis of L3 input, particularly at the early stages of acquisition. Indeed, because the representations of L3 properties are likely to be unstable in the L3 interlanguage of beginning learners, their parsing could well be driven by surface resemblance (i.e., lexical similarity) between the L1 or L2 and the L3. As learners receive more exposure to the L3, though, abstract structural similarities would prevail over surface typological closeness in determining crosslinguistic influence. Therefore, while sharing with the TPM the idea of surface proximity initially playing a major role over (syntactic) structural similarities, the LPM does not consider the hierarchy of such linguistic cues to be fixed (see Section 4.4). This is because syntactic properties have different degrees of saliency, and similarities between simple or more salient constructions may be detected earlier than lexical ones (Westergaard, 2021a: 394–395). Importantly, the notion of structural proximity advanced by the LPM does not imply identity but rather similarity between micro-cues, thus there might be subtle differences between similar properties that could potentially lead to non-facilitative effects (Westergaard, 2021a: 395-396). For instance, regarding the properties investigated herein, in Spanish and Italian, plural generic subjects present the same structures (i.e., definite phrases), whilst plural existential subjects have similar (but not identical) structures (i.e., indefinite phrases). Indefinite plural phrases are similar in that they present an overt determiner in both Spanish (e.g., *unos*) and Italian (e.g., *dei*), but are not identical, since the Italian indefinite determiner is partitive, and has a different lexical form.

In sum, taken together, the Scalpel Model and the Linguistic Proximity Model argue against the Typological Primacy Model postulation of initial-stages wholesale transfer, seen as an unnecessary operation, given the coactivation of all the languages acquired by a multilingual individual. Rather, they propose property-by-property influence as an underlying mechanism, that should generally facilitate acquisition, functioning throughout the developmental span. Like the TPM, the SM and LPM discuss the possibility of non-facilitative influence. However, for the latter models possible negative effects would be due to reasons related to input qualities or misanalyses, as opposed to complete transfer.

Empirical evidence in support of the Linguistic Proximity Model comes from the 2017 paper by Westergaard and colleagues, who examined L3 acquisition of English in a bilingual context with Norwegian and Russian as L1s. They applied the subtractive language methodology, by also including two groups of child L2 English learners with L1 Norwegian and Russian, investigated on properties related to V2 (verb-second) word order, a phenomenon of the Norwegian grammar. In Norwegian, the finite verb moves to the second position of the clause (left periphery), both in declaratives and questions. This determines Verb-Adverb word order and Subject-Auxiliary Inversion in Norwegian. On the other hand, English and Russian are non-V2 languages, and therefore display Adverb-Verb word order, with the verb being below the adverb. However,

unlike Russian but similarly to Norwegian, modern English exhibits Subject-Auxiliary Inversion, which has survived throughout diachronic changes. Thus, in English adverbs typically precede a finite verb like in Russian, whilst in questions the subjects follow the auxiliary similarly to Norwegian. Despite English being (overall) typologically closer to Norwegian, the learners exhibited transfer from both L1s on the acquisition of adverb placement. It may be worth noting that, given the status of Norwegian and Russian as L1s for the trilinguals examined in this study, the prior linguistic knowledge of this group obviously does not include a second language. Although this is unproblematic for demonstrating property-based transfer effects from either or both background languages, this population does not look compatible to address a possible role of the L2 in the L3 acquisition outcomes (see Bardel & Falk, 2020: 461–462, for a similar observation).

More recent data backing up the Scalpel Model and Linguistic Proximity Model predictions about L3 property-by-property influence are presented in studies on child (Jensen, Mitrofanova, Anderssen, Rodina, Slabakova & Westergaard, 2021; Kolb, Mitrofanova & Westergaard, 2022) and adult (Lloyd-Smith, 2020; Vallerossa, Gudmundson, Bergström & Bardel, 2021) L3 acquisition. Following Westergaard *et al.* (2017), Lloyd-Smith (2020) addressed the acquisition of L3 English of adult German-Italian bilinguals dominant in German, comparing their performances in each known language with those of monolinguals. This research includes several experiments that investigated multiple linguistic domains, i.e., phonology and syntax. As far as the study on syntactic properties, participants were assessed on a phenomenon (embedded *wh*-questions) that presents a three-way asymmetry across the languages investigated. On the one hand, English and German pattern alike with respect to verb placement in that the subject cannot be postverbal. So, in English and German embedded *wh*-questions the subject must precede a finite verb (WH–S–V[+fin]). Conversely, in Italian the word order WH–V[+fin]–S is the unmarked option, and therefore the *wh*-element can be adjacent to the finite verb. On the other hand, English and Italian behave similarly in that the verb phrase (VP) is head initial, as opposed to German head final VPs. In other words, English and Italian have VO (verb-object) word order, with the object following the verb, while in German the object precedes the verb (OV). Results from an Acceptability Judgment Task revealed negative influence from Italian in the acceptance of incorrect WH–V[+fin]–S order in English. The fact that the bilinguals' acceptance rate (14.5%) is closer to that of the Italian monolinguals (18.7%) than the German monolinguals (5.4%) is argued to be supportive of such interpretation. Crosslinguistic influence from German is also plausible in the bilinguals' acceptance of incorrect OV items, although both the German and Italian monolinguals performed similarly on this property, possibly due to issues with some items' design. Indeed, ruling out the possibility of Influence from German appears unrealistic, seeing the

participants are German dominant, as the authors convincingly contend. This study offers further support for hybrid transfer (i.e., transfer from both background languages). However, data on the early stages of L3 acquisition are not provided by this research. Interestingly, the patterns for syntactic transfer here described is found to be constant for these participants, regardless of proficiency in the heritage language (Italian), raising relevant questions about the role of individual variables such as dominance across linguistic domains.[17]

4.6 Testing wholesale vs. property-by-property transfer

In order to determine patterns of crosslinguistic influence, the Typological Primacy Model, on the one hand, and the Scalpel Model and Linguistic Proximity Model, on the other hand, endorse different (but possibly complementary) methodologies. In particular, to test the occurrence of wholesale transfer, the TPM proponents developed a *language-mirror design*, which includes two groups with the same L3 but whose L1 and L2 are being alternated, as was the case for the studies presented above. For instance, the Cabrelli *et al.* (2015) study included two groups of learners of L3 Brazilian Portuguese, one group consisting of L1 English–L2 Spanish speakers, and the other of L1 Spanish–L2 English speakers. More specifically, this design aims to tease apart order of acquisition from typological proximity as predictors (e.g., Puig-Mayenco *et al.*, 2020: 49). On their view, If the two mirror groups' performances do not differ significantly on a given property, this would indicate that order of acquisition should not be taken as an explanatory variable.

Although deploying language-mirroring groups can successfully address these two factors (i.e., order of acquisition, typological proximity), such methodology appears less effective in singling out property-based transfer. To this end, the SM and LPM scholars (Westergaard, Mitrofanova, Rodina & Slabakova, 2023: 227–229) propose a *subtractive language design* as the most appropriate methodology to pinpoint the influence of an individual language (L1 and/or L2) on the L3. This methodology presents three groups, namely one group of L3 learners and two groups of L2 learners, whereby the L2 and the L3 are the same. The L1s of the two L2 groups would be the same as the L1 or the L2 of the trilinguals too. For example, considering the current study, a possible trilingual group could include L1 English–L2 Spanish–L3 Italian learners, while the two L2 groups should be L1 English–L2 Italian and L1 Spanish–L2 Italian learners. This way, one could compare the trilinguals and the bilinguals' performances on properties that the target language shares with one of the background languages only. If the trilinguals behave significantly differently from the bilinguals' groups, this would mean that the subtracted language (e.g., English for the L1

[17] As to the experiments on phonology, despite German being the main source of transfer on English accent, high use of Italian is also observed to correlate with transfer from this same language.

Spanish–L2 Italian group) does exercise an influence over the L3. Westergaard and colleagues also advance the possibility of combining these two types of design for a comprehensive investigation of the relevant factors (i.e., order of acquisition, property-by-property vs. wholesale transfer). Despite acknowledging the benefits of such methodological proposals, finding participants with the desired language profiles could be no easy task. This seems especially true when the target language is very often learnt as a third/additional language rather than a second language, as is the case for Italian in Spain or the UK, with respect to the populations investigated herein.

I now illustrate another L3 acquisition model, the L2 Status Factor, which is relevant for our participants. This model points to order of acquisition as being a stronger factor than typology in determining the L3 knowledge outcomes.

4.7 The L2 Status Factor (L2SF)

Among the L3 acquisition models discussed in this dissertation, it seems important to consider the L2 Status Factor (L2SF) (Bardel & Falk, 2007; Bardel & Sánchez, 2017; Falk & Bardel, 2010, 2011; Falk, Lindqvist & Bardel, 2015), since its predictions capitalize on the sociolinguistic and cognitive characteristics of the L2, especially when it is a foreign language learnt through classroom instruction. This is indeed the case for the populations investigated herein. More specifically, the L2SF would refer to the higher likelihood of adult learners to activate their second language than their first language in the learning process of a third language. This is because, when both the L2 and L3 are learnt as foreign languages in formally instructed settings, adult learners would deploy similar cognitive mechanisms, and similarly develop learning strategies and metalinguistic awareness in these processes (Falk & Bardel, 2010: 191–192).

Figure 2 below illustrates the key components to the acquisition of the L1, L2 and L3, according to the L2SF. While an interaction between the genetic endowment for language (LAD or parser) and input generally sustains such process, other factors come into play as the learner acquires more languages. For instance, the previous linguistic knowledge of L3 learners is wider than that of L2 learners, in that the latter have at their disposal the L1 grammatical repertoire only, when acquiring the target language. In L1 acquisition, obviously, the learner cannot rely on any previously known grammars to parse the input. For the L2SF, what clearly distinguishes L3 acquisition would be the availability to L3 learners of strategies and awareness previously gained during L2 acquisition. This factor specifically points to cognitive similarities between L2 and L3 acquisition, in particular when both languages are learnt in the classroom.

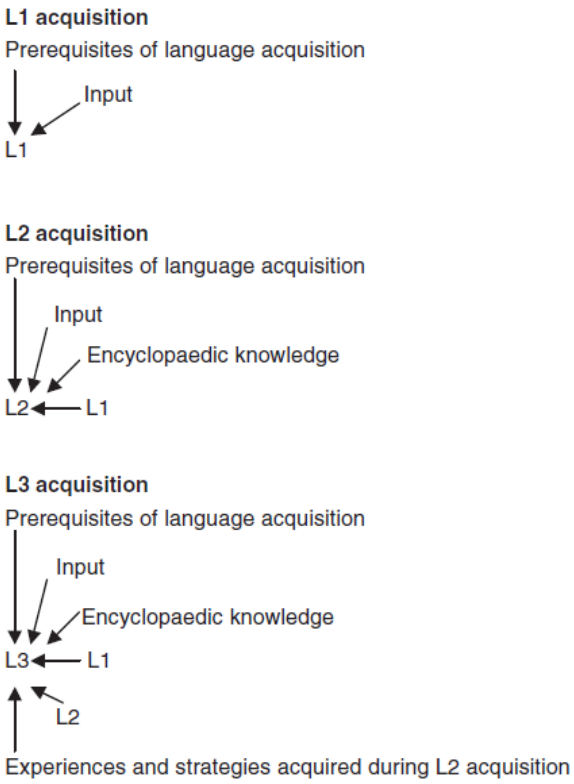


Figure 2: Visualization of the factors involved in L1, L2 and L3 acquisition (Falk & Bardel, 2011: 62)

The L2 Status Factor is grounded in the neurolinguistic literature that points to a distinction between the ways in which L1 and L2 are processed in the brain (e.g., Paradis, 2009). This literature argues that, when acquiring their first language, children make use of procedural memory for processing syntax, developing implicit knowledge, and declarative memory for vocabulary, developing explicit knowledge. On this view, the cognitive processes backing adult acquisition of an L2 would be associated with explicit knowledge, because the learners are explicitly taught the language. So, adult L2 learners would deploy the same cognitive mechanisms (declarative memory and explicit knowledge) for learning both grammar and vocabulary, as opposed to children's use of declarative memory to mainly acquire vocabulary. Elaborating on this, the L2 Status Factor maintains that, in analogous learning conditions (i.e., classroom learning), L3 learners deploy the same mechanisms as those engaged during L2 acquisition. As a result, the L2 should be the background language being activated to a greater extent, and therefore be the privileged source of transfer to the L3. It is important to highlight that the L2SF does not completely rule out a possible role of L1 in determining L3 morphosyntactic transfer. Rather, when explicit metalinguistic knowledge in the L1 is high, the L1 may even outrank the L2 as a source language for transfer (Falk *et al.*, 2015). Specifically, they define metalinguistic knowledge "as the conscious knowledge about the linguistic rules of a particular language" (2015: 229). Hence, in the revised version of the L2SF, the degree of metalinguistic knowledge in each of

the background languages would be seen as a stronger predictor of transfer at the initial state of L3 acquisition.

The L2 Status Factor has been corroborated by data sets on properties related to word order in production (Bardel & Falk (2007) and comprehension (Falk & Bardel, 2011). In their 2007 paper, Bardel & Falk examined the placement of sentential negation in Swedish or Dutch as L3. In these two Germanic languages (as well as in German), the negative marker is placed after the main clause verb (be it lexical or auxiliary), which raises to the complementizer phrase (CP), ending up in V2 (verb second) position. They assessed production data obtained at the initial state of L3 Dutch or Swedish, during the first lesson in the target languages. The participants were all taking classes of the L3 in an institution. They all shared a V2 language as L3, but their background languages were alternated in the following way. Some participants were L1 speakers of Dutch, German or Swedish and had 'strong' knowledge of a non-V2 language, namely English, Albanian, Hungarian or Italian. In these last three languages, the negation always occurs pre-verbally. Instead, the English word order partially overlaps that of V2-languages since the negation follows the auxiliary, and that of non-V2 languages since the negation precedes the lexical verb (e.g., *Mary has not spoken*). The other participants presented the opposite profile as to negation patterns in their L1 and L2. In this study, Bardel & Falk tested the "L2 transfer hypothesis", originally formulated by Williams &Hammarberg (1998) about lexical transfer. On this syntactic property (negation placement), the L2 transfer hypothesis predicts that the learners whose L2 is a V2-language would be target-like in their post-verbal use of the negation in the L3, while those whose L2 is a non-V2-language would incorrectly use the negation before all types of verbs (or before lexical verbs, if their L2 is English). Overall, their data support these predictions, indicating that the properties of the L2 were transferred to the L3, causing positive effects when the properties were the same and negative ones when they (partially) differed in the two languages. On the basis of these results, the authors ruled out typological proximity as being a strong predictor of transfer patterns, as the learners with a V2-language as L1 did not benefit from structural similarity between the L1 and L3, on this property. Rather, they suggest that typological proximity can in fact play a role mostly when the language structurally closest to the L3 is the L2, but not the L1. Data from the learners with English as second language, though, are not as straightforward as those from learners with Dutch or German as L2.

Further evidence in support of the L2 Status Factor is offered in a study on object placement in German, aiming to take a closer look at the learners' metalinguistic knowledge with a Grammaticality Judgment and Correction Task (GJCT) (Falk & Bardel, 2011). This study included intermediate learners of L3 German, advanced in their L2, with French and English being alternatively their L1 and L2 (i.e., mirror groups). This setup is an improvement to that deployed in

their 2007 paper, with clearly defined language combinations that could probe the role of the L1 and L2 as to which background language is likely to be source of transfer to the L3. In German, pronominal objects are placed in a postverbal position in the main clause and in a preverbal one in the subordinate clause. On the other hand, in English object pronouns follow the verb, while in French they precede it, both in main and subordinate clauses. Thus, German patterns together with English on pronominal object placement in main clauses, and with French in subordinate clauses. Results from the GJCT reveal that the two groups of learners performed significantly differently in assessing both grammatical and ungrammatical sentences, with judgments that can be traced back to object placement in their L2, regardless of their correspondence to the L3. Specifically, the L2 English correctly rejected main clauses with preverbal objects, while the L2 French incorrectly accepted them. Likewise, subordinate clauses with postverbal objects were correctly rejected by the L2 French and incorrectly accepted by the L2 English. As to the grammatical conditions, data on main clauses with postverbal objects clearly indicate that the L2 English correctly accepted this order and the L2 French incorrectly rejected it. Data on grammatical subordinate clauses with preverbal objects, though, are less robust since both L2 groups correctly accepted them, although the L2 French did better than the L2 English. Taken together, these findings point to a stronger role of the L2 in determining transfer to the L3, even at intermediate stages of L3 interlanguage grammar, prevailing over structural closeness, also in cases when this would sustain L3 acquisition.

Nonetheless, as illustrated throughout the chapter, a large body of research has demonstrated that typological closeness is the most likely trigger of transfer in L3 acquisition, among language combinations and linguistic domains, irrespective of order of acquisition of the background languages. Moreover, similarly to their research, various studies have examined adult populations with an alternated order of acquisition of the L1 and L2, and exposure to classroom teaching in the L2 and L3 (e.g., Cabrelli Amaro, Amaro & Rothman, 2015; García Mayo & Slabakova, 2015; Montrul, Dias & Santos, 2011; Puig-Mayenco, Rothman & Tubau, 2022), in fact disproving a special status of the L2 in driving initial and developmental L3 crosslinguistic influence. Having established this, we do not rule out the possibility that, under specific usage conditions, the second language of formally instructed L3 learners may occasionally override their first language in shaping transfer patterns, even if the L1 is structurally closer to the L3. This scenario will be discussed in detail in Chapter 7.

To summarize, the L2 Status Factor postulates a stronger role of the L2 in driving crosslinguistic influence to the L3 interlanguage system, be it positive or negative. Such privileged status of the L2 over the L1 stems from cognitive processes and learning mechanisms considered to be shared between the L2 and L3, especially when learned as foreign languages in the classroom. In the

model stronger formulation, L2 status should outrank other possible predictors of transfer such as structural proximity between languages, diverging from the TPM, SM and LPM on this point. Finally, evidence of transfer originated from the L2 as a privileged source is mostly associated with multilinguals that are advanced in their L2.

4.8 L2 proficiency and transfer from L2

In the previous section, I showed that systematic L2–L3 transfer effects are associated with a good mastery of the L2, as more recent data also generally indicate (Bardel & Sánchez, 2020; Eibensteiner, 2022). However, transfer from the L2 interlanguage, i.e., the developing L2 system, has also been attested. Presented in Bardel & Sánchez's book, a study by Sánchez (2020) investigated the relationship between L2–L3 transfer and specific L2 proficiency, namely specific knowledge of the targeted properties in the L2. She assessed how multilingual middle school pupils' specific knowledge of structural properties related to OV (object–verb) word order in L2 German is transferred to their L3 English. The participants were early bilinguals of Spanish/Catalan and were simultaneously learning the L2 and L3 at school. A corpus of written data elicited through a Picture Story Telling Task, appropriately administered in both German and English, showed instances of (interlanguage) transfer from L2 German to L3 English for pupils both with low and high specific proficiency in L2 German. For example, learners exhibited a German-like syntactic pattern in producing verbs in final position (VFINAL) in embedded clauses, e.g. "When the brothers in the picknick *are*" (Sánchez, 2020: 213). This word order is disallowed in the target language (English), as well as in their L1s (Spanish/Catalan). However, she observed that, on this construction, the mean occurrence of L2 transfer was higher when associated with low levels than high levels of specific proficiency in L2 German. Thus, the learners who did not have a good mastery of VFINAL in their German interlanguage showed a higher incidence of L2 transfer than those who did master this construction well. To illustrate, pupils with low L2 proficiency on VFINAL would produce instances like "because the dog *is* the food *eating"* (Sánchez, 2020: 213). In German, the whole Verb Phrase should be placed in final position in embedded clauses. Here, instead, the learners kept the same word order that is expected in the main clause, roughly following a V2 -pattern. The author argues that this is an error of rule overgeneralization, from the main to the embedded clause. This was more often the case when learners were also generally not very proficient in L3 English. Hence, Sánchez (2020: 228-231) maintains that the L2 interlanguage structures may be transferred to the L3, when both language systems are still developing. Previous research on the L3 initial stages has also highlighted that not fully acquired L2 properties may impact the L3 transfer trajectory (see Hermas, 2010).

In sum, L2 interlanguage transfer may have some explanatory power over performance in the L3. However, it cannot explain the specific impact of the L2 as a fully established system, since the interlanguage representations are likely to be unstable, and may result from L1 transfer (Hermas, 2010).

4.9 The negative transfer prediction for this study

Rothman *et al.* (2019: 152) highlight that it is hard to distinguish between facilitation and target language acquisition beyond the initial stages. In early L3 acquisition of Italian generics, both TPM and SM/LPM would predict facilitation from Spanish on generic subjects, since these two languages have the closest lexicon in the triads and share the same syntactic cues. Therefore, this property alone does not suffice the testing of the models' predictions about holistic vs, property-based transfer. On the other hand, number neutral (NN) objects provide a more suitable case, as the distinctive behaviour of Spanish on this property may trigger negative effects to L3 Italian. Hence, in this study, NN objects constitute the key condition where negative influence may manifest. Specifically, n*egative transfer* is expected by both sets of models at different degrees of strength on (ungrammatical) Italian singular bare objects. By focusing on non-facilitation, then, we will also be able to look more closely into the developmental trajectory of the L3 interlanguage system, with negative transfer effects possibly lingering over at more advanced stages. As to the L2 Status Factor, its predictions point to influence from the L2, regardless of structural proximity between languages (i.e., influence from Spanish for the L1 English trilinguals and from English for the L1 Spanish trilinguals), and therefore are not examined here. The predictions for L3 acquisition of Italian generic NPs will be comprehensively discussed in Chapter 5.

Following Lloyd-Smith (2020: 88), I call the prediction on Italian NN objects the *Negative Transfer Prediction*. Italian expresses these objects through definite singulars, with bare singulars being ungrammatical. Similarly to Italian, English requires an overt determiner, disallowing bare nouns, while Spanish behaves dissimilarly from both languages, in that bare singular objects are possible. For L3 Italian beginners, we can generally hypothesize negative transfer from Spanish, for its lexical closeness to Italian. Lexical similarities would cause surface negative transfer for both TPM and SM/LPM, but transfer would be more pronounced for the former. Specifically, while the Typological Primacy Model postulates transfer from Spanish only (i.e., wholesale transfer), the Scalpel Model and the Linguistic Proximity Model also maintain possible facilitative influence from English (i.e., hybrid transfer), on this property. It should be noted that the noun phrases deployed by Italian and English to express NN (weak) readings are similar in that they present an overt determiner but are not identical, with Italian using a definite article and English an indefinite one. Hence, these facts may also undermine facilitation from English at the early stages. To sum up, on

number neutral objects, negative Spanish influence is expected to mostly manifest in the acceptance of impossible Italian *bare singulars (BSs)*. While for the Typological Primacy Model ratings on bare singulars will be high (indicating their acceptance), for the Scalpel Model and Linguistic Proximity Model their judgments will be indeterminate, with English facilitation counterbalancing negative Spanish transfer. Table 5 displays the availability of BSs in these three languages, and Table 6 the *Negative Transfer Prediction* for these nouns.

Table 5: Availability of object bare singulars (BSs) in English, Spanish and Italian

Example of test sentence	**English**	**Spanish**	**Italian**
*Giovanni ha **casa** al mare. 'Giovanni has house by the sea.'	X	√	X

Table 6: Models' predictions on bare singulars (BSs) in early L3 acquisition stages

Bare Objects	**Transfer from Spanish**	**Transfer from English**
TPM	Negative	N.a.
SM/LPM	Negative	Positive
L2SF	Negative (L1 English–L2 Spanish)	Positive (L1 Spanish–L2 English)

As far as typology-driven transfer is considered, what Table 6 clearly indicates is that English is likely to play a facilitative role in the acquisition of the ungrammaticality of bare singular objects in L3 Italian, countering negative effects from Spanish, from early on. This is hypothesized by the Scalpel Model and the Linguistic Proximity Model only. On the other hand, for the L2 Status Factor, the second language would be the main source of influence, being negative from Spanish, for the L1 English trilinguals, and positive from English, for the L1 Spanish ones.

4.10 Summary

In this chapter, I presented the most current L3 acquisition models, whose predictions hinge on the idea of typological proximity being the key factor triggering transfer patterns in the L3 knowledge outcomes, but differ with regard to how and when transfer actually happens, i.e., on its timing and manner. Specifically, the Typological Primacy Model (TPM) argues for initial-stages wholesale (complete) transfer, happening from one source language only on the basis of overall typological similarity between languages. Instead, the Scalpel Model (SM) and the Linguistic Proximity Model (LPM) hold that transfer is dynamic (property-by-property), being triggered by abstract structural similarities, from the start of L3 acquisition onwards. For the last two models, misleading input, for instance due to construction complexity or lexical similarities, may counter facilitative property-based influence, possibly hindering the L3 acquisition process. Hence, whereas for the TPM non-facilitation results from the target properties being different from those

of the language initially copied, for the SM and LPM negative transfer effects can be attributed to L3 input misanalyses. In addition, we also considered the hypotheses of the L2SF, due to their relevance for the sociolinguistic characteristics of the populations investigated in this dissertation. That is, our participants are adult classroom learners of the L2 and L3, mostly studied as foreign languages. This type of L2 and L3 learners are deemed to share cognitive mechanisms and learning strategies that distinguish them from other populations, for example L1 or naturalistic L2/Ln acquirers. The main claim of the L2SF is that the L2 has a privileged role in determining crosslinguistic influence in early L3 acquisition, given the high degree of explicit metalinguistic knowledge in such language, determining facilitative or non-facilitative effects.

The chapter ends with an insight into the *Negative Transfer Prediction* on Italian number neutral objects, with the TPM and SM/LPM hypothesizing initial Spanish non-facilitation on ungrammatical bare singulars. For the TPM, negative Spanish effects would be more pronounced, because of transfer originating from Spanish solely (wholesale transfer). For the SM and LPM, negative Spanish influence would be counterbalanced by positive influence from English (hybrid transfer). A comprehensive account of the predictions on the acquisition of L3 Italian generic NPs is given in the next chapter, which describes the methodology deployed to answer the research questions of this study.

Chapter 5 Experimental design

5.1 Introduction

This dissertation aims to investigate L3/Ln acquisition of Italian NPs (noun phrases) with kind reference, pinpointing possible transfer trajectories from the background languages (English and Spanish) to the L3 (Italian). In particular, I am seeking to answer the following research questions:

General research question

1) How does L1 or L2 knowledge influence the acquisition of a third or additional language knowledge of different expressions of kind and generic meanings?

Specific research questions

2) What is the most probable transfer trajectory in early acquisition of L3 Italian? In particular, i) Is transfer likely to be wholesale or property-by-property? and ii) Is it only facilitative or can it be non-facilitative as well?

3) How does transfer develop at more advanced stages?

4) In what ways do external factors modulate the L3 acquisition of generics? That is, i) To what extent is grammaticalization facilitative? and ii) How does L1/L2 experience impact L3 acquisition?

The participants in this study were university learners of (L3) Italian, who studied it as a foreign language in their country of residence. They would also have knowledge of English or Spanish as a second language, typically learnt through formal instruction. Specifically, our population included a group of L1 English–L2 Spanish trilinguals, tested in England, and a group of L1 Spanish–L2 English trilinguals, tested in Spain. In Section 4.9, I highlighted the *Negative Transfer Prediction* on ungrammatical Italian bare singular objects as the key condition that would allow us to differentiate between the TPM (Typological Primacy Model) predictions, on the one hand, and those of the SM (Scalpel Model) and LPM (Linguistic Proximity Model), on the other hand. In this condition, at L3 Italian early stages, the TPM would expect negative influence from Spanish, whose grammar would be transferred as a whole. At the same acquisition stages, the SM and LPM would similarly hypothesize the occurrence of negative Spanish transfer, on the basis of surface (lexical) similarity between the two Romance languages. Unlike the TPM, though, these two models would also predict positive influence from English since bare singulars are impossible in both English and Italian. In other words, the two sets of models maintain that transfer happens on

the basis of structural similarity, be it at an overall level (TPM) or property-by-property level (SM and LPM). Instead, according to the L2 Status Factor (L2SF), the status of the second language as a formally taught foreign language would outrank structural proximity in determining patterns of crosslinguistic influence from the L1 or L2 to the L3. In general, the L2SF would predict influence from English for the L1 Spanish–L2 English group and from Spanish for the L1 English–L2 Spanish group. Therefore, as regards Italian bare singular objects, the L2SF would expect the L1 English trilinguals to experience negative influence from Spanish, and the L1 Spanish trilinguals positive influence from English. In a nutshell, the L1 Spanish would outperform the L1 English, due to the facilitative influence deriving from L2 English.

I now turn to reviewing the models' predictions about the acquisition of the properties investigated in L3 Italian, namely subjects with kind and generic readings, subjects with existential readings and objects with number neutral (weak) readings (see Table 7). As Table 7 shows, the only model distinguishing between participants' groups is the L2SF. For ease of presentation, I place in brackets the group for which facilitation is expected, with the implication that non-facilitation is predicted for the language-mirroring group.

Table 7: Predictions on the properties' acquirability by the relevant L3 acquisition models

	TPM	**SM & LPM**	**L2SF**
Kind-referring and generic subjects	Easy	Easy	Easy (L1 English–L2 Spanish)
Existential subjects	Moderately easy	Moderately easy	Moderately easy (L1 English–L2 Spanish)
Number neutral objects	Moderately hard	Moderately easy	Moderately easy (L1 Spanish–L2 English)

On kind-referring and generic subjects, both TPM and SM/LPM predict that acquisition will be easy, thanks to positive influence from Spanish. In comprehension, this means acceptance of definite plurals and rejection of bare plurals with kind readings. In production, accuracy on subjects with generic readings might be lower, because the performative pressure typically associated with online tasks could possibly lead learners to omit the plural determiner, and incorrectly produce bare plural nouns. On the other hand, the L2SF expects acquisition to be easy for the L1 English trilinguals, due to positive influence from L2 Spanish, but hard for the L1 Spanish group, due to negative influence from L2 English. This last group should exhibit acceptance of ungrammatical bare plurals and rejection of grammatical definite plurals.

As for existential subjects, we should recall that this property is similar but not identical in Spanish and Italian. Specifically, existential plural noun phrases present overt indefinite determiners in

both Romance languages, but only in Italian are these determiners partitive. Hence, the lexical mismatch between Spanish and Italian plural indefinite articles might hinder the detection of structural correspondence between the two languages, on this property. Therefore, under both TPM and SM/LPM we can hypothesize that acquisition will be moderately easy, due to facilitative influence from Spanish. This implies acceptance of partitive plurals and rejection of bare plurals. Regarding partitive plurals, these positive effects will be less strong than for kind-referring subjects, which present the exact same forms in Spanish and Italian. As to the L2SF, this model would similarly anticipate ease of acquisition for the L1 English group, thanks to their L2 Spanish grammar. Instead, for this model, acquisition of existential subjects would be harder for the L1 Spanish trilinguals, which may transfer their L2 English grammar, exhibiting acceptance of ungrammatical bare plurals and rejection of grammatical partitive plurals in L3 Italian.

As regards number neutral (NN) objects, the TPM would predict difficulty in their acquisition, due to negative influence from Spanish, i.e., acceptance of bare singulars. Similarly, the SM/LPM would anticipate negative influence from Spanish but also positive influence from English, resulting in indeterminate judgments on bare singulars. Both TPM and SM/LPM similarly hypothesize indeterminacy on definite singulars (possible in Spanish with strong readings only). On this property, the L2SF would expect acquisition to be easier for the L1 Spanish, due to positive English influence, than for the L1 English, due to negative Spanish influence. For the former group, this implies rejection of bare singulars and (moderately high) acceptance of definite singulars, recalling that these objects are indefinites in English. The latter group, instead, would exhibit acceptance of ungrammatical bare singulars and indeterminacy on definite singulars.

Finally, as to a possible role of language experience (or immersion) in shaping L3 transfer trajectories, the SM would predict that high experience in the background language sharing with the L3 a similar structure will favour L3 rate of acquisition and accuracy. Thus, the L1 English would find it easier to acquire number neutral (NN) objects, while the L1 Spanish will do better on kind-referring and generic subjects (and possibly on existential subjects). Additionally, the advanced stage of grammaticalization of the Italian definite article will benefit the acquisition of generic subjects and NN objects; that is, their acquisition would be successful across the board.

In the remainder of Chapter 5, I will present the methodology deployed to answer the research questions, and describe the participants involved in this study. In the next sections, I start with presenting details on the participants recruited to assess the predictions on L3 acquisition of Italian generics. After this, I illustrate the methodological design of this study, considering the designs adopted in previous studies on the acquisition of genericity, as discussed in Chapter 3. I then turn to describing the procedure used during the experiment administration to the

participants and conclude the chapter with a presentation of the procedure used to analyse the comprehension data, and transcribe and analyse the production data.

In compliance with the relevant internal and external policies concerning ethical considerations of working with human participants, I obtained ethical approval of the research design as presented in this chapter. Approval was obtained from the university of Southampton Faculty of Arts and humanities Ethics Committee (ERGO II number: 55001). No amendments to the design were submitted to the Committee. Appendix A provides evidence of the approval for our study design.

5.2 Participants

As stated in Section 1.1, the principal participants involved in this study were adult formally instructed L3 learners, studying or having studied L3 Italian in university in England or Spain. The group residing in England would include L1 English speakers with knowledge of Spanish as their second language, while the group residing in Spain would include L1 Spanish speakers with knowledge of English as their second language. Thus, by examining language-mirroring groups, with the L1 and L2 being alternated, we aimed at teasing apart the role of typology from that of order of acquisition (Puig-Mayenco, González Alonso & Rothman, 2020). Furthermore, for each of the two learning settings (England and Spain), we selected geographical areas that do not present contexts of societal bilingualism. For example, as far as the L1 Spanish group is concerned, we did not recruit participants in regions such as Catalonia. This way, the participants would have encountered the most analogous possible conditions in terms of exposure and usage of the societal (and first) language.

A clarification about the labels used to address the languages known by our participants is now in order. In this dissertation, I refer to L1 (first or native language) as a language being acquired by age 5 (Meisel, 2021: 17), and to L2 (second language) as a non-native language, whose acquisition started before that of the target language under investigation (Italian). With the label L3 Italian, then, I indicate that Italian is a third or additional language for our trilingual participants since in many cases Italian was learnt chronologically as a fourth or fifth language. In fact, the L2s (English and Spanish) and the L3 (Italian) were learned as foreign languages (FLs) in institutions (school or university) by most of them.

Proficiency in each of the languages examined was established with a C-Test, as the reader will see in Section 5.4.5. As regards L3 Italian proficiency, the two trilingual groups share a similar profile in being mostly advanced in the L3, with some being intermediate and only a few being elementary learners of Italian. Given this wide range in linguistic competence, we treated L3 proficiency as a continuous variable in the statistical analysis. The same holds for the L2

proficiency levels, with most trilinguals being advanced in Spanish or English. Although it would have seemed ideal to test participants that are highly proficient in their L2 (see Section 4.8), the recruitment circumstances required to adopt a more flexible approach towards the participants' competence in the L2. Table 8 displays the trilinguals' linguistic information.

Table 8: Trilinguals' proficiency levels in the L3 and L2

	L1 English trilinguals (n = 30)	**L1 Spanish trilinguals (n = 30)**
Proficiency levels in the L3 (Italian)	Advanced = 16 Intermediate = 11 Elementary = 3	Advanced = 14 Intermediate = 11 Elementary = 5
Proficiency levels in the L2 (Spanish, English)	Advanced = 26 Intermediate = 3 Elementary = 1	Advanced = 20 Intermediate = 9 Elementary = 1

Note. The proficiency levels are established as follows: advanced (above 80%), intermediate (60–79%), elementary (below 59%).

Each group of L3 learners includes 30 individuals, for a total of 60 trilinguals, with ages ranging between 18 and 68 (L1 English trilinguals) and between 18 and 62 (L1 Spanish trilinguals). The group from England includes 16 advanced, 11 intermediate and 3 elementary learners of Italian, with proficiency in Italian ranging from 30% to 100%. Of these learners, 26 are advanced, 3 are intermediate and 1 is at an elementary level in Spanish. Their proficiency in Spanish ranges from 52% to 98%. The group from Spain consists of 14 advanced, 11 intermediate and 5 elementary learners of Italian. Their proficiency in Italian ranges from 34% to 98%. In this group, 20 are advanced, 9 are intermediate and 1 is a beginner in English. Their proficiency range in English is 30%–98%.

It should be noted that some of the L3 learners also have knowledge of other non-native languages beside English or Spanish, for example French or German studied at school. However, we believe that such facts would not constitute a complication to this study. Indeed, as shown above, the majority of the participants were very proficient in L2 English or Spanish, which places them in a very good position to possibly transfer the targeted grammatical properties from either language to L3 Italian (see Chapter 4 for detail on the matter). In addition to this, other possibly known foreign languages may show a similar behaviour to the L1 and L2 on the properties investigated, as is the case for French and Spanish, or for German and English. More specifically, whereas French and Spanish pattern together in the realization of generic subject NPs as definites, English and German behave alike in expressing generic readings of plural subjects through bare nominals (Chierchia, 1998; Kupisch, 2012). In this regard, though, it must be noted that the theoretical literature has claimed that some varieties of German, or even standard

German, may also allow for generic readings of definite plurals (e.g., Krifka *et al.*, 1995; Dayal, 2004). However, more recently, empirical studies have found evidence in support of a clear preference of German native speakers for bare plurals as forms expressing generic meanings over definite plurals (Berton *et al*. 2015; Czypionka & Kupisch, 2019). This tendency also reflects in patterns of crosslinguistic influence from German to Italian in populations including German dominant early bilinguals and adult (advanced) L2 Italian learners, which exhibited a preference for specific over generic readings of Italian definite plurals, as well as a tolerance for ungrammatical Italian bare plurals in generic contexts (Kupisch, 2012). These findings are in line with those on L1 English–L2 Spanish/Italian learners, discussed in Chapter 3. Moreover, in order to minimize possible instances of crosslinguistic influence, participants that reported (self-estimated) non-advanced proficiency in their second or additional languages were privileged, in the recruitment process.

The study also includes three control groups (41 participants in total), with the purpose of ascertaining the availability of the targeted properties (i.e., both the grammatical and ungrammatical structures), in the relative native grammars. The groups included 21 Italian natives (age range between 21 and 41 years), 10 English natives (age range between 20 and 58 years) and 10 Spanish natives (age range between 18 and 37 years). In fact, in the statistical analysis, Group was treated as a two-level factor, encoding the two groups of trilinguals only, but no group comparisons were made between the trilinguals and the native controls.

Each of the baseline groups shares a similar sociolinguistic profile with those of the trilingual groups, for the participants to be as comparable as possible. More specifically, the controls were all highly educated individuals, and were fluent in at least one non-native language. At the time of testing, they would reside in a country were the majority language coincides with their L1, namely Italy for the L1 Italian baseline, England for the L1 English baseline, and Spain for the L1 Spanish baseline. Controls that resided in a country where the majority language differed from their L1 for no longer than six months prior to taking part in the experiment were also recruited. We believe that this “limited” immersion in an abroad context would not impact their cumulative exposure to L1 input significantly. As regards the Italian baseline, only participants originally from Northern Italian regions (Lombardy and Emilia Romagna) were tested. This was done to control for possible variability in language use, due to regional differences, as far as the properties investigated are concerned. All in all, both the control and the trilingual groups would share similar cognitive profiles as multilingual speakers, and therefore would likely have to inhibit the language(s) not in use when performing the experimental tasks (Dudley & Slabakova, 2021). Table 9 displays the total number of participants involved in this research.

Table 9: Total number of participants involved in this study

Group	Number pf participants (n)
L1 English–L2 Spanish–L3 Italian learners	30
L1 Spanish–L2 English–L3 Italian learners	30
L1 Italian baseline	21
L1 English baseline	10
L1 Spanish baseline	10

I present details about the participants' recruitment procedure in Section 5.5.

5.3 Summary of previous research designs

As illustrated in Chapter 3, the studies reviewed on child acquisition of generic NPs utilized comprehension tasks, including form-focused tasks such as Acceptability Judgment Tasks (AJT) in Context (Serratrice *et al.*, 2009) or meaning-focused ones as Truth-Value Judgement Tasks (TVJT) (Pérez-Leroux *et al.*, 2004), with the experimental materials being presented orally to the children. On the basis of the L1 literature, studies on L2 adult acquisition of generics deployed a similar methodology, while adopting a written modality of task presentation to the participants, typically being formally instructed in the target language. For example, the two bidirectional studies on L2 English/Italian learners (Slabakova, 2006) and L2 English/Spanish learners (Ionin *et al.*, 2011) made use of a Truth-Value Judgment Task, combined with an Acceptability Judgment Task, in the latter case. Thus, in general, the literature on L1 and L2/Ln acquisition predominantly resorted to comprehension tasks as experimental tools for assessing knowledge (e.g., Ionin *et al.*, 2011a,b; Ionin *et al.*, 2014; Hermas, 2019a,b) and interpretation (e.g., Ionin & Montrul, 2010) of generic NPs in Romance or English. Both the Acceptability Judgment Tasks and Truth-Value-Judgment Tasks consisted of story contexts, followed by test sentences (presented one at the time or side-by-side), that the participants had to accept (or reject) or interpret, typically with a yes or no answer type. Thus, in either the AJT or TVJT the direction of comprehension proceeds from meaning (story context) to form (nominals in test sentences, to be judged or interpreted), although the latter has a focus on meaning.

Interestingly, in order to accommodate the cognitive capabilities of the young children tested in their (2003) research on L1 acquisition of English generics, Gelman & Raman developed an interpretation task that presented pictures rather than story contexts (see Section 3.2 for detail). It follows that, while still being focused on meaning, this type of task presents the opposite direction of comprehension, namely from form (e.g., prompt question *Do birds fly?*) to meaning (e.g., picture of two penguins). As will be explained in Section 5.4.2, one of the two comprehension tasks administered in our research (i.e., the Form–to–Meaning Task) is directly

modelled on the (2003) Gelman & Raman study. We are aware of other research presenting visual stimuli as non-linguistic context for the interpretation of generic nominals, inspired by Gelman & Raman (2003). For example, Czypionka & Kupish (2019) examined adult L1 German natives' interpretation of generics, offering reaction time data. Their study was then replicated by Redolfi, Pereira Soares, Czypionka & Kupisch (2021) for adult L1 Italian speakers, proving the reliability of such methodology to test adults' comprehension of generics. In this dissertation, the design of the Form–to–Meaning Task was developed independently from these two last studies.

While the distribution and acquisition of noun phrases with generic meanings has been assessed by a large body of research by means of comprehension tasks, very few studies addressed their use in production. In addition to these types of tasks, Miller (2016) utilized an Elicited Production Task, to assess oral use of generic NPs, in a study on English/Spanish early bilinguals and adult instructed L2 learners. In this task, participants had to answer a question by completing a given sentence with the target nominal type. The context to the question was provided with a short introductory sentence, together with a picture depicting the entity to be described. For instance, to elicit the use of plural generic subjects, participants would be asked about what animals swim, see an image of two whales, and have to produce a bare plural (*whales*) as subject of the verb in the stimulus, i.e., *Whales swim*. Importantly, the target forms are not presented in the preamble, appropriately avoiding possible priming effects.

In summary, the literature on the acquisition of generics generally made use of comprehension tools such as Acceptability Judgment Tasks and Truth-Value Judgment Tasks, presenting linguistic contexts for the evaluation and interpretation of target noun phrases. An alternative methodology proposing a non-linguistic (visual) context for interpretation purpose has been utilized less often, while study designs also testing controlled production have been developed to an even lesser extent.

5.4 The present study methodology

This study presents a comprehensive investigation of the acquisition of generic NPs, by assessing both comprehension and production data. Whereas the comprehension tasks target learners' intuitions of the grammaticality of the targeted forms, as well as their interpretation, the oral task allows us to also look into possible performance-related effects in online production. Indeed, given that functional elements like determiners can be prone to omission in production (Grüter, 2005), effects related to performative pressure may well interact with transfer, especially at the early stages of the L3 interlanguage system. Because the populations under investigation are adult instructed speakers and learners, we opted for a written presentation modality of these

experimental tools. Additionally, we factored in proficiency in the L3, as a potential explanatory variable for the participants' learning outcomes in Italian. A language background questionnaire was also included in the experiment, in order to obtain reliable measures of language immersion, and evaluate its impact on the L3 acquisition process too.

This section presents a detailed account of the experimental instruments we utilized in this study. Comprehensions data were collected by means of an Acceptability Judgment Task in Context (for the context-to-form direction) and a Form–to–Meaning Task (for the form-to-context direction). We believe that tapping into both directions of comprehension would enhance the current methodology in the field. Production data were obtained through an Elicited Oral Production Task, to assess oral use of generics. Moreover, participants' proficiency in the L2 and L3 were assessed by means of a C-Test in both set of languages. Finally, data on language immersion (exposure and usage) in each of the participants' known languages were gathered with a language background questionnaire, which provided aggregated scores for immersion.

5.4.1 The Acceptability Judgment Task (AJT) in Context

The Acceptability Judgment Task in Context was modelled on those deployed in Ionin, Montrul & Santos (2011b), Ionin, Grolla, Santos & Montrul (2015) and Montrul & Ionin (2010). Similarly to those studies, the AJT in our study assesses the acceptance of preverbal subjects in generic and existential contexts, adding to these contexts that of definite singular objects with weak (number neutral) readings. The task presents a series of very short stories, followed by two or three test sentences, of which one is grammatical and one is ungrammatical or infelicitous. Some stories also present a third test sentence, which can be evaluated as infelicitous or less preferred.

Participants were asked to rate each sentence depending on how natural it sounds in the context of the story, using a 1–4 Likert scale, plus the 'I don't know' option. Before seeing the test items, they were presented with detailed instructions on how to make their judgments, together with a sample set with three examples. The examples contain a suggested rating of the test sentence, which combines grammatical and logical appropriateness. For instance, a rating of 1 is given if the test sentence contains an incorrect construction, or does not seem to be a meaningful continuation of the story. Conversely, participants were encouraged to rate the test sentence as a 4 if the test sentence was accurate in both grammar and meaning.

The task included four target contexts and one control context in each of the three language versions. The target contexts were existential subjects, kind-referring subjects and number neutral objects. In the Italian task, the existential context presented three conditions, one with grammatical forms (partitive plurals), one with infelicitous forms (definite plurals) and one with

ungrammatical forms (bare plurals). In the Spanish task, this context presented the same conditions, but the grammatical forms were indefinite plurals. The infelicitous condition (i.e., definite plurals) was included in the Romance versions for a direct comparison with the English definite plurals, which are similarly infelicitous with existential readings. Therefore, in the English task the existential context presented a grammatical condition (bare plurals) and an infelicitous one (definite plurals). The second context, namely kind-referring subjects, consisted of two conditions in each language, one grammatical and one ungrammatical. The grammatical condition included definite plurals in Italian and Spanish, and bare plurals in English. The ungrammatical condition included bare plurals in Italian and Spanish, and (infelicitous) definite plurals in English. Objects with number neutral readings constituted the third target context, with one grammatical and one ungrammatical or infelicitous option in all languages. These were grammatical definite singulars and ungrammatical bare singulars in Italian, grammatical indefinite singulars and ungrammatical bare singulars in English, and grammatical bare singulars and infelicitous definite singulars in Spanish.

Plural specific subjects (anaphoras) were treated as controls, for being the context in which the three languages under investigation pattern alike in both the grammatical and ungrammatical conditions. Recall that English, Spanish and Italian express specific readings through plural definites, while disallowing bare plurals with this interpretation. Therefore, in the three language versions the grammatical condition presented definite plurals, and the ungrammatical ones bare plurals. Hence, such contrasts between options across languages allow us to control for acceptability vs. unacceptability in the same interpretative domain.

Finally, each context contained six stories, which were presented in a randomized fashion in the actual test. Each item, then, consisted of a story and a test sentence, for a total of 48 targets in English and 54 targets in Spanish and Italian. Table 10 shows the AJT contexts and conditions, for each language.

Table 10: The AJT target contexts and conditions in English, Spanish and Italian[18]

	English		Spanish		Italian	
Context	**Acceptable**	**Not acceptable**	**Acceptable**	**Not acceptable**	**Acceptable**	**Not acceptable**
Existential subjects	BP	DefP	IndefP	BP, DefP	PartP	BP, DefP
Kind- referring subjects	BP	DefP	DefP	BP	DefP	BP
Specific subjects	DefP	BP	DefP	BP	DefP	BP
Number neutral objects	IndefS	BS	BS	DefS	DefS	BS

Note. The abbreviations in the table have the following meanings: BP (bare plural), BS (bare singular), DefP (definite plural), DefS (definite singular), IndefP (indefinite plural), IndefS (indefinite singular), PartP (partitive plural).

The AJT also contained filler contexts, related to the domain of generic interpretation. These were copula distinction, specific pronominal objects and non-specific pronominal objects' contexts. Each context included six stories, with two or three test sentences per story. In total, there were 42 filler items in the English and Italian versions, and 36 in the Spanish one. The AJT total number of items was then 90 (48 targets + 42 fillers) in English, 90 (54 targets + 36 fillers) in Spanish and 96 (54 targets + 42 fillers) in Italian.

I present one sample target story per each context below, followed by the relative test sentences. In samples (42)–(45), the acceptable answers are marked in bold, but this was not the case for the actual experiment. Additionally, the actual test presented items consisting of the story, followed by one test sentence only. The full task is reported in Appendix B, in each language version.

(42) *Existential subjects*

Chris loves Italian lakes. Last summer he took a trip to Lake Como. Chris had a wonderful time there. One day when swimming, he got really surprised!

a. Dolphins were jumping around him.

b. The dolphins were jumping around him.

[18] Acceptable options are highlighted in grey in the table, and should be rated highly, as opposed to the unacceptable ones. In the specific control context, a low rating of grammatical Italian or Spanish definite plurals may signify a preference for their generic interpretation rather than their rejection as ungrammatical forms.

(43) *Kind-referring subjects*

I really like to go to the Museum of Natural Science in town. There you can learn about species that can no longer be found nowadays. For example, I learnt that…

a. Mammoths became extinct 10,500 years ago.

b. The mammoths became extinct 10,500 years ago.

(44) *Specific subjects (controls)*

Nigel studies in Southampton. He lives in a residence hall with other students. Every morning Nigel takes two buses to get to class. He does not like this service, though! In fact,

a. The buses leave ahead of time.

b. Buses leave ahead of time.

(45) *Number Neutral objects*

Peter is an interior designer. He works for a big company in Barcelona. Sara is doing an internship there, and loves Petr's projects. Sara notices that…

a. Peter uses a pencil to design.

b. Peter uses pencil to design.

Following the design utilized in Ionin *et al.* (2015), in the existential subjects' context the subject noun phrase (e.g., *dolphins*) was mentioned in the stimulus sentence for the first time, and not in the story. This was meant to prompt an expectation of surprise for the reader, and therefore trigger an existential rather than a definite reading. In addition, because animate NPs are more natural than inanimate ones as existential preverbal subjects, all the target nominals denoted animals. Moreover, most of these nominals were cognates in the three languages, or at least in Spanish and Italian. This should provide learners with familiar vocabulary, or facilitate its understanding. The grammatical NPs were bare plurals in English, indefinite plurals in Spanish and partitive plurals in Italian. The English version of the task presented test sentences with verbs in the progressive aspect only. Because it denotes an ongoing action, the progressive aspect should in fact contribute to readily trigger an existential reading of the subject nominal.

In the kind-referring subjects and specific subjects' contexts, the target NPs alternated animate and inanimate entities (e.g., *mammoths* or *tomatoes*). In the former context, the reader would first encounter the target nominal in the test sentence, to avoid any possible priming effects. In the latter context, the target NP first appeared in the story, and was preceded by a numeral (e.g.,

two buses), to trigger anaphoric binding with the definite NP in the test sentence. In Spanish and Italian, the specific interpretation is also expected to prevail over the generic one, since the truth-value condition is satisfied only with a specific reading. To this end, the specific NPs were described as having special or unusual characteristics that should disfavour the generic interpretation (e.g., buses that leave ahead of time). In the kind-referring subjects' context, grammatical nominals were bare plurals in English and definite plurals in Spanish and Italian. In the specific (control) context, grammatical NPs were definite plurals in all languages. In all these three contexts, the test sentences would begin with a plural nominal, followed by a verb and eventual additional material such as complements or adverbials.

Finally, in the number neutral objects' context the test sentences started out with a proper name or a personal subject pronoun. Subject pronouns were dropped in the Spanish and Italian versions, to avoid redundancy. The subject NP was followed by one of the verbs licensing bare objects in Spanish, and the object NP. The verbs used in this context were *have*, *use* and *wear*.

5.4.1.1 The AJT Pilot

The full experiment was piloted twice in each language version, first in summer 2020 (Pilot 1) and in spring 2021 (Pilot 2). Here, I report only on the result of Pilot 2, since its tasks' design is closest to that used in the finalized version of the experiment. Pilot 2 was administered to native speakers of English (2 participants), Spanish (4 participants) and Italian (5 participants) for a total of 11 individuals. The participants were either current university students or graduates, at the time of testing. As in Pilot 1, the controls in Pilot 2 were multilingual speakers, with self-assessed proficiency in their non-native language(s) ranging from beginning to intermediate. They were recruited by word of mouth.

As to the AJT version developed for Pilot 2, it presented the same contexts as those of the finalized experiment. Importantly, we introduced the kind-referring subjects' context to assess kind readings, while discarding contexts on generic readings. This is because, in Pilot 1, the latter context did not produce clear cut-off judgments on (un)grammatical bare plural generics for the English and Spanish controls. This was probably due to the complexity of the story design, which contrasted both usual and unusual characteristics of the entity being described (e.g., honey-producing bees vs. chocolate-producing bees), making it difficult for the participants to single out the target reading of the nominals. Furthermore, in AJT Pilot 2 we increased the number of the test stories from four to six in each context, to obtain more reliable statistics. Finally, Pilot 2 presented a 1–5 rating scale, which was changed into a 1–4 one, in consistency with the previous literature (e.g., Ionin *et al.*, 2011a). Table 11 shows means and standard deviations (in brackets) of the AJT ratings in Pilot 2. Values corresponding to the expected answers are marked in bold.

Table 11: Target mean ratings on a 1–5 Likert scale (AJT Pilot 2)

	English		**Spanish**			**Italian**		
	BP	*DefP*	*BP*	*DefP*	*IndefP*	*BP*	*DefP*	*PartP*
Existential subjects	**2.91 (1.64)**	3.33 (1.37)	2.3 (0.88)	3.29 (1.0)	**4.54 (0.93)**	1.73 (1.34)	2.63 (1.52)	**3.67 (1.34)**
Kind-referring subjects	**4.67 (0.89)**	3.42 (1.51)	2.25 (1.007)	**4.42 (1.18)**	N.a.	2.54 (1.67)	**4.5 (1.17)**	N.a.
Specific subjects	1.17 (0.39)	**4.25 (0.97)**	1.79 (0.93)	**4.33 (1.34)**	N.a.	1.93 (1.28)	**3.67 (1.37)**	N.a.
	BS	*IndefS*	*BS*	*DefS*		*BS*	*DefS*	
NN objects	3.75 (1.23)	**4.75 (0.62)**	**4.58 (0.72)**	3.75 (1.39)	N.a.	2.53 (1.81)	**4.14 (1.38)**	N.a.

Note. The abbreviations in the table have the following meanings: BP (bare plural), BS (bare singular), DefP (definite plural), DefS (definite singular), IndefP (indefinite plural), IndefS (indefinite singular), NN (number neutral), PartP (partitive plural).

As can be seen from Table 11, the controls rated more highly the acceptable structures than the unacceptable ones across the board, generally confirming the predictions made by the theory in each language. However, on existential subjects, the English controls unexpectedly expressed a preference for definite plurals over bare plurals. We partially attributed this behaviour to a non-consistent use of the progressive aspect through the test sentences in this context, which may have contributed to allowing for definite readings of the subjects. In addition to this, on kind-referring subjects, despite showing a clear preference for bare plurals, the English controls also exhibited a certain tolerance for definite forms. Such behaviour may be explained with the presence of lexical items such as *the dinosaurs* as target nominals, which some literature reports to be felicitous in certain generic expressions (see Section 2.2). These items were excluded in the finalized AJT version.

5.4.2 The Form–to–Meaning Task (FMT)

The Form–to–Meaning Task (FMT) was inspired by the (2003) Gelman & Raman research testing the interpretation of subjects with generic and specific readings in L1 English. Our task is similar to those deployed in their study in that it offers a visual (i.e., picture) rather than a linguistic (i.e., story) context, which depicts an atypical entity of its class (e.g., two chicks for the kind "bird"). It partially differs from their methodology, in that we opted for 'yes' or 'no' question types only. Moreover, an additional condition controlling for world knowledge was added in our task, by means of visuals depicting a typical entity of its class (e.g., two swallows for the kind "bird"). So,

the FMT consisted of yes/no questions, preceded by a brief introduction, and followed by an image pair. To answer, participants had to rely on the question, the picture, and their world knowledge. The task instructions explained this design, and were followed by three trial items.

The task included ten sets of target items, in all the language versions. Each set contained a Mismatch condition, thereby presenting a mismatch between the stimulus, with the kind name, and the picture, with the atypical entity. Hence, in this condition the picture offered a counterexample of the generic truth-value of the noun in the stimulus. For example, the stimulus question *Do birds fly?* would be associated with the image of two chicks, which do not actually fly. The Match (control) condition was also shared across the three language versions of the task. This condition presented a match between the stimulus and the picture, by showing the same stimulus as the Mismatch condition, but associating it with an image supportive of the generic interpretation (i.e., two birds in the act of flying). In both the English Mismatch and Match conditions, participants were anticipated to answer 'yes'. In the former, the formal cue offered by the bare plural (*birds*) should prevail over the contextual one offered by the image. The Match condition controlled for the participants' world knowledge in this way. In this condition, a 'yes' answer would corroborate the truth-value of the generic assertion, since in fact birds generally fly. At the same time, a 'yes' answer to the control condition would prove that a 'yes' answer to the Mismatch condition was indeed a generic one, and that bare plurals are capable of cueing a generic reading, even when the pragmatic context (the visual) would cue a non-generic (specific) one. To illustrate, if an English native speaker answers 'yes' to the question about birds in both the Mismatch and Match conditions, this would mean that the act of flying is considered as a distinctive property of birds in general, irrespective of the (pragmatic) context. To the contrary, if in the Match condition a participant gives a 'no' response, a 'yes' answer in the Mismatch condition would be (at least) controversial.

Moreover, the Match condition appears to be of great relevance for the acquisition of English as a second language, being the English experiment administered to the L1 Spanish trilinguals too. Indeed, this design allows us to look into acquisition patterns of generic bare plurals in English as L1 and L2, by assessing whether the strength of bare plurals as linguistic cues possibly prevailing over pragmatic cues manifests equally in these two acquisition types.

In addition to the (Generic) Mismatch and the Match conditions, the English task also consisted of a (Specific) Mismatch condition, with the stimulus question presenting a plural definite and the image providing a context non-supportive of the truth-value of the specific assertions. For instance, in this condition participants would read the question *Do the birds fly?*, in association with an image of two chicks. Given the semantic contrast between the stimulus and the context,

the expected answer would be a 'no'. Hence, the English version of the FMT consisted of three conditions, namely a (Generic) Mismatch, a (Specific) Mismatch and a (Control) Match condition.

Similarly to the English version, the Spanish and Italian experiments included a Mismatch and a Match condition, with the target nominals in the stimulus being definite plurals. Because in these languages definite plurals can have either a specific or a generic reading, in the Mismatch condition participants might answer 'yes' (for the generic interpretation) or 'no' (for the specific interpretation). In the Match condition, the generic and the specific readings cooccured, so the expected answer would be a 'yes'. Unlike the English task, the Italian and Spanish tasks did not include the Specific Mismatch condition.

The task presented a total of 30 targets (10 sets of 3 items) in English, and a total of 20 targets (10 sets of 2 items) in Spanish and Italian. In all language versions, there were also 20 fillers, similarly organised into sets, related to the domain of generic interpretation. The fillers presented two conditions: pronominal objects in non-specific contexts and pronominal objects in specific contexts. All in all, the FMT included 50 items (30 targets + 20 fillers) in English and 40 items (20 targets + 20 fillers) in Spanish and Italian. In the actual test, sets were randomized in all language versions. Within target sets, items were randomized in English and pseudorandomised in Italian and Spanish, on the basis of the result from the FMT piloting. The filler sets and items were randomized n all the three languages. Table 12 displays an overview of the target conditions in the English task, while Table 13 does so for the Italian and Spanish tasks.

Table 12: Target conditions and expected answers by appropriateness (English FMT)

	English	
	Expected	*Unexpected*
Generic Mismatch condition (bare plural)	YES	NO
Specific Mismatch condition (definite plural)	NO	YES
Match condition (bare plural)	YES	NO

Table 13: Target conditions and expected answers by reading (Italian and Spanish FMT)

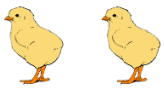
	Italian and Spanish	
	Generic	*Specific*
Mismatch condition (generic-specific reading, definite plural)	YES	NO
	Expected	*Unexpected*
Match condition (generic+specific readings, definite plural)	YES	NO

Item (46) is a sample target set for English. (46a) exemplifies the Generic Mismatch condition, (46b) the Specific Mismatch condition and (46c) the Control Match condition. Appendix C illustrates the full task, in all language versions.

(46) a. *Generic Mismatch condition*

Here are 2 birds.

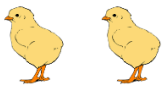
Do birds fly?



b. *Specific Mismatch condition*

Here are 2 birds.

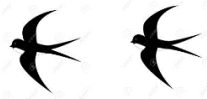
Do the birds fly?



c. *Match condition*

Here are 2 birds.

Do birds fly?



I now turn to describing the results from the FMT piloting.

5.4.2.1 The FMT Pilot

FMT Pilot 2 included the same number of sets and conditions as those used in the finalized version of the task, in all three languages. Pilot 2 did not include those target sets that did not

yield a 'yes' answer in the (Control) Match condition in Pilot 1. Similarly, Pilot 2 items eliciting 'no' answers in this same condition were not included in the finalized FMT. Table 14 shows the results from the English, and Table 15 those from the Italian and Spanish FMTs. They indicate the participants' accuracy by item, with percentage in brackets.

Table 14: Raw item and % accuracy on the English FMT targets (Pilot 2)

	English	
	Expected answers	*Unexpected answers*
Generic Mismatch condition	18/20 (90%)	2/20 (10%)
Specific Mismatch condition	20/20 (100%)	0/20 (0%)
Match condition	19/20 (95%)	1/20 (5%)

Table 15: Raw item and % accuracy on the Spanish and Italian FMT targets (Pilot 2)

	Spanish		**Italian**	
	Generic answers	*Specific answers*	*Generic answers*	*Specific answers*
Mismatch condition	8/40 (20%)	32/40 (80%)	6/50 (12%)	44/50 (88%)
	Expected answers	*Unexpected answers*	*Expected answers*	*Unexpected answers*
Match condition	39/40 (97.5%)	1/40 (2.5%)	50/50 (100%)	0/50 (0%)

Overall, these results confirm the validity of this test instrument to assess interpretation of generics in the form-to-context direction of comprehension. As for the Romance versions of the tasks, they are able to trigger both available interpretations of definites, i.e., generic and specific readings although the participants seem generally biased towards the specific one.

5.4.3 The Elicited Oral Production Task (EOPT)

The Elicited Oral Production Task was inspired by Miller (2016), to evaluate the production of generic subjects. Our methodology differs from her design in that we deployed a selection of images (and therefore entities) taken from "MultiPic", a standardized repository developed by Duñabeitia, Crepaldi, Meyer, New, Pliatsikas, Smolka & Brysbaert (2018). This data bank was normed in languages including English, Spanish and Italian. Similarly to Miller (2016), In this task the items consist of a preamble with a question, a picture depicting an animal type and an unfinished answer. In addition, we also provided a word (a singular noun) describing the animals, to be used in the answer. Participants had to complete the answer saying out the target subject NP, on the basis of the information given. Before engaging with the test, participants responded to three trial items. In the trial examples, the target forms were a proper noun, a full lexical direct

object and a verb phrase. If a participant did not produce the target answer, this was given to them, in order to facilitate their use of determiners and verb inflectional morphology, in the test.

The EOPT contained 32 total items, half targets and half fillers, in all languages. The targets included two conditions, namely Generic subjects (8 items) and Specific (definite) subjects (8 items), this last serving as a control condition. As for the expected forms, participants were to use bare plurals as generic subjects in English, and definite plurals as generic subjects in Italian and Spanish. In all languages, they should realize definite plurals as specific subjects. All the target subject nouns were placed at the beginning of the answer sentence, in preverbal position. The task also included 16 fillers related to generic meaning, namely non-specific (8 items) and specific (8 items) objects. Table 16 exhibits the conditions and the predicted answers, in this task.

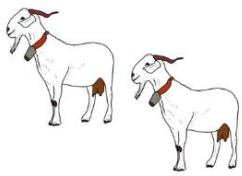
Table 16: Conditions and expected answers in the EOPT targets (all languages)

Condition	**English**	**Spanish**	**Italian**
Generic subjects	Bare plurals	Definite plurals	Definite plurals
Specific subjects	Definite plurals	Definite plurals	Definite plurals

I present one example for the Generic subjects' condition (47) and one for the Specific subjects' condition (48), in the English task. In (47), the expected answer would be *goats*, while in (48) it would be *the rabbits*. The full EOPT versions are reported in Appendix D.

(47) In the world, there are many animals that have horns.

For example:

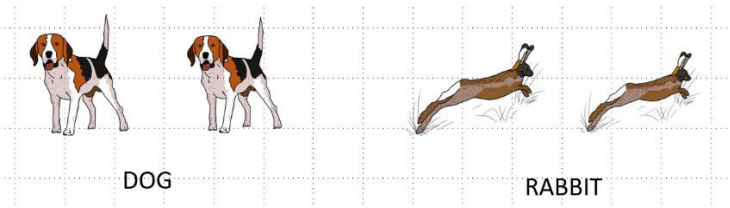


GOAT

What animals have horns?

_____ have horns.

(48) Sometimes, animals run.



In this picture, what animals are running?

_____ are running.

The next subsection illustrates the result from the EOPT piloting.

5.4.3.1 The EOPT Pilot

EOPT Pilot 2 consisted of the same number of items and conditions as those in the finalized experiment, but differed in the design of the Specific subjects' condition, which presented one set of animals only (e.g., picture of rabbits), as opposed to two sets of animals (e.g., picture of dogs and rabbits), used in the finalized task. This change was made to address a difficulty to elicit the target forms (definite plurals), in the English experiment. As can be seen from Table 17, in the English specific (control) context, participants in fact produced bare plurals, and not definite plurals. Hence, in order for the visual context to prompt definite readings more straightforwardly, the finalized EOPT presents two sets of animals to pick from, as shown in (48). Table 17 illustrates the participants' accuracy by item and percentage in the three language versions of EOPT Pilot 2.

Table 17: Raw item and % accuracy on the EOPT targets (Pilot 2)

Condition	**English**	**Spanish**	**Italian**
Generic subjects	20/20 (100%)	32/32 (100%)	40/40 (100%)
Specific subjects	0/20 (0%)	31/32 (96.88%)	40/40 (100%)

In sum, while data from the piloting validated this methodology with regard to generic contexts across the board, the specific context did not yield the expected results in the English task. This led us to adopt a flexible approach towards the forms to be considered as acceptable in the English control condition, i.e., both bare and definite plural nouns.

5.4.4 Possible priming effects

In monolingual contexts, structural (or syntactic) priming effects entail that the processing of a target sentence is facilitated by that of a preceding prime sentence containing the same syntactic structure. This applies to both production and comprehension. Such effects would manifest regardless of lexical dependency, although lexically dependent effects seem to be more observed in comprehension (Tooley & Traxler, 2010). Regarding our experiment, we addressed issues possibly arising from priming in the following manner. In the first place, the targeted structures were not presented in the introductory material, in each task. For example, in the Acceptability Judgement Task, we minimized the occurrence of generic NPs in the context stories as much as possible. Likewise, in the Elicited Oral Production Task, the introductory sentences and questions did not include the forms to be produced, these forms being elicited by means of a singular noun, placed below the image (see Section 5.4.3 for an example). Secondly, we administered the Elicited Oral Production Task first, before the Form–to–Meaning Task and Acceptability Judgment Task, in

this order. This was done to rule out the possibility that the stimuli containing the target forms in these two last tasks could serve as primes in the oral production. By the same token, being a form-focused task, the AJT was administered after the FMT, whose focus is instead on meaning.

In this study, the principal trilingual participants were tested in two experimental blocks, starting with the third language (Italian) first, to end with their second language (English or Spanish). The two sessions were scheduled on separate days. Given this administration modality, it is possible that cumulative or long-term cross-language priming between experimental blocks may take place (Kootstra & Doedens, 2016). To avoid such an issue, learners faced the Italian experiment first. By doing so, we aimed to rule out the previous activation of a targeted construction (e.g., definite plural subjects) in the second language (e.g., Spanish). This is because participants might use a construction as a result of having encountered it before (i.e., use it as a prime), which would obscure possible crosslinguistic influence.

However, it could be argued that this logic would apply the other way round, with Italian possibly priming the use of generics in the L2. In this regard, research on multilingual contexts has shown that proficiency and dominance may impact the occurrence of bidirectional priming effects from the L1 vs. the L2. Findings on lexical ((Zhao & Li, 2013) and structural (Kootstra & Doedens, 2016) cross-language priming effects revealed that priming is more likely to happen from the language in which participants have higher proficiency or are dominant. We assume a similar underlying logic for L3 acquisition. So, given that we originally intended to test participants who were advanced in the L2 (but at different competence levels in the L3), the Italian experiment was presented first. Finally, it was a priority to minimize potential priming from the L2 since this study specifically aims to unveil possible transfer effects from the background languages to the L3.

In sum, with this experimental design and administration modality, the trilinguals' performances in each language and across language sessions should closely reveal morphosyntactic transfer from the L1 and/or L2 to the L3, whilst limiting the occurrence of (cross-language) priming effects.

5.4.5 Independent proficiency measures

This study deployed a C-Test as independent proficiency measure. C-Tests are commonly used in second language and first language acquisition, for example for assessing proficiency levels of adult L2 learners (Brezina & Pallotti, 2019; Hopp, 2007; Kuiken & Vedder, 2019) or L1 attriters (Kasparian, Vespignani & Steinhauer, 2017). In this research, we opted for the C-Test for its being economical (i.e., relatively fast to complete) and objective (i.e., alternatives are minimized when scoring). A C-Test typically presents a few passages about general topics, for example taken from the news, in which parts of words have been deleted. The participants' task is to fill in the blanks,

on the basis of their understanding of the passage and of the cues offered by the remaining letters.

This study presented two sample tests, selected from a battery of C-Tests designed by the Universitat Autònoma de Barcelona (UAB).[19] These tests were designed according to the standard guidelines for the C-Test construction (e.g., Eckes & Grotjahn, 2006). More specifically, in each passage, words were deleted starting from the second line on. The deletion occurred every other word, by hiding half of the word letters. If a word had an odd letter number, the letters deleted would be half plus 1. Some word categories were not taken into consideration for the blank application, for example one-letter function words like articles, abbreviations, or proper names of people or places (when affecting the logical comprehension of the passage). In such cases, the one-letter word constituted a single unit with the closest non-deleted word. In order to develop the Spanish and Italian versions of the C-Test, direct translations of the English passages were made. These translations were validated by two Spanish and two Italian native speakers, all working in the field of language teaching.

In this study, the C-Test presented two passages with 25 gaps each, for a total of 50 gaps in every language. Scoring was carried out manually, by means of a binary coding with no acceptance of spelling mistakes. The time needed to complete the C-Test was approximately 10 minutes, in each language. Appendix E reports on the three test versions.

5.4.6 The Language History Background Questionnaire (LHQ)

This study also included a linguistic background questionnaire, to obtain detailed information on the participants' linguistic profiles, and measure immersion in their known languages. After considering a number of validated linguistic questionnaires, the Language History Questionnaire (LHQ 3.0) (Li, Zhang, Yu & Zhao, 2020) was adopted.[20]

LHQ 3.0 is a web-based questionnaire, which can detail the profile of multilingual individuals that speak up to four languages, and calculate aggregated scores on language immersion (and dominance). This questionnaire offers up-to-date questions about language experience. For example, participants can indicate the usage of their known languages in a plethora of situations, including social media and the internet. In this dissertation, we propose an itemized version of LHQ 3.0, with 15 questions. After logging into the questionnaire web platform through a personal user ID, participants had to respond to the questions via drop-down windows containing the

[19] This battery of tests is freely available at http://wuster.uab.es/ctestpracticer/main?x=en.
[20] Questionnaires such as the Language Experience and Proficiency Questionnaire (LEAP-Q) (Marian, Blumenfeld & Kaushanskaya (2007), or the Bilingual Language Profile (BLP) (Birdsong, Gertken & Amengual, 2012) were considered but appeared appropriate to target early bilinguals.

relevant options. Some Items were open-ended questions, by which they could comment on any additional (qualitative) information on their language profiles. Participants needed between 10 and 15 minutes to complete the questionnaire, which they took in their native language. The itemized version of LHQ3.0 utilized in this study is reported in Appendix F.

5.5 Procedure for data collection

This study was carried out in compliance with the ethical regulations and procedures of the University of Southampton, after being granted ethical approval by the Faculty of Arts and Humanities Research Ethics Committee (ERGO II number: 55001). Appendix A reports on the documentation of the ethical approval. Prior to the start of data collection, advertising messages were sent to Departments of Modern languages (e.g., undergraduate and graduate offices, Italian instructors), which in turn circulated the ads among students or shared the students' contact information upon their permission. Each student was then contacted individually via email, and questions about the chronological order of acquisition of their known languages were asked as additional screening procedure. Some participants were also reached out by word of mouth, and went through the same confirmation process. After agreeing to take part in the study, they were sent the Participants' Information Sheet, and were asked to fill out an Online Consent Form, in compliance with the ERGO guidelines. Prior to engaging in the experiment, the participants also completed a C-Test in their L2 via a web link to Google Docs. This was done to attest their actual knowledge of L2 English or Spanish. What follows addresses the procedure of this research.

Data collection was conducted online via individual meetings. There were two meetings for the trilingual participants (one for each language being tested) and one meeting for the native controls (for the first language). In each meeting, participants were administered the full experiment, which consisted of the comprehension and production tasks, the C-Test for the language targeted in that session, and the language background questionnaire. The language being tested in each session was also used to communicate with the participants; for example, Italian was used when testing them in L1 or L3 Italian. In case participants had difficulty handling the exchange in the target language, their native language was preferred. In each language session (i.e., L2 and L3 for the trilinguals, L1 for the controls), participants were given the acquisition tasks first, in this order: i) Elicited Oral Production Task (EOPT), ii) Form–to–Meaning Task (FMT) and iii) Acceptability Judgment Task (AJT) in Context. Afterwards, they faced the language background questionnaire (LHQ), followed by the C-Test.

The sessions were organized through an online meeting platform, where the tasks were administered. The EOPT and FMT were shared as PowerPoint documents, and the relative oral

responses were recorded, and later transcribed onto Microsoft Excel files. The platform chat was used to share links to a Microsoft Form for the AJT, a Google Document for the C-Test and the LHQ website for the language history questionnaire. These documents were then downloaded and saved accordingly. For the trilingual participants, the session in the L3 preceded that in the L2.

In every experimental block, instructions and examples were provided through a visual format, in the same language as the one being tested. An oral explanation in the participants' native language would be optionally offered, if comprehension difficulty arose. While being tested, participants had the opportunity to ask for assistance with the completion procedure, at need.

In every experimental session, a short break was offered after each tasks was completed. A full session would last between 50 and 90 minutes, depending on the participant's competence level in that language. Participants were compensated for their time with a reimbursement of £10 per each session. These funds were made available thanks to the Language Learning Dissertation Grant I was awarded in 2020 with the purpose of completing data collection.

5.6 Procedure and methods for data analysis

After downloading the Microsoft Form containing the responses to the AJT, ratings were transferred to another Excel spreadsheet, with a column for participant, and multiple groups of columns, corresponding to the targeted condition. The groups consisted of 6 columns each, matched to the items included in each condition. This was done to obtain preliminary statistics (means, standard deviations and t-tests) via the Excel formulae. To conduct further analysis, the AJT ratings were transferred to a separate spreadsheet, with columns per subject (participant), group, L2 proficiency, L3 proficiency, condition, item and rating. Data were saved with the csv format, and imported to the R statistical software package (R Core Team, 2022).

The recordings of the FMT and EOPT responses were manually transcribed and coded into separate Excel spreadsheets. For both tasks, the coding was binary; i.e., a code of 1 was assigned to accurate responses and a code of 0 to inaccurate ones. The FMT coding was done as follows. As regards the English version, in the Generic Mismatch and (Control) Match conditions, 'yes' answers were coded as accurate, and 'no' answers as inaccurate. In the Specific Mismatch condition, the opposite coding pattern was applied. The Italian and Spanish versions presented a Mismatch and a Match condition. For the Mismatch condition, specific answers ('no' answers) were coded as a 1, and generic ones ('yes' answers) as a 0. Recall that in the two Romance languages this condition reveals the preference for one interpretation over the other, being plural definite ambiguous between a specific and a generic reading. This coding pattern was based on the piloting result, which indicated a general tendency of the controls to answer specifically, in

this condition. In the Match condition, 'yes' answers were coded as accurate and 'no' answers as inaccurate. After having done this, the accuracy scores were input into another spreadsheet for preliminary statistics via formulae. Another Excel spreadsheet was also created to run further analysis in the R package, with columns for subject, group, L2 proficiency, L3 proficiency, condition, item and accuracy. The spreadsheet was then saved in csv format.

The EOPT presented two conditions in all languages, namely a Generic and a Specific condition. As for the English experiment, in the Generic condition, only answers consisting of bare plural nouns were coded as accurate; answers consisting of any other type of nominals were coded as inaccurate. In the Specific condition, both definite plural and bare plural nouns were coded as accurate answers, based on the piloting result (see Section 5.4.3.1). As to the Italian and Spanish experiments, definite plural nouns would be target-like answers in both conditions. We considered as acceptable responses all definite phrases that were marked for plural in at least one element, be it the determiner or the noun. For instance, definite phrases made of singular article and plural noun were coded as accurate. Errors of gender assignment were also disregarded. Indeed, these types of nominals indicate the participants' knowledge of the required use of the definite article in Italian and Spanish, albeit not in a target-like fashion. After coding the data, two other Excel spreadsheets were created, one for statistics with the Excel formulae and one with the R package. This last document included columns for subject, group, L2 proficiency, L3 proficiency, condition, item and accuracy. The file was saved as csv.

As regards the participants' linguistic information, Excel files with the raw data and aggregated scores for immersion were downloaded from the LHQ web-platform. A separate spreadsheet was created, and tabs for comparisons between immersion in their known languages were set. For example, to compare the two groups' L2 immersion, the relative tab would contain one column for the English group's aggregated scores in Spanish and one column for the Spanish group's aggregated scores in English. After this, the raw data and aggregated scores were cross-checked, and the latter were removed from the tab(s), if invalid. Aggregated scores equal to 0.5 (on a 0-to-1 range) were considered invalid, as they would have been calculated on the basis of inaccurate responses about the age at which the participant started to use a language, whereby the participant mistakenly indicated their age at the time of testing. This was done to run preliminary t-tests with the Excel formulae. Finally, a csv file was exported, for further analysis with R.

Linear mixed effects models were run in R (package *lme4*), using the functions *lmer*, for the AJT data, and *glmer*, for the FMT and EOPT data. To analyse the AJT data, rating was treated as a continuous variable and the scalar values were converted into ZScores, while simple contrasts were set for the model factors (Linck & Cunnings, 2015). Beside rating, proficiency was treated as

a continuous variable too. As for the FMT and EOPT data, to analyse the binary dependent variable (accuracy), generalized linear mixed effects models (binomial family) were used. The packages *ggplot2* and *effects* were deployed to visualize these data. Finally, for the LHQ immersion scores, paired sampled t-tests were run with the function *ttest* (package *lessR*).

5.7 Summary

To summarize, in this chapter I have illustrated the experimental design of the research. I began with describing the participants in the study, and continued with a description of each of the tasks that were used as the method. The experimental tools were an Acceptability Judgment Task in Context, targeting knowledge of generics, a Form–to–Meaning Task, addressing their interpretation in the opposite comprehension direction, and an Elicited Oral Production Task, looking into the use of generic subjects. I also presented details about the piloting of these tasks, all originally developed for the purposes of our investigation. In addition to the acquisition tasks, this study methodology also included a language background questionnaire (LHQ), to measure language immersion, and a C-Test, as independent proficiency measurement. After this, I presented the procedure used for data collection, carried out in individual online sessions. In the last section, I detailed the procedure for data analysis. The next chapter concerns the statistical analysis and the results of the study.

Several appendices are related with the experimental design presented above; Appendix A includes confirmation of ethical approval. The Acceptability Judgment Task, Form–to–Meaning Task and Elicited Oral Production Task are presented in Appendices B, C and D, respectively, in all the language versions. Appendix E presents the C-Tests. Appendix F is the language history questionnaire (itemized LHQ 3). Finally, models' formulas and outputs related with the statistical analysis are presented in Appendix G

Chapter 6 Results

6.1 Introduction

In this chapter, I describe and analyse the results of the research. Before doing so, I recapitulate the theoretical framework, the predictions arising from the theory, and the research questions of this study.

6.1.1 Goal, theoretical framework and predictions

This dissertation aims to pinpoint potential transfer trajectories from the background languages (English and Spanish) to the third or additional language (Italian) in the acquisition of noun phrases (NPs) with kind and generic meanings. It does so by examining the L3 interlanguage grammar, from the early to the more advanced acquisition stages. The research questions addressed by this study are the following:

General research question

1) How does L1 or L2 knowledge influence the acquisition of a third or additional language knowledge of different expressions of kind and genericity meanings?

Specific research questions

2) What is the most probable transfer trajectory in early acquisition of L3 Italian? In particular, i) Is transfer likely to be wholesale or property-by-property? and ii) Is it only facilitative or can it be non-facilitative as well?

3) How does transfer develop at more advanced stages?

4) In what ways do external factors modulate L3 acquisition of generics? That is, i) To what extent is grammaticalization facilitative? and ii) How does L1/L2 experience impact L3 acquisition?

In order to answer these research questions, I developed a battery of experimental materials targeting the acquisition of generic expressions. To assess learners' knowledge of generic NPs, I created an Acceptability Judgment Task (AJT) in Context, modelled on Ionin, Montrul & Santos (2011b), Ionin, Grolla, Santos & Montrul (2015) and Montrul & Ionin (2010). Additionally, the Form–to–Meaning Task (FMT) also looks into comprehension of generics, from the opposite direction (i.e., from the forms to the context); this task was inspired by Gelman & Raman (2003).

Our study also addresses online production of generics with an Elicited Oral Production Task (EOPT), adapted from Miller (2016). Beside providing detailed information on the participants linguistic profiles, the Language History Questionnaire (LHQ 3.0) (Li, Zhang, Yu & Zhao, 2020) was utilized to obtain measure of learners' language immersion. Finally, I established the L2 and L3 proficiency levels with a a C-Test, adapted from those developed by the Universitat Autònoma de Barcelona. The study methodology and the tasks' design are detailed in the previous chapter.

As discussed in Chapter 2, the semantic theory clearly establishes crosslinguistic variation in the distribution of NPs in argument (subject) position between English and Romance languages such as Italian and Spanish (e.g., Chierchia, 1998; Dayal, 2009). That is, while in English bare plurals are predominantly used for the expression of generic meaning, Italian and Spanish require the use of definite nouns, to convey the same interpretation. In addition, English bare nouns are also used in existential contexts, whereas Italian and Spanish similarly deploy indefinite phrases. On the other hand, English and Italian pattern alike in the realization of objects with number neutral interpretation. In these contexts, while bare singulars (BSs) are possible in Spanish, determined phrases (i.e., indefinite and definite singulars) are required in English and Italian, respectively. So, given these structural (dis)similarities across the three languages investigated, models of L3 acquisition hinging on typological proximity as the variable most likely determining L3 transfer patterns would make the following predictions as to the acquisition of generic NPs in L3 Italian.

Firstly, on the basis of lexical and structural similarities between Spanish and Italian, facilitative influence on the acquisition of Italian subjects with generic readings is anticipated by the Typological Primacy Model (TPM) (Rothman *et al.*, 2019) on the one hand, and Scalpel Model (SM) (Slabakova, 2017) and Linguistic Proximity Model (LPM) (Westergaard, 2021a,b), on the other hand. Facilitative effects would happen from early on, and manifest in both comprehension and production. However, accuracy in the oral use of generic subjects may be lower, possibly due to performative pressure. Likewise, facilitation from Spanish is expected by all these models on the acquisition of existential subjects, if detection of structure similarity between Spanish and Italian indefinite plural phrases is established. Crucially, given divergent postulations about transfer being *wholesale* (i.e., complete), according to the TPM, or *property-based* (i.e., dynamic), according to the SM and LPM, the two sets of models make differential predictions on the acquisition of Italian number neutral objects. Specifically, the TPM hypothesizes negative influence from Spanish only, which will manifest in the non-target-like acceptance of Italian bare singulars. Instead, whilst anticipating negative effects from Spanish too (especially for elementary learners), the SM and LPM also expect positive influence from English, on this property. This would imply target-like rejection of Italian bare singulars. As regards definite singulars, all the three models predict indeterminate judgments, since Spanish definite singulars are possible (but

infelicitous), in these contexts. For the SM and LPM only, indeterminacy on this structure can be due to countering positive effects from English as well. Moreover, the Scalpel Model also postulates a role for external variables such as input frequency, namely grammaticalization of the definite article, and language immersion (experience) as to accuracy and rate of acquisition in the L3. More precisely, while article grammaticalization should sustain the acquisition of generic subjects and number neutral objects, language experience is likely to modulate the knowledge outcomes in the L3, in this way. The learners that have greater experience with the background language sharing a similar structure with the L3 would perform better than those that are less experienced in that same language. That is to say, the L1 English trilinguals will outperform the L1 Spanish ones on number neutral objects, while the latter will do better on generic subjects.

Finally, given the sociolinguistic characteristics of our participants as being classroom learners of both the L2 and L3, we consider the predictions of another L3 acquisition model, which capitalizes on the cognitive similarities between L2 and L3 acquisition as stronger predictor driving crosslinguistic influence, namely the L2 Status Factor (L2SF) (Bardel & Sánchez, 2017; Falk & Bardel, 2010). The L2SF would distinguish between the L3 learning outcomes of the two trilinguals' groups involved in this study, depending on the order of acquisition of the background languages. More precisely, the participants would transfer the constructions they have learnt in the L2, (English or Spanish) to the L3 (Italian). So, the L1 English learners are expected to transfer their Spanish grammar, with beneficial effects on the corresponding structures in Italian, namely generic and (to a lesser degree) existential subjects. Instead, they are anticipated to experience negative transfer from Spanish on Italian number neutral objects. Conversely, while the L1 Spanish learners will likely benefit from their English grammar on number neutral objects, they will find it harder to acquire subject noun phrases in generic and existential contexts, where English behaves dissimilarly from Italian.

6.1.2 Chapter structure

Chapter 6 is organized into the following sections. Sections 6.2 and 6.3 present the descriptive and analytical statistics of the English and Spanish experiments, by comparing the performances of the native baselines with those of the L1 Spanish–L2 English learners, in the former, and the L1 English–L2 Spanish learners, in the latter. This is done to establish the trilinguals' grammatical representations in their second language. In Section 6.3, I continue with an account of the trilinguals' performances in L3 Italian, with a comparison between the native controls and each of the learners' groups. By testing the natives, we also intended to assess the actual availability of the targeted grammatical properties in each of the language examined.

In each language version, the experiment included an Acceptability Judgment Task (AJT) in Context, a Form–to–Meaning Task (FMT) and an Elicited Oral Production Task (EOPT). To analyse the AJT data, we used linear mixed effects models, treating the dependent variable (rating) as a continuous one. As for the FMT and EOPT data, we run generalized linear mixed effects models, which are suitable for categorical dependent variables such as accuracy, based on binary scores. Section 6.5 concerns the role of language immersion in shaping the L3 learning outcomes. Qualitative and quantitative information was obtained from the Language Background History Questionnaire (LHQ 3.0). Analytical statistics for these data were conducted by means of paired samples t-tests. Finally, in Section 6.6 I summarize the main findings of this research.

6.2 The English experiment

6.2.1 The English Acceptability Judgement Task (AJT)

The aim of the AJT was to assess speakers' intuitions about the acceptability of generic nominals in the target language. To this end, participants expressed their judgments on a 1-to-4 Likert scale, thereby a rating of 1 or 2 would indicate rejection, and a rating of 3 or 4 would indicate acceptance of the test sentence. Table 18 presents the descriptive statistics, and Figure 3 is a visualization of the controls' performance in this task. In Table 18, as well as in the other tables presented in this chapter, acceptable structures within properties are marked in bold. For clearer comparisons with the other acquisition tasks, i.e., the FMT and EOPT, tables and figures illustrating the AJT results report on subjects with kind readings as *generic subjects*, throughout the chapter.

Table 18: Accuracy by mean rating (1–4 scale) and percentage of choice (English AJT)

	L1 English baseline		**L1 Spanish trilinguals**	
	m (sd)	*%*	*m (sd)*	*%*
Existential subjects (es)				
bare plural (BP)	3.13 (1.05)	70.00	2.77 (1.26)	61.67
definite plural (DefP)	2.03 (1.03)	36.67	2.17 (1.21)	44.44
Generic subjects (gs)				
bare plural (BP)	3.95 (0.29)	98.33	3.57 (0.89)	88.33
definite plural (DefP**)**	2.15 (1.16)	35.00	2.51 (1.31)	52.22
NN objects (nno)				
bare singular (BS)	2.92 (1.18)	66.67	2.42 (1.31)	50.56
indefinite singular (IndefS)	3.78 (0.52)	98.33	3.50 (0.94)	85.56
Specific subjects (ss)				

	L1 English baseline		L1 Spanish trilinguals	
	m (sd)	*%*	*m (sd)*	*%*
bare plural (BP)	1.70 (0.87)	16.67	2.42 (1.28)	45.56
definite plural (DefP)	3.71 (0.62)	90.00	3.43 (0.93)	82.22

Note. The abbreviations in the table have the following meanings: *m* (mean), NN (number neutral) and *sd* (standard deviation).

As Table 18 shows, for each targeted expression, the English natives rated more highly the acceptable structures than the unacceptable ones, according to the anticipations in the literature. Surprisingly, object bare singulars were largely tolerated, with mean ratings approaching acceptance. Such a tolerance is also evident in Figure 3, where data points associated with values of 1 represent outliers, for this structure.

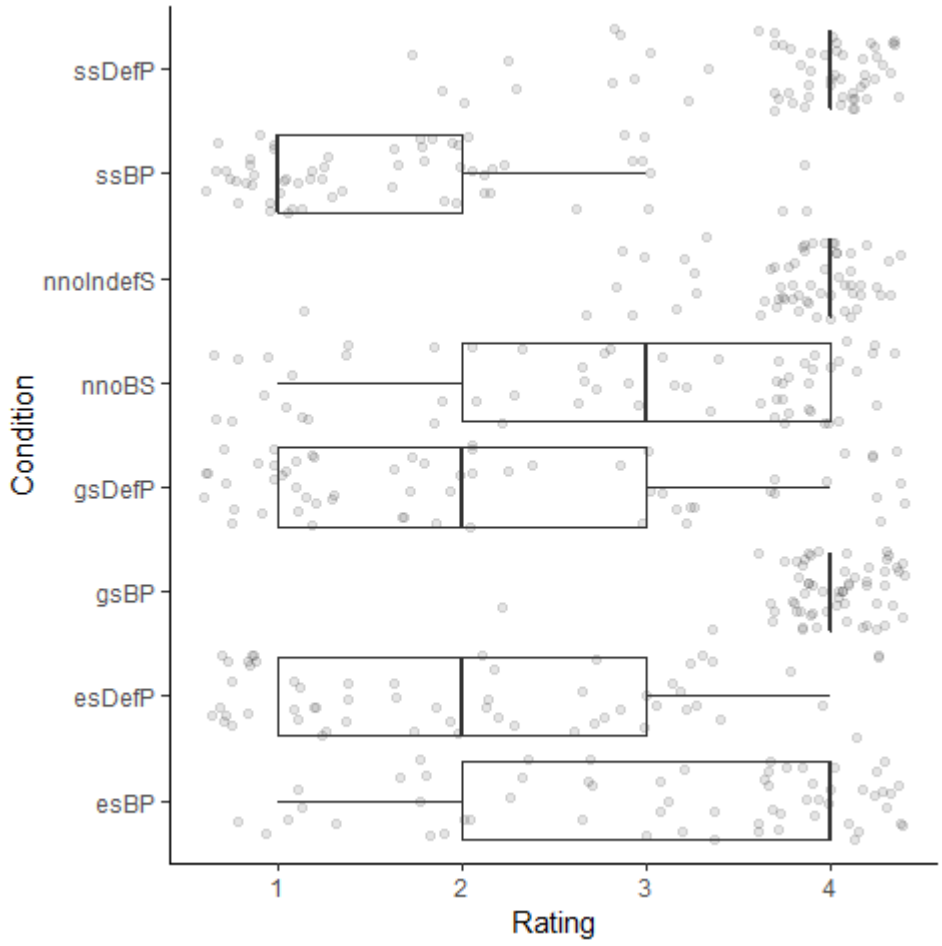


Figure 3: English baseline's performances in the English AJT (Rating by Condition boxplot with data points)

Note. The abbreviations in the graph have the following meanings: esBP (existential subject bare plural), esDefP (existential subject definite plural), gsBP (generic subject bare plural), gsDefP (generic subject definite plural), nnoBS (number neutral object bare singular), IndefS (number

neutral object indefinite singular), ssBP (specific subject bare plural), ssDefP (specific subject definite plural).

In L2 English, the L1 Spanish exhibited a similar pattern to the English natives, with ratings of acceptable structures being higher than those of unacceptable ones, across the board. On existential subjects, although bare plurals were preferred over definite plurals, their mean ratings did not reach acceptance. In fact, learners seemed much more indecisive on existential than generic bare plurals. This uncertainty is clearly visible from Figure 4, with greater data variation being associated with the former structure. In general, within each property, gaps between structures were bigger for the natives than the trilingual learners, indicating more decisive judgements for the former. Such a variation in the L2 data is also evident in the ratings of infelicitous English generic definite plurals and object bare singulars spreading along the full rating scale. This might be suggestive of some negative L1 transfer from Spanish, in which both options are grammatical. Surprisingly, on specific bare plurals (unacceptable in both English and Spanish), the L2 learners' ratings spread along the full scale, as opposed to those of the English baseline, which are mainly associated with values of 1 and 2 (see Figure 3)

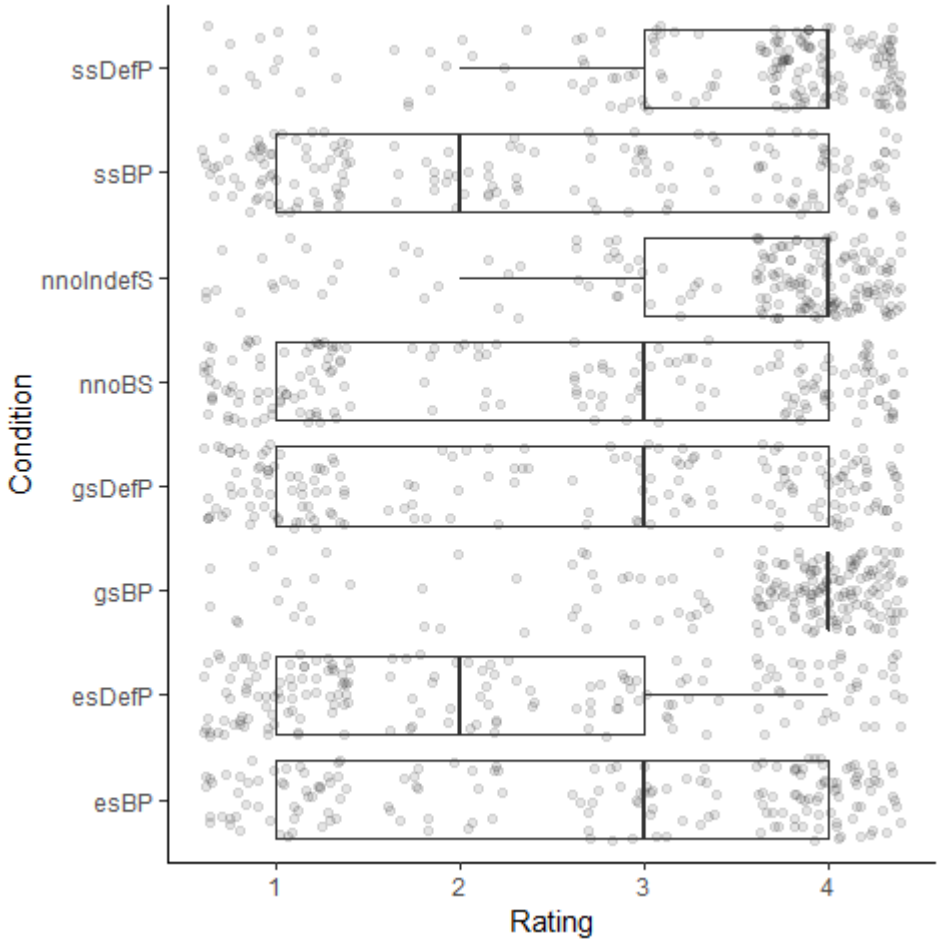


Figure 4: Spanish group's performances in the English AJT (Rating by Condition boxplot

with data points)

Note. The abbreviations in the graph have the following meanings: esBP (existential subject bare plural), esDefP (existential subject definite plural), gsBP (generic subject bare plural), gsDefP (generic subject definite plural), nnoBS (number neutral object bare singular), nnoIndefS (number neutral object indefinite singular), ssBP (specific subject bare plural), ssDefP (specific subject definite plural).

I now illustrate the results of the inferential statistics, with a separate model for each targeted property.

6.2.1.1 English Existential subjects

For clarity, I start by reporting on the participants' performances on English existential subjects (see Table 19).

Table 19: Accuracy by mean rating (1–4 scale) and percentage of choice (English Existential subjects)

	L1 English baseline		**L1 Spanish trilinguals**	
	m (sd)	*%*	*m (sd)*	*%*
Existential subjects (es)				
bare plural (BP)	3.13 (1.05)	70.00	2.77 (1.26)	61.67
definite plural (DefP)	2.03 (1.03)	36.67	2.17 (1.21)	44.44

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

For the statistical analysis, we fit a linear mixed effects model with crossed random effects for subjects and items using the *lme4* package (version 1.1-29) of R (version 4.2.0). In the model, the dependent variable (Rating) was predicted by an interaction of Structure (BP vs. DefP) and English Proficiency. Group (EngBase vs. SpaTril) was added as a separate fixed effect. Following Bross (2019a,b), the dependent variable scalar points were transformed to z-scores (RatingZs). Proficiency was treated as a continuous variable, and raw scores were centered (cEng.Prof). The analysis deployed contrast coded fixed effects for Structure and Group, by converting each predictor into the numeric values of -0.5 and 0.5 (Linck & Cunnings, 2015). Bare plural (BP) was set as reference level for Structure, and English baseline (EngBase) for Group. Following Barr, Levy, Scheepers & Tily (2013), random effects were established in a stepwise manner, by trimming a maximal random effect structure until the model reached convergence. These included random slopes for subject and random intercepts for item. For this and the other properties presented in this chapter, I report the results of the best fitting models. The model for

existential subjects (Model Eng.ES) was checked by means of a Chi-Square Test, which confirmed a significant relationship between Structure and English Proficiency (X^2 = 3.92, *df* = 1, *p* = .048).

The model revealed a significant effect of Structure:DefP (*ß* = -0.57, *SE* = 0.18, *t* = -3.228, *p* = .001), and a two-way significant interaction between Structure:DefP and cEng.Prof (*ß* = -0.05, *SE* = 0.02, *t* = -1.981, *p* = .048). A main effect for cEng.Prof was also found (*ß* = 0.05, *SE* = 0.01, *t* = 4.267, *p* < .001). Thus, in existential environments, the two groups were similarly likely to rate more highly bare plurals than definite plurals, with proficiency in English predicting accuracy. Table 20 shows the model output.

Table 20: Model output (English Existential subjects)

		RatingZs	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	-0.36	-0.55 – -0.16	**<0.001**
Structure:DefP	-0.57	-0.92 – -0.22	**0.001**
cEng.Prof	0.05	0.03 – 0.07	**<0.001**
Group:SpaTril	0.27	-0.10 – 0.63	0.150
Structure:DefP * cEng Prof	-0.05	-0.09 – -0.00	**0.048**

Note. The abbreviations in the table have the following meanings: cEng.Prof (centered English proficiency), DefP (definite plural), SpaTril (Spanish trilinguals).

Hence, in English, existential subjects were observed to be expressed with bare plurals over definite plurals, as expected. Although the L2 learners did well on the contrast between (un)acceptable forms, their ratings of bare plurals did not reach acceptance, unlike the English natives. Additionally, performance was predicted by proficiency. These findings point to some negative transfer effects from L1 Spanish where existential bare plurals are ungrammatical, especially for the less proficient learners.

6.2.1.2 English Generic subjects

Table 21 visualizes the descriptive statistics for the English native speakers and L2 learners' performances on generic subjects.

Table 21: Accuracy by mean rating (1–4 scale) and percentage of choice (English Generic subjects)

	L1 English baseline		**L1 Spanish trilinguals**	
	m (sd)	*%*	*m (sd)*	*%*
Generic subjects (gs)				
bare plural (BP)	3.95 (0.29)	98.33	3.57 (0.89)	88.33
definite plural (DefP**)**	2.15 (1.16)	35.00	2.51 (1.31)	52.22

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

To analyse the data statistically, we run a linear mixed effects model (Model.Eng.GS), where the dependent variable (RatingZs) was predicted by Structure (BP vs. DefP). Group (EngBase vs. SpaTril) and cEng.Prof were added as separate fixed effects. Simple contrasts were coded, with bare plural (BP) being set as a reference level for Structure and English baseline (EngBase) for Group. Random effects included by-subject random slopes and intercepts, and by-group random intercepts. A Chi-Square Test confirmed a significant effect for Structure only (X^2 = 7.04, *df* = 1, *p* < .001). The model (Model.Eng.GS) revealed a significant effect for Structure:DefP (*ß* = -0.99, *SE* = 0.21, *t* = -4.797, *p* < .001). No main effects were found for group or cEng.Prof. This means that both groups were likely to rate significantly more highly generic bare plurals than definite plurals, at any competence levels in English. The model output is displayed in Table 22.

Table 22: Model output (English Generic subjects)

	RatingZs		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	0.18	0.00 – 0.37	**0.049**
Structure:DefP	-0.99	-1.40 – -0.59	**<0.001**
Group:SpaTril	-0.17	-0.41 – 0.08	0.193
cEng.Prof	-0.00	-0.02 – 0.01	0.836

Note. The abbreviations in the table have the following meanings: cEng.Prof (centered English proficiency), DefP (definite plural), SpaTril (Spanish trilinguals).

Therefore, in English, bare plurals are confirmed to express generic readings over definite plurals. The L2 learners behaved in a target-like manner, even at lower proficiency levels in English. This

indicates that negative L1 Spanish transfer (i.e., unacceptability of bare plurals and acceptability of definite plurals) was generally overcome.

6.2.1.3 English Number neutral (NN) objects

In Table 23 are shown the performances of the English natives and the Spanish group on Number neutral objects. Similarly to the other properties, the natives expressed higher ratings of the acceptable structure (indefinite singular), while this is not the case for the unacceptable one (bare singular), with the L2 learners being more certain about their rejection.

Table 23: Accuracy by mean rating (1–4 scale) and percentage of choice (English Number neutral objects)

	L1 English baseline		**L1 Spanish trilinguals**	
	m (sd)	*%*	*m (sd)*	*%*
NN objects (nno)				
bare singular (BS)	2.92 (1.18)	66.67	2.42 (1.31)	50.56
indefinite singular (IndefS)	3.78 (0.52)	98.33	3.50 (0.94)	85.56

Note. The abbreviations in the table have the following meanings: *m* (mean), NN (number neutral), *sd* (standard deviation).

To perform the statistical analysis, we fit a linear mixed effects model (Model.Eng.NNO), where RatingZs was predicted by an interaction between Structure (IndefS vs. BS) and cEng.Prof. Simple contrasts were coded for Structure, with indefinite singular (IndefS) as reference level. Random effects included by-subject random slopes and by-item random intercepts. A Chi-Square Test confirmed a significant relationship between Structure and cEng.Prof (X^2 = 2.82, *df* = 1, *p* = .019). The model revealed a significant effect of Structure:BS (*ß* = -0.74, *SE* = 0.15, *t* = -4.877, *p* < .001), as well as a significant interaction of Structure:BS with cEng.Prof (*ß* = -0.04 , *SE* = 0.02, *t* = -2.432, *p* = .015). Thus, both the native speakers and the Spanish trilinguals were likely to rate more highly object indefinite singulars than bare singulars. This is true across the proficiency continuum, although judgments became more decisive with higher proficiency in English. See the model output in Table 24.

Table 24: Model output (English Number neutral objects)

			RatingZs
Predictors	*Estimates*	*CI*	*p*
(Intercept)	0.24	0.08 – 0.39	**0.002**
Structure:BS	-0.74	-1.04 – -0.44	**<0.001**
cEng.Prof	-0.01	-0.03 – 0.01	0.217
Structure:BS * cEng.Prof	-0.04	-0.08 – -0.01	**0.015**

Note. The abbreviations in the table have the following meanings: BS (bare singular) and cEng.Prof (centered English proficiency).

Then, English indefinite singulars were observed to express number neutral readings over bare singulars, as anticipated in the literature. The L1 Spanish successfully mastered this property too. This indicates that negative influence deriving from bare singulars being legit in Spanish was generally overcome, in L2 English.

6.2.1.4 English Specific subjects

Table 25 displays the two populations' behaviour on specific subjects.

Table 25: Accuracy by mean rating (1–4 scale) and percentage of choice (English Specific subjects)

	L1 English baseline		**L1 Spanish trilinguals**	
	m (sd)	*%*	*m (sd)*	*%*
Specific subjects (ss)				
bare plural (BP)	1.70 (0.87)	16.67	2.42 (1.28)	45.56
definite plural (DefP)	3.71 (0.62)	90.00	3.43 (0.93)	82.22

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

We analysed the data statistically by fitting a linear mixed effects model (Model.Eng.SS), where Rating Zs was predicted by an interaction of Structure (DefP vs. BP) with cEng.Prof, and Group (EngBase vs. SpaTril) being added as a separate fixed effect. Simple contrasts were coded with these reference levels: definite plural (DefP) for Structure and English baseline (EngBase) for Group. Random effects included by-subject random slopes and by-item random intercepts. A

significant relationship between Structure and cEng.Prof was confirmed by a Chi-Square Test (χ^2 = 4.45, *df* = 1, *p* = 0.035). The model revealed a significant effect of Structure:BP (*ß* = -1, *SE* = 0.15, *t* = -6.722, *p* < .001), and a significant interaction between Structure:BP and cEng.Prof (*ß* = -0.04, *SE* = 0.02, *t* = -.2.111, *p* = .035). These results indicate that both groups were likely to rate more highly definite plurals than bare plurals as English specific subjects. This holds irrespective of competence in English, while accuracy increased with higher proficiency.

Table 26: Model output (English Specific subjects)

		RatingZs	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	-0.02	-0.17 – 0.13	0.830
Structure:BP	-1.00	-1.30 – -0.71	**<0.001**
cEng.Prof	-0.00	-0.02 – 0.02	0.690
Group:SpaTril	0.08	-0.23 – 0.38	0.622
Structure:BP * cEng.Prof	-0.04	-0.08 – -0.00	**0.035**

Note. The abbreviations in the table have the following meanings: BP (bare plural), cEng.Prof (centered English proficiency), SpaTril (Spanish trilinguals).

Hence, the baseline data confirmed that English specific subjects are realized as definite plurals over bare plurals. Overall, the L1 Spanish behaved in a target-like manner, in this discrimination.

6.2.2 The English Form–to–Meaning Task (FMT)

The FMT addressed the interpretation of generic subjects, starting from the forms first. The English task included three conditions, two conditions (Gen-Sp and Gen+Sp) presenting bare plurals, and one condition (Sp-Gen) presenting definite plurals, as target forms. As regards Condition Gen-Sp, stimulus questions should prompt generic readings only, while specific readings solely are associated with Condition Sp-Gen. Responses were coded as (in)accurate, accordingly. Condition Gen+Sp serves as control.

Table 27: Accuracy rates by item and percentage (English FMT)

	L1 English baseline		L1 Spanish trilinguals	
	Item tot = 100	*%*	*Item tot = 300*	*%*
Reading				
Gen-Sp (only generic)	95	95	100	33.33
Sp-Gen (only specific)	98	98	268	89.33
Gen+Sp (control)	100	100	300	100

The English controls exhibited a homogeneous behaviour, with accuracy being virtually at ceiling across conditions (see Table 27). Whilst providing clear evidence of the truth-value of the generic assertions being tested, these data also show that the natives performed equally well in assigning generic interpretations to question stimuli with bare plurals, and specific interpretations to question stimuli with definite plurals. These findings are in line with what was found by the literature about the strength of bare plurals as linguistic cues (forms) capable of prevailing over misleading pragmatic contexts (Gelman & Raman, 2003) (see also Chapter 3).

As to L2 English, in Condition Sp-Gen, the Spanish trilinguals seemed confident in interpreting English definite plurals as specific. Instead, in Condition Gen-Sp, the proportion of generic responses given to the questions (containing bare plurals) is somewhat small (33.33% of the cases). Recall that these two conditions present the same visual contexts, depicting atypical entities of the species mentioned in the questions. Thus, the Spanish had difficulty in interpreting English bare plurals as generic, when presented in misleading contexts.

As regards the statistical analysis, I report the model fitted to the L2 data only, since no other models converged. We used a logistic mixed effects regression model (Model.L2Eng.FMT), where Accuracy was predicted by Reading (Gen-Sp vs. Sp-Gen vs. Sp+Gen). Simple contrasts were coded for Reading, with Gen+Sp as reference level. The predictors were converted into the numeric values of -0.33, 0.33 and 0.67. Random effects included by-subject and by-item random intercepts. The model revealed no significant effect of either Reading:Gen-Sp or Reading:Sp-Gen. However, a Chi-Square Test found a significant main effect of Reading ($\chi^2 = 87.42$, $df = 2$, $p < .001$). Table 28 presents the model output.

Table 28: Model output (L2 English FMT)

		Accuracy	
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	4051.22	0.00 – 12303886357169038 9504.00	0.668
Reading:Gen-Sp	0.00	0.00 – 13697025411667347 4266806848202044862220 2.00	0.683
Reading:Sp-Gen	0.00	0.00 – 11758588639849870 0120660866808046820204 680.00	0.740

Note. The abbreviations in the table have the following meanings: Gen-Sp (only generic) and Sp-Gen (only specific).

Post-hoc pairwise comparisons of Reading were run using the package *emmeans*. A significant difference between Reading:Gen-Sp and Reading:Sp-Gen ($p < .0001$) was found. Thus, the L1 Spanish were more likely to be accurate in interpreting definite plurals as specific than bare plurals as generic, when these forms are equally associated with contexts depicting atypical individuals of a species. These findings may suggest a differential acquisition pattern in L2 English as to the interpretation of bare plurals, when comprehension starts from the forms. Figure 5 shows the effect of Reading, whereby accuracy on Reading Gen-Sp clearly drops, as opposed to each of the other two readings.

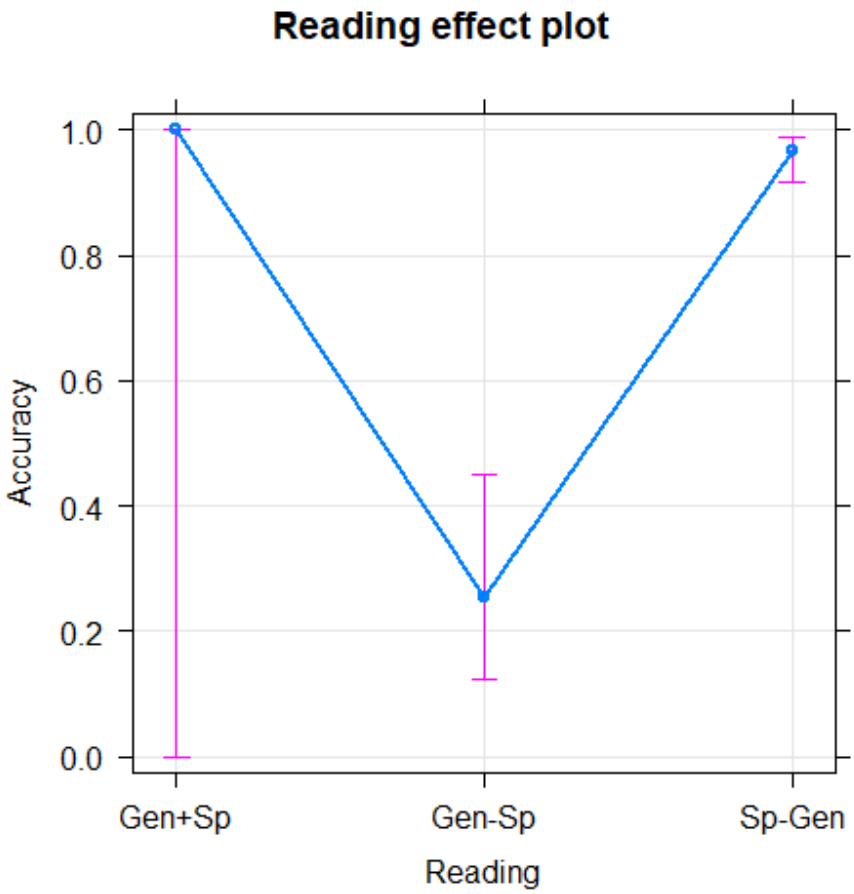


Figure 5: Effect of Reading (L2 English FMT model)

Note. The abbreviations in the graph have the following meanings: Gen-Sp (only generic), Gen+Sp (generic and specific) and Sp-Gen (only specific).

To summarize, while the English natives clearly distinguished between forms to use in generic contexts (bare plurals) and specific ones (definite plurals), this was not the case for the L2 learners, who were accurate with the latter environment only. More precisely, the Spanish trilinguals did not perform in a target-like fashion when English bare plurals were associated with contexts non-supportive of the generic meaning.

6.2.3 The English Elicited Oral Production Task (EOPT)

The EOPT assessed performance in online production of generic subjects. The English task consisted of a generic (Gen) and a specific (Sp) condition. In the former, bare plurals were coded as correct answers, while in the latter definite plurals were considered as correct ones. However, based on the piloting data, bare plurals were also accepted, in the specific context (see Chapter 5 for detail).

Table 29: Accuracy rates by item and percentage (English Oral Task)

	L1 English baseline		L1 Spanish trilinguals	
	Item tot = 80	*%*	*Item tot = 240*	*%*
Reading				
Generic (Gen)	80	100	181	75.42
Specific (Sp)	80	100	216	90.00

As expected, the English natives were at ceiling in the use of generic subjects. The L 1 Spanish learners were also fairly accurate, producing bare plural nouns 75.42% of the times (see Table 29).

Table 30: Model output (English Oral Task)

	Accuracy		
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	47.20	16.02 – 139.06	**<0.001**
Reading:Gen	0.16	0.07 – 0.37	**<0.001**
cEng.Prof	1.30	1.15 – 1.47	**<0.001**

Note. The abbreviations in the table have the following meanings: Gen (generic) and cEng.Prof (centered English proficiency).

A logistic mixed effects regression model was fitted to the data. In this model (Model.Eng. Oral), Accuracy was predicted by Reading (Gen vs. Sp), with cEng.Prof being added as a separate fixed effect. Simple contrasts were coded for Reading, with Sp as reference level. Random effects included by-subject and by-item random intercepts. A Chi-Square Test confirmed a significant main effect of Reading (χ^2 = 13.96, *df* = 1, *p* < .001) and cEng.Prof (χ^2 = 19.03, *df* = 1, *p* < .001). The model revealed a significant effect of Reading:Gen (*ß* = -1.86, *SE* = 0.44, *z* = -4.225, *p* < .001) and cEng.Prof (*ß* = 0.26, *SE* = 0.06, *z* = 4.291, *p* < .001). Table 30 reports on the model output. Thus, accuracy was significantly higher on specific than generic subjects and was predicted by competence in English. For the L2 learners, these data point to the presence of negative L1 transfer on the use of generic bare plurals, which are illicit in Spanish. This seems especially true for the non-advanced learners, as can be seen from Figure 6, whereby a plateau is reached with more advanced proficiency. Performative constraints associated with online production may to some extent account for their performances as well.

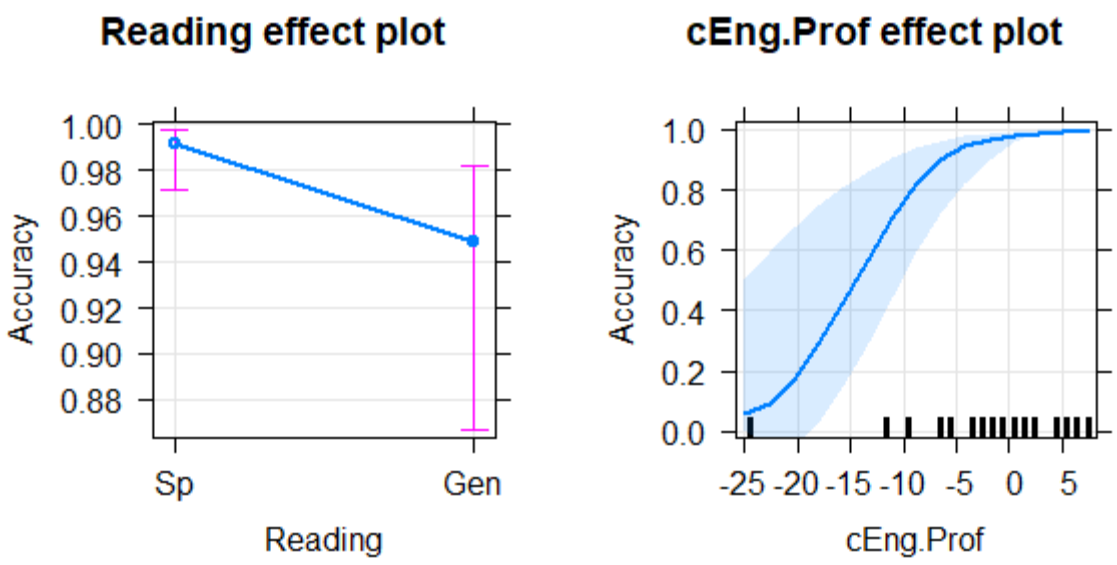


Figure 6: Effect of Reading and English proficiency (English Oral Task model)

Note. The abbreviations in the graph have the following meanings: cEng.Prof (centered English proficiency), Gen (generic), Sp (specific).

Hence, in English, bare plurals are confirmed to be used as subjects of generic statements by the natives' data. In L2 English, accuracy on this form was predicted by proficiency.

6.2.4 Summary

In this section, I have presented the results from the English experiment, as taken by the native speakers and the L2 learners. Significant contrasts between unacceptable and acceptable forms within each property were observed, confirming the distribution of generic expressions postulated in the semantics literature for English. Surprisingly, on NN objects, evidence of the impossibility of English bare singulars is not very strong, as their ratings approached acceptance.

In L2 English, the Spanish learners revealed they had mastered the use of generic NPs, albeit to different degrees in each task. While acquisition of generic subjects was supported by the judgement data and (less strongly) by the oral data, their status in the L2 English grammar of the Spanish learners seems more problematic in the form-to-meaning comprehension direction. As for existential subjects and number neutral objects, evidence of their acquisition is stronger for the latter property.

6.3 The Spanish experiment

6.3.1 The Spanish Acceptability Judgement Task (AJT)

The Spanish and Italian experiments present an additional condition to those contained in the English task for existential subjects, namely definite plural nouns, which are considered infelicitous across the three languages. The performances of the Spanish controls and the L2 learners are shown in Table 31.

Table 31: Accuracy by mean rating (1–4 scale) and percentage of choice (Spanish AJT)

	L1 Spanish baseline		**L1 English trilinguals**	
	m (sd)	*%*	*m (sd)*	*%*
Existential subjects (es)				
bare plural (BP)	1.40 (0.62)	6.67	2.28 (0.97)	43.89
definite plural (DefP)	2.08 (0.90)	26.67	2.66 (1.08)	53.33
indefinite plural (IndefP)	3.30 (0.89)	81.67	3.37 (0.97)	81.11
Generic subjects (gs)				
bare plural (BP)	1.40 (0.92)	10.00	2.23 (1.00)	41.67
definite plural (DefP)	3.66 (0.73)	90.00	3.66 (0.79)	90.56
NN objects (nno)				
bare singular (BS)	3.63 (0.69)	91.67	2.89 (1.04)	62.67
definite singular (DefS)	2.68 (1.19)	56.67	2.98 (1.06)	65.56
Specific subjects (ss)				
bare plural (BP)	1.35 (0.82)	11.67	1.81 (0.85)	18.59
definite plural (DefP)	3.42 (0.94)	80.00	3.53 (0.88)	88.33

Note. The abbreviations in the table have the following meanings: *m* (mean), NN (number neutral) and *sd* (standard deviation).

As shown in Table 31, the Spanish natives rated more highly structures expected to be acceptable in the literature than those expected to be unacceptable, across the board. With regard to NN objects, Figure 7 displays much Individual variation on definite singular objects, with the main data points spreading up to the value of 4. This is not surprising, for their use is pragmatically infelicitous (or marked) rather than ungrammatical.

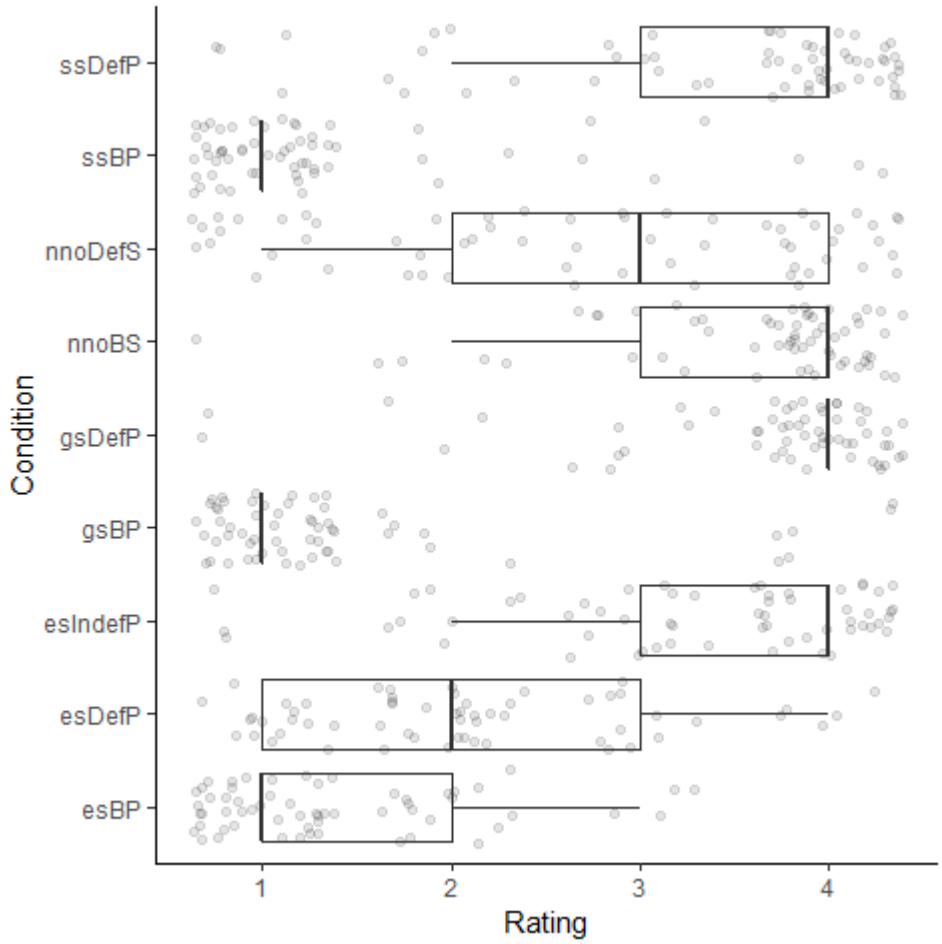


Figure 7: Spanish baseline's performances in the Spanish AJT (Rating by Condition boxplot with data points)

Note. The abbreviations in the graph have the following meanings: esBP (existential subject bare plural), esDefP (existential subject definite plural), esIndefP (existential subject indefinite plural), gsBP (generic subject bare plural), gsDefP (generic subject definite plural), nnoBS (number neutral object bare singular), nnoDefS (number neutral object definite singular), ssBP (specific subject bare plural), ssDefP (specific subject definite plural).

Turning to L2 Spanish, overall, the English trilinguals performed well on existential, generic and specific subjects. To the contrary, on NN objects, they did not show a preference of one form over the other, with mean ratings of definite singulars being very close to those of bare singulars. Their uncertainty on Spanish objects is also evident from Figure 8, with the majority of datapoints being equally distributed between the values of 2 and 4, for both forms. Individual variation is also evident on ungrammatical Spanish generic bare plurals, for which only data points associated with the value of 4 are outliers. This is unlike the Spanish natives, which clearly rejected bare plural nouns (see Figure 7). The L2 data, then, point to the presence of some negative transfer effects from L1 English, where bare plurals are indeed licit with generic readings.

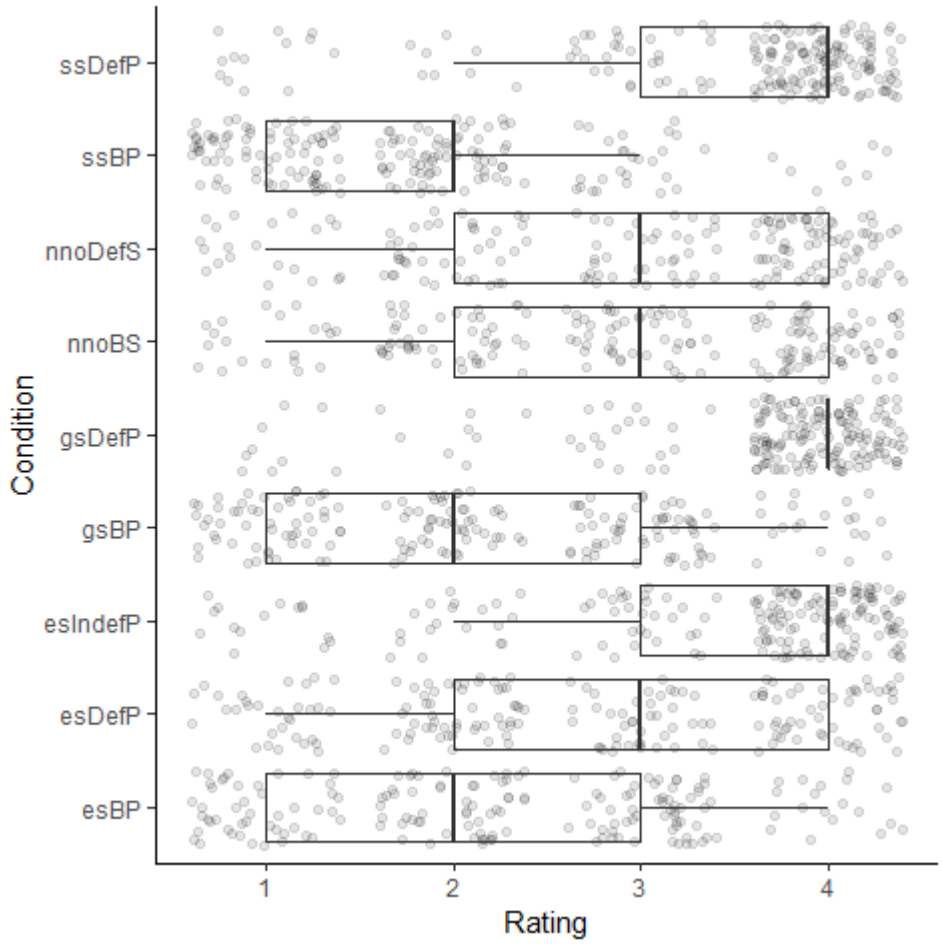


Figure 8: English group's performances in the Spanish AJT (Rating by Condition boxplot with datapoints)

Note. The abbreviations in the graph have the following meanings: esBP (existential subject bare plural), esDefP (existential subject definite plural), esIndefP (existential subject indefinite plural), gsBP (generic subject bare plural), gsDefP (generic subject definite plural), nnoBS (number neutral object bare singular), nnoDefS (number neutral object definite singular), ssBP (specific subject bare plural), ssDefP (specific subject definite plural).

I now present the statistical analysis of each targeted property separately.

6.3.1.1 Spanish Existential subjects

As displayed in Table 32, overall, the L2 Spanish learners patterned together with the native controls on each of the forms investigated as existential subjects.

Table 32: Accuracy by mean rating (1–4 scale) and percentage of choice (Spanish Existential subjects)

	L1 Spanish baseline		**L1 English trilinguals**	
	m (sd)	*%*	*m (sd)*	*%*
Existential subjects (es)				
bare plural (BP)	1.40 (0.62)	6.67	2.28 (0.97)	43.89
definite plural (DefP)	2.08 (0.90)	26.67	2.66 (1.08)	53.33
indefinite plural (IndefP)	3.30 (0.89)	81.67	3.37 (0.97)	81.11

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

The data were analysed statistically by means of a linear mixed effects model (Model.Spa.ES), where RatingZs was predicted by an interaction of Structure (IndefP vs. DefP vs. BP) with Spanish Proficiency (cSpa.Prof). Simple contrasts were set for Structure, with indefinite plural (IndefP) as reference level. Random effects included random intercepts for subject and item. A significant relationship between the model predictors was found by a Chi-Square Test (X^2 = 5.87, *df* = 2, *p* < .001). The model revealed a significant effect of Structure:BP (*ß* = -1.09, *SE* = 0.13, *t* = -8.505, *p* <.001) and Structure:DefP (*ß* = -0.71, *SE* = 0.13, *t* = -5.288, *p* < .001). A significant two-way interaction was also found between Structure:BP and cSpa.Prof (*ß* = -0.10, *SE* = 0.02, *t* = -4.353, *p* < .001), and Structure:DefP and cSpa.Prof (*ß* = -0.11, *SE* = 0.02, *t* = -4.506, *p* < .001). There was no main effect of cSpa.Prof. Thus, the Spanish baseline and the L2 learners behaved similarly in discriminating between acceptable indefinite plurals, on the one hand, and unacceptable bare plurals and definite plurals, on the other hand. Proficiency acted as a booster rather than as a predictor of performance. See Table 33 for the model output.

Table 33: Model output (Spanish Existential subjects)

		RatingZs	
Predictors	*Estimates*	*CI*	*p*
(Intercept)	-0.09	-0.24 – 0.05	0.204
Structure:BP	-1.09	-1.35 – -0.84	**<0.001**
Structure:DefP	-0.71	-0.97 – -0.45	**<0.001**
cSpa.Prof	-0.01	-0.04 – 0.01	0.338
Structure:BP * cSpa.Prof	-0.10	-0.15 – -0.06	**<0.001**
Structure:DefP * cSpa.Prof	-0.11	-0.16 – -0.06	**<0.001**

Note. The abbreviations in the table have the following meanings: BP (bare plural), cSpa.Prof (centered Spanish proficiency), DefP (definite plural).

Post-hoc pairwise comparisons of Structure found the following significant differences. Indefinite plurals were rated significantly more highly than bare plurals and definite plurals ($p < .0001$). Definite plurals were also rated more highly than bare plurals ($p = .0616$), this contrast being nearly significant. Thus, existential definite plurals can be best descried as infelicitous rather than fully ungrammatical forms, in Spanish.

All in all, both the Spanish natives and the L2 learners distinguished between acceptable structures (i.e., indefinite plurals) and unacceptable ones (i.e., bare and definite plurals), to express Spanish existential readings. Thus, the latter population generally overcame negative L1 influence, deriving from bare plurals carrying such readings in English.

6.3.1.2 Spanish Generic subjects

As Table 34 shows, on generic subjects, the Spanish nativ controls and the L2 learners similarly accepted definite plurals and rejected bare plurals, with the L2 learners being more tolerant on the latter form.

Table 34: Accuracy by mean rating (1–4 scale) and percentage of choice (Spanish Generic subjects)

	L1 Spanish baseline		**L1 English trilinguals**	
	m (sd)	*%*	*m (sd)*	*%*
Generic subjects (gs)				
bare plural (BP)	1.40 (0.92)	10.00	2.23 (1.00)	41.67
definite plural (DefP)	3.66 (0.73)	90.00	3.66 (0.79)	90.56

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

To perform the statistical analysis, a linear mixed effects model was run. In the model (Model.Spa.GS), RatingZs was predicted by Structure (DefP vs. BP) in interaction with Group (SpaBase vs. EngTril), while cSpa.Prof was added as a separate fixed effect. Simple contrasts were set for Structure, with definite plural (DefP) as reference level, and for Group, with Spanish baseline (SpaBase) as reference level. Random effects included by-subject and by-item random intercepts. A Chi-Square Test confirmed a significant relationship between Structure and Group (X^2 = 5.69, *df* = 1, *p* = .017). The model revealed a significant effect of Structure:BP (*ß* = -1.57, *SE* = 0.15, *t* = -10.356, *p* < .001) and Group:EngTril (*ß* = 0.41, *SE* = 0.18, *t* = 2.349, *p* = .019), as well as a significant interaction between Structure:BP and Group:EngTril (*ß* = 0.71, *SE* = 0.29, *t* = 2.412, *p* = .016). Table 35 is the model output. Thus, while all participants were likely to rate significantly more highly acceptable definite plurals over unacceptable bare plurals, the natives statistically outperformed the L1 English, in this discrimination.

Table 35: Model output (Spanish Generic subjects)

	RatingZs		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	-0.03	-0.19 – 0.13	0.728
Structure:BP	-1.57	-1.87 – -1.27	**<0.001**
Group:EngTril	0.41	0.07 – 0.76	**0.019**
cSpa.Prof	0.01	-0.02 – 0.04	0.461
Structure:BP * Group:EngTril	0.71	0.13 – 1.28	**0.016**

Note. The abbreviations in the table have the following meanings: BP (bare plural), cSpa.Prof (centered Spanish proficiency), EngTril (English trilinguals).

These findings confirm that, in Spanish, generic subjects are expressed with definite plurals, while bare plurals are ungrammatical. Like the Spanish natives, the English trilinguals successfully discriminated between definite and bare nouns, across the L2 proficiency continuum. However, they were significantly different from the baseline, by expressing higher ratings of unacceptable bare plurals. This difference suggests the presence of negative transfer from English, where bare plurals can carry generic meaning.

6.3.1.3 Spanish Number neutral (NN) objects

On NN objects, the Spanish baseline and the L2 learners behaved differentially, with the latter group assigning similar ratings to both bare and definite singulars (see Table 36).

Table 36: Accuracy by mean rating (1–4 scale) and percentage of choice (Spanish Number neutral objects)

	L1 Spanish baseline		**L1 English trilinguals**	
	m (sd)	*%*	*m (sd)*	*%*
NN objects (nno)				
bare singular (BS)	3.63 (0.69)	91.67	2.89 (1.04)	62.67
definite singular (DefS)	2.68 (1.19)	56.67	2.98 (1.06)	65.56

Note. The abbreviations in the table have the following meanings: *m* (mean), NN (number neutral) and *sd* (standard deviation).

We fit a linear mixed effects model (Model.Spa.NNO), where RatingZs was predicted by an interaction of Structure (BS vs. DefS) with Group (SpaBase vs. EngTril); cSpa.Prof was treated as a separate fixed effect. Simple contrasts were set for Structure and Group, with bare singular (BS) and Spanish baseline (SpaBase) as reference levels, respectively. Random effects included by-subject random slopes and by-item random intercepts. A significant relationship between Structure and Group was found by means of a Chi-Square Test (X^2 = 1.88, *df* = 1, *p* = .037). The model revealed a significant interaction between Structure:DefS and Group:EngTril (*ß* = 0.89, *SE* = 0.41, *t* = 2.160, *p* = .031). Thus, the Spanish natives were significantly more likely than the English trilinguals to accept bare singulars over definite singulars, as objects with number neutral interpretation. The model output is displayed in Table 37.

Table 37: Model output (Spanish Number neutral objects)

			RatingZs
Predictors	*Estimates*	*CI*	*p*
(Intercept)	0.24	0.02 – 0.46	**0.033**
Structure:DefS	-0.36	-0.89 – 0.17	0.182
Group:EngTril	-0.16	-0.48 – 0.16	0.320
cSpa.Prof	0.00	-0.02 – 0.03	0.724
Structure:DefS * Group:EngTril	0.89	0.08 – 1.71	**0.031**

Note. The abbreviations in the table have the following meanings: cSpa.Prof (centered Spanish proficiency), DefS (definite singular), EngTril (English trilinguals).

Therefore, while the Spanish natives exhibited a preference for bare singulars over definite singulars as Spanish objects with number neutral interpretation, this does not hold true for the L2 learners. In fact, the relatively high ratings assigned to Spanish bare singulars by the latter group is reminiscent of a similar tolerance for English bare singulars, unveiled in the English baseline data. L1 English transfer may account for the behaviour of the L2 learners, to some extent.

6.3.1.4 Spanish Specific subjects

The Spanish native speakers and the L2 learners' performances are shown in Table 38.

Table 38: Accuracy by mean rating (1–4 scale) and percentage of choice (Spanish Specific subjects)

	L1 Spanish baseline		**L1 English trilinguals**	
	m (sd)	*%*	*m (sd)*	*%*
Specific subjects (ss)				
bare plural (BP)	1.35 (0.82)	11.67	1.81 (0.85)	18.59
definite plural (DefP)	3.42 (0.94)	80.00	3.53 (0.88)	88.33

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

For the purposes of the statistical analysis, we fit a linear mixed effects model (Model.Spa.SS), where RatingZs was predicted by Structure (DefP vs. BP) in interaction with cSpa.Prof, with Group

(SpaBase vs. ENgTril) being added as a separate fixed effect. Simple contrasts were coded, with definite plural (DefP) as reference level for Structure and Spanish baseline (SpaBase) as reference level for Group. Random effects included random slops for subject and random intercepts for item. A Chi-Square Test found a nearly significant main effect of Group (X^2 = 3.10, *df* = 1, *p* = .078) and a significant relationship between Structure and cSpa.Prof (X^2 = 4.09, *df* = 1, *p* = .043). The model revealed a significant effect of Structure:BP (*ß* = -1.54, *SE* = 0.16, *t* = -9.787, *p* < .001) and a significant interaction between Structure:BP and cSpa.Prof (*ß* = -0.06, *SE* = 0.03, *t* = -2.029, *p* = .043). Thus, the two groups rated significantly more highly specific definite plurals than specific bare plurals, with a tendency for the Spanish natives to have more decisive judgments. Moreover, proficiency boosted performance. See Table 39 for the model output.

Table 39: Model output (Spanish Specific subjects)

			RatingZs
Predictors	*Estimates*	*CI*	*p*
(Intercept)	-0.20	-0.35 – -0.04	**0.012**
Structure:BP	-1.54	-1.84 – -1.23	**<0.001**
cSpa Prof	0.00	-0.02 – 0.03	0.822
Group:EngTril	0.26	-0.03 – 0.55	0.083
Structure:BP * cSpa.Prof	-0.06	-0.11 – -0.00	**0.043**

Note. The abbreviations in the table have the following meanings: BP (bare plural), cSpa.Prof (centered Spanish proficiency), EngTril (English trilinguals).

Hence, as expected, Spanish specific subjects were observed to be realized with definite as opposed to bare nouns. Overall, this property was successfully mastered by the L1 English as well.

6.3.2 The Spanish Form–to–Meaning Task

The Spanish FMT included two conditions, one where definite subjects could be interpreted either as specific or generic nouns (Sp-Gen), and the other where these two interpretations co-occur (Sp+Gen). Based on the piloting, In condition Sp-Gen, specific responses were coded as accurate, and generic responses as inaccurate.

Table 40: Accuracy rates by item and percentage (Spanish FMT)

	L1 Spanish baseline		**L1 English trilinguals**	
	Item ***tot= 100***	*%*	*Item* ***tot= 300***	*%*
Reading				
Sp-Gen (only specific)	98	100	291	97
Sp+Gen (specific and generic)	100	100	299	99.67

What Table 40 shows is a large preference for specific readings of Spanish plural definite subjects, when this form could have either a specific or a generic interpretation (Sp-Gen), with only a small proportion of responses being interpreted generically by both the Spanish natives (2%) and the English trilinguals (3%).

The data were analysed statistically with a logistic mixed effects regression model. In this model (Model.Spa. FMT), Accuracy was predicted by Reading (Sp-Gen vs. Sp+Gen) in interaction with cSpa.Prof. Simple contrasts were coded for Reading, with Sp+Gen as reference level. Random effects included by-subject and by-item random intercepts. A Chi-Square Test confirmed a significant relationship between Reading and cSpa.Prof (χ^2 = 5.79, *df* = 1, *p* = .016). No significant effects were revealed by the model (see Table 41). This means that the effect of cSpa.Prof is quite similar across readings, although there is a slight tendency for the L2 learners to give more specific answers with increasing Spanish competence. This effect can be appreciated in Figure 9.

Table 41: Model output (Model Spanish FMT)

	Accuracy		
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	1507552.48	104.78 – 21689754056.89	**0.004**
Reading:Sp-Gen	0.00	0.00 – 3.55	0.103
cSpa.Prof	1.14	0.75 – 1.74	0.547
Reading: Sp-Gen * cSpa.Prof	0.48	0.20 – 1.17	0.107

Note. The abbreviations in the table have the following meanings: cSpa.Prof (centered Spanish proficiency), Sp-Gen (only specific).

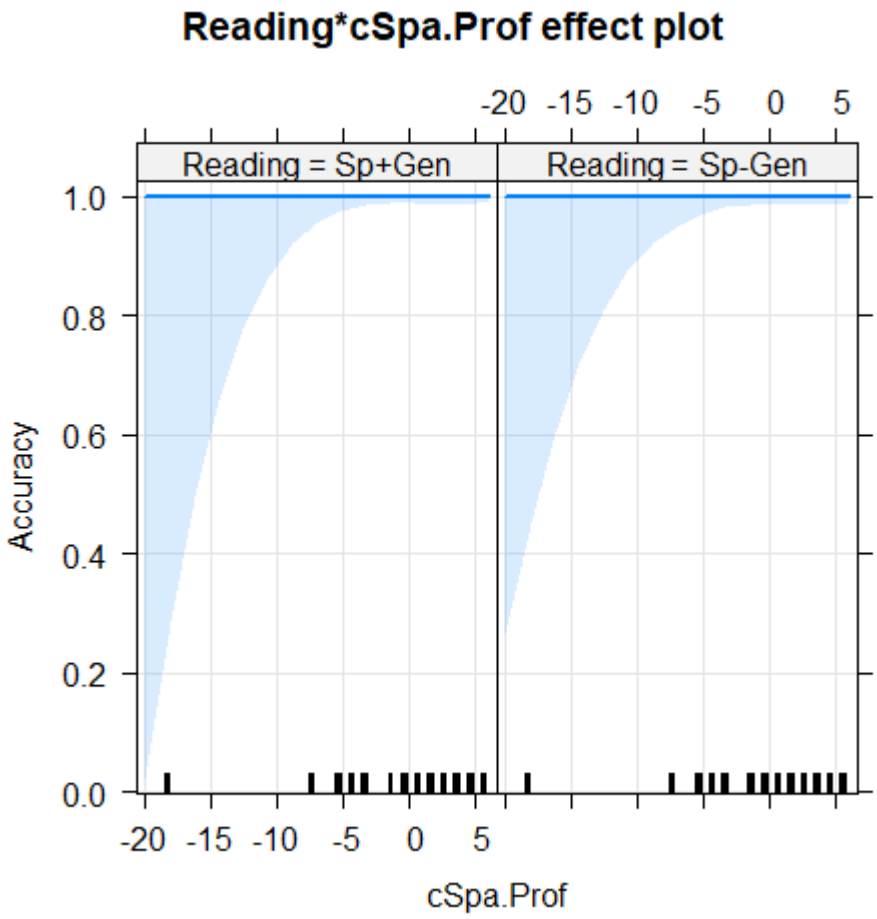


Figure 9; Effect of Reading by Spanish proficiency (Spanish FMT model)

Note. The abbreviations in the graph have the following meanings: Sp+Gen (generic and specific) and Sp-Gen (only specific).

In sum, both the Spanish native controls and the English trilinguals interpreted definite plural subjects specifically, in contexts non-supportive of the generic reading.

6.3.3 The Spanish Elicited Oral Production Task

The Spanish EOPT consisted of two conditions, one addressing generic (Gen) and the other specific (Sp) readings of plural NPs. Definite plurals were coded as accurate answers, while all other nominals as inaccurate ones.

Table 42: Accuracy rates by item and percentage (Spanish Oral Task)

	L1 Spanish baseline		L1 English Trilinguals	
	Item tot = 80	*%*	*Item tot= 240*	*%*
Reading				
Generic (Gen)	80	100	226	94.17
Specific (Sp)	78	97.5	235	97.92

As reported in Table 42, the Spanish controls behaved (virtually) at ceiling across the board, confirming that definite nouns are equally used in generic and specific statements, in Spanish. In general, the L1 English too did very well, supplying a slightly greater amount of definite nouns in specific than generic environments.

Table 43; Model output (Spanish Oral Task)

	Accuracy		
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	1584.65	40.47 – 62045.06	**<0.001**
Reading:Gen	0.32	0.09 – 1.13	0.076
Group:EngTril	0.73	0.03 – 19.82	0.850

Note. The abbreviations in the table have the following meanings: EngTril (English trilinguals) and Gen (generic).

We used a logistic mixed effects regression model (Model.Spa.Oral), where Accuracy was predicted by Reading (Gen vs. Sp), with Group (SpaBase vs. EngTril) added as a separate fixed effect. Simple contrasts were coded for Reading and Group, with Specific (Sp) being the reference level for the former variable, and Spanish baseline (SpaBase) for the latter variable. Random effects included random intercepts for subject and item. A Chi-Square Test found a nearly significant main effect of Reading (X^2 = 3.26, *df* = 1, *p* = .071). No significant effects were revealed by the model (see Table 43). Thus, the participants behaved homogeneously in their use of definite plurals as Spanish generic subjects. Figure 10 shows their performances.

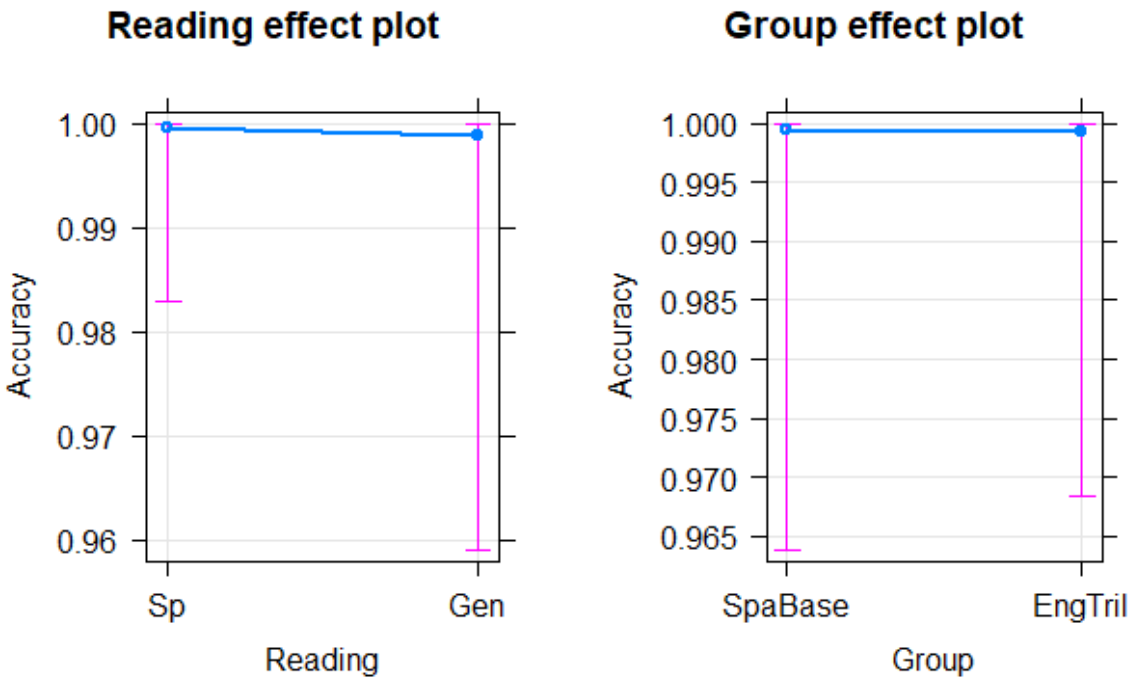


Figure 10; Effect of Reading and Group (Spanish Oral Task model)

Note. The abbreviations in the graph have the following meanings: EngTril (English trilinguals), Gen (generic), Sp (specific) and SpaBase (Spanish baseline).

In Spanish, definite plural nouns are then confirmed to be equally used in generic and specific statements. The L1 English showed successful acquisition of this property.

6.3.4 Summary

In this section, I have illustrated the results from the Spanish experiment, as taken by the L1 and L2 populations. We found evidence that Spanish NPs with kind reference are distributed as postulated in the semantics literature for this language. Importantly, in object position, bare singulars were observed to express number neutral readings, with definite singulars being infelicitous rather than ungrammatical options.

As to the L2 data, the English group showed differential acquisition of generic expressions. Whereas performances on existential and specific subjects were target-like, data on generic subjects are less straightforward. On this property, the L1 English performance differed significantly from the Spanish baseline with respect to their tolerance for ungrammatical bare plurals, suggesting some negative English transfer. Additionally, they exhibited learning difficulty with singular objects, which were not mastered successfully, at a group level. Instead, their behaviour was target-like in the form-to-meaning comprehension direction and in oral production. L2 proficiency did not predict acquisition, all together.

6.4 The Italian experiment

6.4.1 The Italian Acceptability Judgment Task (AJT)

The descriptive statistics for the Italian natives and the L3 Italian learners is presented in Table 44. The performances of the controls are shown in Figure 11, while those of the L3 learners are visualized in Figure 12 (L1 English group) and Figure 13 (L1 Spanish group).

Table 44: Accuracy by mean rating (1–4 scale) and percentage of choice (Italian AJT)

	Italian baseline		**L1 English**		**L1 Spanish**	
	m (sd)	*%*	*m (sd)*	*%*	*m (sd)*	*%*
Existential subjects (es)						
bare plural (BP)	1.34 (0.62)	7.14	2.01 (0.99)	29.44	1.87 (1.12)	27.78
definite plural (DefP)	2.22 (1.03)	43.65	2.82 (1.19)	63.33	2.38 (1.24)	44.44
partitive plural (PartP)	3.28 (1.09)	79.37	2.95 (1.14)	63.89	2.60 (1.22)	53.89
Generic subjects (gs)						
bare plural (BP)	1.49 (0.94)	14.29	2.26 (1.09)	42.22	2.31 (1.27)	44.44
definite plural (DefP)	3.69 (0.74)	86.51	3.57 (0.80)	87.78	3.57 (0.92)	84.44
NN objects (nno)						
bare singular (BS)	1.77 (1.20)	23.02	2.46 (1.13)	47.78	2.45 (1.29)	49.44
definite singular (DefS)	3.69 (0.65)	90.48	3.39 (0.90)	81.67	3.49 (0.86)	88.33
Specific subjects (ss)						
bare plural (BP)	1.30 (0.67)	9.52	1.76 (0.92)	18.89	2.07 (1.23)	36.67
definite plural (DefP)	3.57 (0.80)	89.68	3.34 (1.06)	76.11	3.25 (1.05)	74.44

Note. The abbreviations in the table have the following meanings: *m* (mean), NN (number neutral) and *sd* (standard deviation).

The Italian natives rated more highly the structures deemed acceptable in the literature than those deemed unacceptable, across the board. Judgements of existential definite plurals were the least homogenous, with the greatest data spread among the unacceptable structures (see Figure 11).

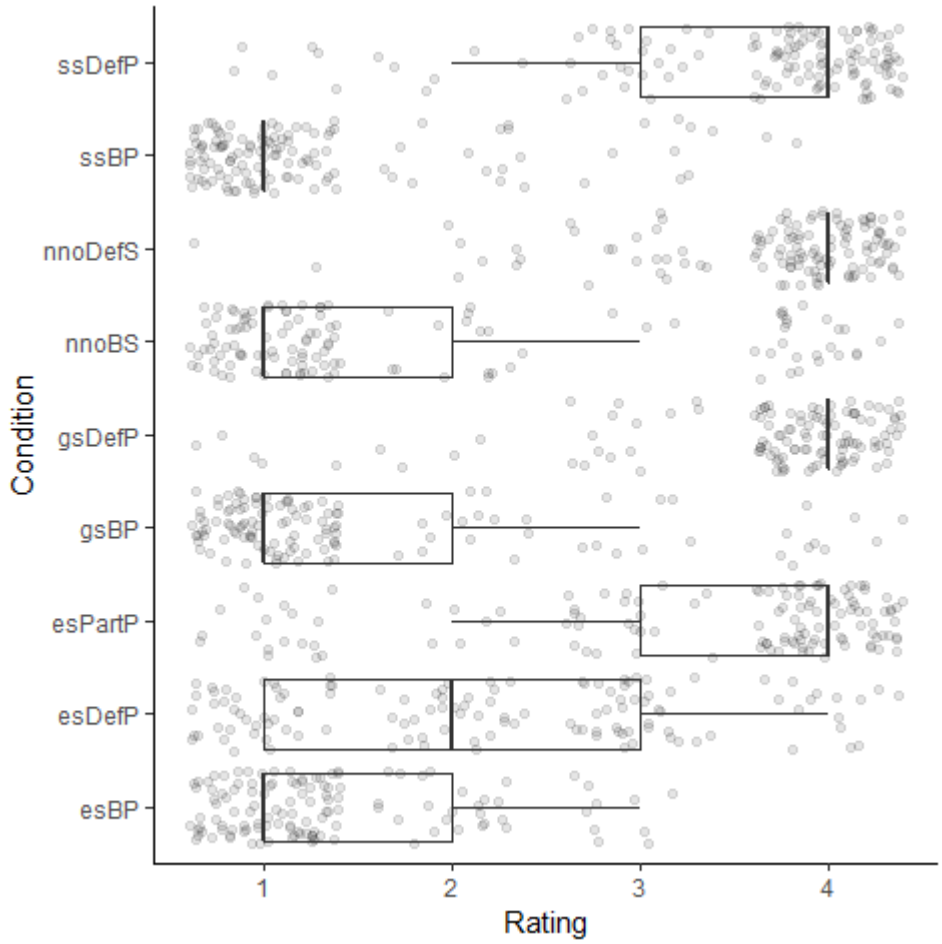


Figure 11: Italian baseline's performances in the Italian AJT (Rating by Condition boxplot with data points)

Note. The abbreviations in the graph have the following meanings: esBP (existential subject bare plural), esDefP (existential subject definite plural), esPartP (existential subject partitive plural), gsBP (generic subject bare plural), gsDefP (generic subject definite plural), nnoBS (number neutral object bare singular), nnoDefS (number neutral object definite singular), ssBP (specific subject bare plural), ssDefP (specific subject definite plural).

Although the trilinguals seemed less decisive than the native speakers in their judgments of both acceptable and unacceptable options across properties, they patterned alike in accepting definite nouns over bare nouns as generic and specific subjects, as well as NN objects. Instead, their judgments on existential subjects appear less straightforward, with partitive plurals being rated on average below 3.0, although the English learners did better than their Spanish counterparts. In addition, (infelicitous) definite plurals were tolerated to a certain extent as existential subjects, in particular by the English. The differences in ratings' distribution among the NPs investigated in existential environments can be appreciated in Figure 12 and Figure 13, which also show a lower

concentration of data points in correspondence with high ratings for existential partitive plurals than for other acceptable structures, e.g., generic definite plurals.

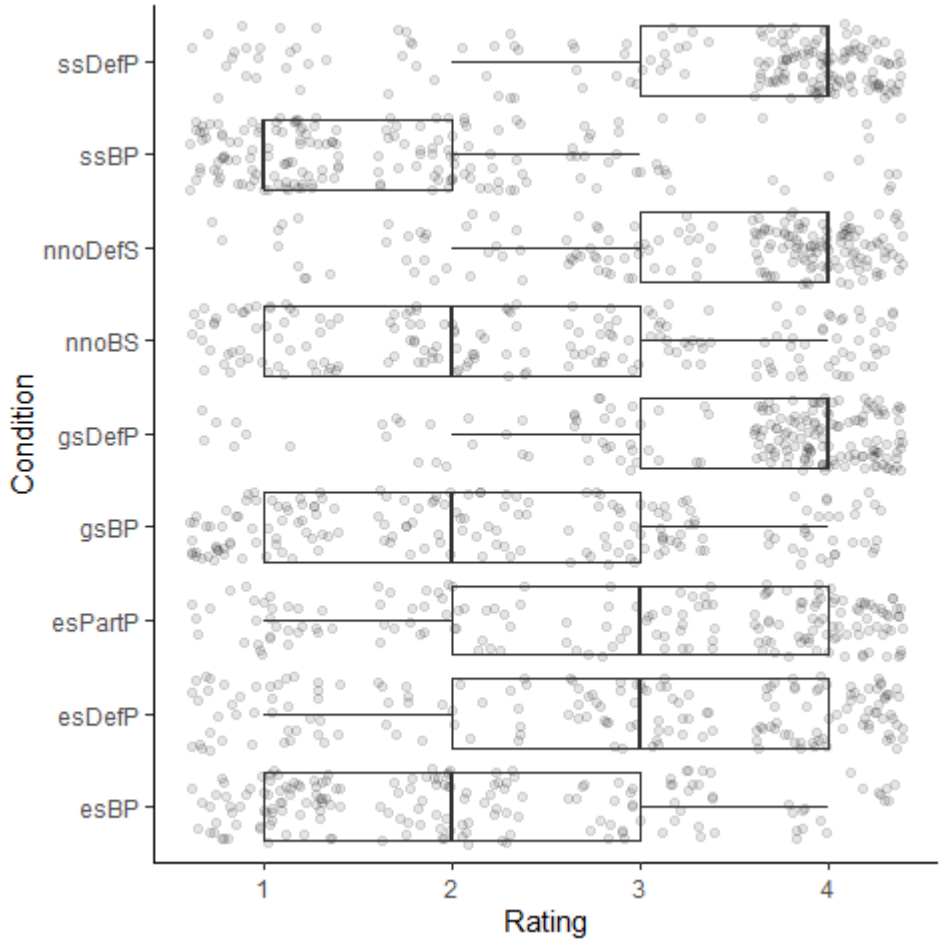


Figure 12: L1 English group's performances in the Italian AJT (Rating by Condition boxplot with data points)

Note. The abbreviations in the graph have the following meanings: esBP (existential subject bare plural), esDefP (existential subject definite plural), esPartP (existential subject partitive plural), gsBP (generic subject bare plural), gsDefP (generic subject definite plural), nnoBS (number neutral object bare singular), nnoDefS (number neutral object definite singular), ssBP (specific subject bare plural), ssDefP (specific subject definite plural).

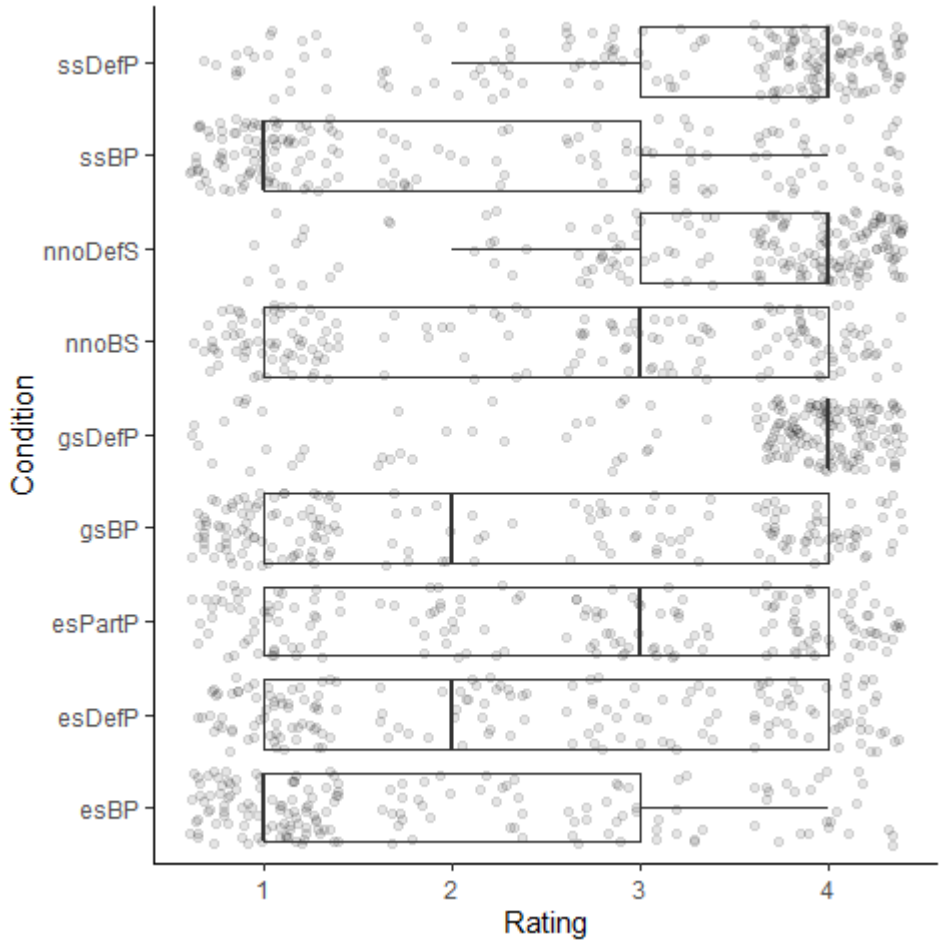


Figure 13: L1 Spanish group's performances in the Italian AJT (Rating by Condition boxplot with data points)

Note. The abbreviations in the graph have the following meanings: esBP (existential subject bare plural), esDefP (existential subject definite plural), esPartP (existential subject partitive plural), gsBP (generic subject bare plural), gsDefP (generic subject definite plural), nnoBS (number neutral object bare singular), nnoDefS (number neutral object definite singular), ssBP (specific subject bare plural), ssDefP (specific subject definite plural).

I now turn to describing the statistical analysis for each property separately.

6.4.1.1 Italian Existential subjects

For clarity, I report again the descriptive statistics for existential subjects in Table 45.

Table 45: Accuracy by mean rating (1–4 scale) and percentage of choice (Italian Existential subjects)

	Italian baseline		**L1 English**		**L1 Spanish**	
	m (sd)	*%*	*m (sd)*	*%*	*m (sd)*	*%*
Existential subjects (es)						
bare plural (BP)	1.34 (0.62)	7.14	2.01 (0.99)	29.44	1.87 (1.12)	27.78
definite plural (DefP)	2.22 (1.03)	43.65	2.82 (1.19)	63.33	2.38 (1.24)	44.44
partitive plural (PartP)	3.28 (1.09)	79.37	2.95 (1.14)	63.89	2.60 (1.22)	53.89

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

A linear mixed effects model (Model.Ita.ES) was fitted to the data. In this model, RatingZs was predicted by an interaction of Structure (PartP vs. DefP vs. BP) and cIta.Prof, while Group (ItaBase vs. EngTril vs. SpaTril) was added as a separate fixed effect. Simple contrasts were coded with these reference levels: partitive plural (PartP) for Structure and Italian baseline (ItaBase) for Group. Random effects included random intercepts for subject and item. A Chi-Square Test found a significant main effect of Group (χ^2 = 2.59, *df* = 2, *p* = .014) and a significant relationship between Structure and cIta.Prof (χ^2 = 26.48, *df* = 2, *p* < .001). The model revealed a significant effect of Structure:BP (*ß* = -0.88, *SE* = 0.01, *t* = -7.943, *p* < .001), Structure:DefP (*ß* = -0.32, *SE* = 0.01, *t* = -2.864, *p* = .004) and Group:EngTril (*ß* = 0.37, *SE* = 0.01, *t* = 2.707, *p* = .007), and a nearly significant effect of cIta.Prof (*ß* = 0.01, *SE* = 0.01, *t* = 1.876, *p* = .061). A significant two-way interaction between Structure:BP and cIta.Prof (*ß* = -0.05, *SE* = 0.01, *t* = -9.372, *p* < .001) and Structure:DefP and cIta.Prof (*ß* = -0.04, *SE* = 0.01, *t* = -6.471, *p* < .001) was also found. These results indicate that, overall, existential bare plurals and definite plurals were likely to be rated significantly lower than partitive plurals. In addition to this, pairwise comparisons of Structure also found that bare plurals were rated significantly lower than definite plurals (*p* = .0004). Table 46 shows the model output.

Table 46: Model output (Italian Existential subjects)

			RatingZs
Predictors	*Estimates*	*CI*	*p*
(Intercept)	-0.21	-0.33 – -0.09	**0.001**
Structure:BP	-0.88	-1.10 – -0.66	**<0.001**
Structure:DefP	-0.32	-0.53 – -0.10	**0.004**
cIta.Prof	0.01	-0.00 – 0.02	0.061
Group:EngTril	0.37	0.10 – 0.63	**0.007**
Group:SpaTril	0.13	-0.14 – 0.41	0.339
Structure:BP * cIta.Prof	-0.05	-0.06 – -0.04	**<0.001**
Structure:DefPds * cIta.Prof	-0.04	-0.05 – -0.03	**<0.001**

Note. The abbreviations in the table have the following meanings: BP (bare plural), cIta.Prof (centered Italian proficiency), DefP (definite plural), EngTril (English trilinguals) and SpaTril (Spanish trilinguals).

To look into possible differences between the trilinguals' performances we conducted post-hoc pairwise comparisons of Group. The English group expressed significantly higher ratings than the Italian natives (p = .0226), while the difference with the Spanish group was only nearly significant (p = 0.0810). Additionally, trends of proficiency by structure were analysed with the function *emtrends*. The comparisons found that the slope of cIta.Prof tended to be significantly higher for partitive plurals against both definite and bare plurals (p < .0001), and for definite plurals against bare plurals (p = .0002). Taken together, these findings indicate that all participants successfully discriminated between unacceptable forms (bare plurals, definite plurals) and acceptable ones (partitive plurals), as well as between ungrammatical bare plurals and infelicitous definite plurals. Moreover, Proficiency boosted performance on each of these discriminations.

As anticipated, Italian existential subjects were found to be expressed with partitive plurals, as opposed to definite and bare plurals. Overall, the L3 learners mastered this property as to the contrasts between acceptable and unacceptable forms, while not fully accepting partitive plurals

as Italian existential subjects. In general, they showed a tendency to do significantly better with higher L3 proficiency. Moreover, the English were less target-like than the Spanish, in particular by assigning higher ratings of bare plurals, which may point to negative L1 English transfer.

6.4.1.2 Italian Generic subjects

As shown in Table 47, participants patterned alike in accepting generic definite plurals over bare plurals, the two trilingual groups being more tolerant than the natives with the latter form.

Table 47: Accuracy by mean rating (1–4 scale) and percentage of choice (Italian Generic subjects)

	Italian baseline		**L1 English**		**L1 Spanish**	
	m (sd)	*%*	*m (sd)*	*%*	*m (sd)*	*%*
Generic subjects (gs)						
bare plural (BP)	1.49 (0.94)	14.29	2.26 (1.09)	42.22	2.31 (1.27)	44.44
definite plural (DefP)	3.69 (0.74)	86.51	3.57 (0.80)	87.78	3.57 (0.92)	84.44

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

A qualitative difference between the groups' behaviour is also visible in Figure 14, whereby the trilinguals exhibited higher individual variation than the Italian controls, in particular on bare plurals, the main data points spreading up to the value of 3 for the English, and of 4 for the Spanish. This might be suggestive of some negative English transfer, for both groups. However, such differences do not seem statistically relevant, as no linear mixed effects model fit the data.

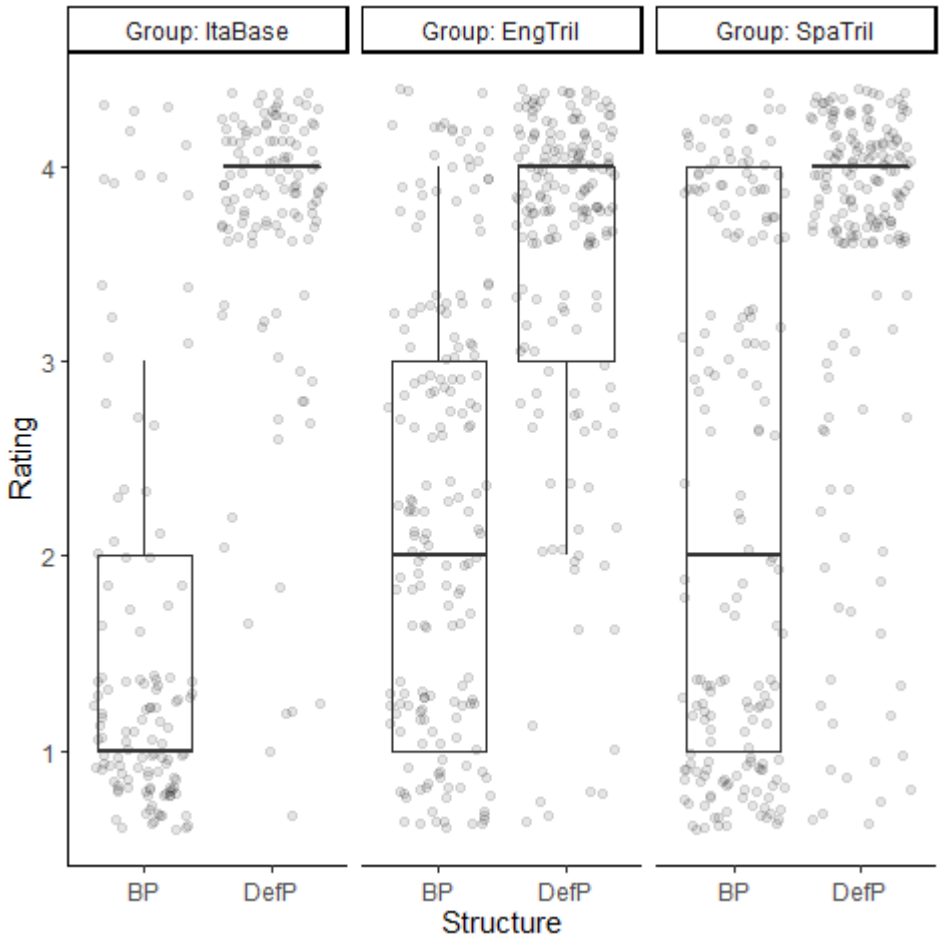


Figure 14: Performances on Italian Generic subjects by Group and Structure (boxplot with data points)

Note. The abbreviations in the graph have the following meanings: BP (bare plural), DefP (definite plural), EngTril (English trilinguals), ItaBase (Italian baseline) and SpaTril (Spanish trilinguals).

Hence, we consider the overall performance of the trilinguals as target-like, in that they accepted definite plurals over bare plurals, as Italian generic subjects.

6.4.1.3 Italian Number neutral (NNO) objects

The performances of the Italian natives and the L3 learners on singular objects are displayed in Table 48.

Table 48: Accuracy by mean rating (1–4 scale) and percentage of choice (Italian Number neutral objects)

	Italian baseline		**L1 English**		**L1 Spanish**	
	m (sd)	*%*	*m (sd)*	*%*	*m (sd)*	*%*
NN objects (nno)						
bare singular (BS)	1.77 (1.20)	23.02	2.46 (1.13)	47.78	2.45 (1.29)	49.44
definite singular (DefS)	3.69 (0.65)	90.48	3.39 (0.90)	81.67	3.49 (0.86)	88.33

Note. The abbreviations in the table have the following meanings: *m* (mean), NN (number neutral) and *sd* (standard deviation).

The statistical analysis was performed by means of a linear mixed effects model (Model.Ita.NNO), whereby RatingZs was predicted by an interaction of Structure (DefS vs. BS) and cIta.Prof, while Group (ItaBase vs. EngTril vs. SpaTril) was added as a separate fixed effect. Simple contrasts were set for Structure an Group, with definite plural (DefP) as a reference level for the former, and Italian baseline (ItaBase) for the latter. A Chi-Square Test confirmed a significant relationship between Structure and cIta.Prof (X^2 = 80.02, *df* = 1, *p* < .001), while no main effect was found for Group (χ^2 = 0.09, *df* = 2, *p* = 0.95). The model revealed a significant effect of Structure:BS (*ß* = -0.97, *SE* = 0.07, *t* = -13.137, *p* < .001) and cIta.Prof (*ß* = -0.01, *SE* = 0.01, *t* = -2.390, *p* = .017), as well as an interaction between Structure:BS and cIta.Prof (*ß* = -0.05, *SE* = 0.01, *t* = -9.151, p < .001). Overall, the participants distinguished between acceptable definite singulars and unacceptable bare singulars as Italian NN objects, although performance was predicted by proficiency in Italian. Table 49 displays the model output.

Table 49: Model output (Italian Number neutral objects)

			RatingZs
Predictors	*Estimates*	*CI*	*p*
(Intercept)	0.20	0.10 – 0.29	**<0.001**
Structure:BS	-0.97	-1.12 – -0.83	**<0.001**
cIta.Prof	-0.01	-0.02 – -0.00	**0.017**
Group:EngTril	0.01	-0.21 – 0.23	0.930
Group:SpaTril	0.03	-0.20 – 0.26	0.793
Structure:BS * cIta.Prof	-0.05	-0.06 – -0.04	**<0.001**

Note. The abbreviations in the table have the following meanings: BS (bare singular), cIta.Prof (centered Italian proficiency), EngTril (English trilinguals) and SpaTril (Spanish trilinguals).

Italian definite singulars are then confirmed to express number neutral interpretation in object position, as opposed to bare singulars. The overall behaviour of the L3 learners was target-like, but a full mastery of this property was achieved only with higher proficiency.

6.4.1.4 Italian Specific subjects

The descriptive statistics for Italian specific subjects are exhibited in Table 50.

Table 50: Accuracy by mean rating (1–4 scale) and percentage of choice (Italian Specific subjects)

	Italian baseline		**L1 English**		**L1 Spanish**	
	m (sd)	*%*	*m (sd)*	*%*	*m (sd)*	*%*
Specific subjects (ss)						
bare plural (BP)	1.30 (0.67)	9.52	1.76 (0.92)	18.89	2.07 (1.23)	36.67
definite plural (DefP)	3.57 (0.80)	89.68	3.34 (1.06)	76.11	3.25 (1.05)	74.44

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

The data were analysed statistically by fitting a linear mixed effects model (Model.Ita.SS), where RatingZs was predicted by Structure (DefP vs. BP) in interaction with cIta.Prof, and Group (ItaBase vs. EngTril vs. SpaTril) was added as a separate fixed effect. Simple contrasts were coded, with

definite plural (DefP) as reference level for Structure, and Italian baseline (ItaBase) for Group. Random effects included by-subject and by-item random intercepts. A Chi-Square Test confirmed a significant effect only for the relationship between Structure and cIta.Prof (χ^2 = 13.40, *df* = 1, *p* < .001). The model revealed a significant effect of Structure:BP (*ß* = -1.27, *SE* = 0.15, *t* = -8.674, *p* < .001) and a significant interaction between Structure:BP and cIta.Prof (*ß* = -0.05, *SE* = 0.01, *t* = -5.856, *p* < .001). Table 51 presents the model output. Thus, like the native speakers, the L3 learners differentiated between acceptable definite plurals and unacceptable bare plurals, as subjects with specific readings in Italian. Such a differentiation became more decisive as competence in Italian got higher.

Table 51: Model output (Italian Specific subjects)

	RatingZs		
Predictors	*Estimates*	*CI*	*p*
(Intercept)	-0.08	-0.21 – 0.06	0.274
Structure:BP	-1.27	-1.55 – -0.98	**<0.001**
cIta.Prof	-0.00	-0.01 – 0.01	0.910
Group:EngTril	0.09	-0.10 – 0.28	0.374
Group:SpaTril	0.15	-0.04 – 0.35	0.125
Structure:BP * cIta.Prof	-0.05	-0.07 – -0.04	**<0.001**

Note. The abbreviations in the table have the following meanings: BP (bare plural), cIta.Prof (centered Italian proficiency), EngTril (English trilinguals) and SpaTril (Spanish trilinguals).

Hence, Italian specific subjects are expressed with definite plural nouns, in line with the expectations in the literature. They were also successfully mastered by both trilingual groups.

6.4.2 The Italian Form–to –Meaning Task (FMT)

The Italian FMT included two conditions, one corresponding to either specific or generic readings (Sp-Gen), the other to both specific and generic readings (Spec+Gen) of plural definite subjects. Recall that, in Condition Sp-Gen, specific answers were coded as accurate, and generic answers as inaccurate. Table 52 visualizes the native controls and the trilinguals' performances.

Table 52: Accuracy rates by item and percentage (Italian FMT)

	L1 Italian baseline		**L1 English**		**L1 Spanish**	
	Item tot = 210	*%*	*Item tot = 300*	*%*	*Item tot = 300*	*%*
Reading						
Sp-Gen (only specific)	174	82.86	284	98	284	94.67
Sp+Gen (specific and generic)	210	100	299	99.67	292	97.33

What Table 52 shows is a clear preference for specific readings of definite subjects, when they can potentially express either specific or generic readings (Condition Sp-Gen), across the board. However, the Italian natives allowed for their generic readings more often, i.e., 17.14% of the times, than both the English and Spanish learners, i.e., 2% and 5.33% of the times, respectively.

We performed the statistical analysis by fitting a logistic mixed effects regression model (Model.Ita.FMT), where Accuracy was predicted by Reading (Sp-Gen vs. Sp+Gen), and Group (ItaBase vs. EngTril vs. SpaTril) was added as a separate fixed effect. Simple contrasts were coded for Reading, with Sp+Gen as reference level, and Group, with ItaBase as reference level. Random effects included random intercepts for subjects and item. A Chi-Square Test confirmed a significant main effect of Reading (X^2 = 17.17, *df* = 1, *p* < .001) and Group (X^2 = 9.15, *df* = 2, *p* = .010). As reported in Table 53, the model revealed a significant effect of Reading:Sp-Gen (*ß* = -2.90, *SE* = 0.76, *z* = -3.808, *p* < .001) and Group:EngTril (*ß* = 2.27, *SE* = 0.74, *z* = 3.051, *p* = .002). This means that the participants were less accurate in Condition Sp-Gen than in the control one, by allowing for some generic readings of Italian definite plurals. In doing so, the English group significantly differed from the Italian baseline, exhibiting overall higher accuracy scores, as can be also appreciated in Figure 15.

Table 53: Model output (Italian FMT)

		Accuracy	
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	232.46	74.18 – 728.48	**<0.001**
Reading:Sp-Gen	0.06	0.01 – 0.25	**<0.001**
Group:EngTril	9.66	2.25 – 41.46	**0.002**
Group:SpaTril	2.47	0.68 – 9.03	0.171

Note. The abbreviations in the table have the following meanings: EngTril (English trilinguals), Sp-Gen (only specific) and SpaTril (Spanish trilinguals).

Post-hoc pairwise comparisons of Group confirmed significantly higher accuracy scores for the English as opposed to the Italian natives (p = .0064). There were no other between-group significant contrasts. This means that the English gave more specific answers than the Italian natives. In general, the fact that a preference for specific readings of definite subjects is more pronounced for the L3 learners than the Italian natives may indicate that the latter population can engage more easily with the two readings available for definite plurals. In other words, cognitive load associated with handling multiple grammars simultaneously seems to reflect in the L3 learners' selection of one primary reading of forms with ambiguous meanings.

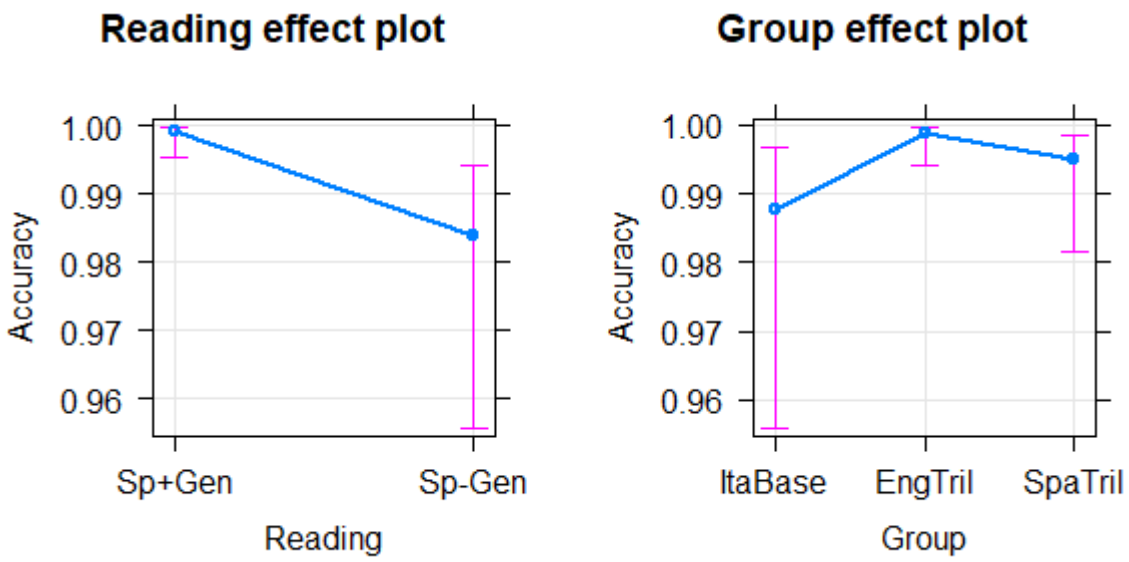


Figure 15: Effect of Reading and Group (Italian FMT model)

Note. The abbreviations in the graph have the following meanings: EngTril (English trilinguals), ItaBase (Italian baseline), SpaTril (Spanish trilinguals), Sp+Gen (specific and generic) and Sp-Gen (only specific).

All in all, a preference for specific readings of Italian plural definite subjects was observed, across the board. At the same time, the Italian natives also allowed for their generic readings, this tendency being less pronounced for the L3 learners, especially for the English group. The behaviour of the English trilinguals can be explained as a L1 effect, whereby generic readings of definite plurals are not available, in English.

6.4.3 The Italian Elicited Oral Production Task (EOPT)

The Italian EOPT consisted of two conditions, one associated with generic (Gen) and the other with specific (Sp) readings. Definite plurals were coded as accurate answers, while all other nominals as inaccurate ones. Table 54 visualizes the descriptive statistics.

Table 54: Accuracy rates by item and percentage (Italian Oral Task)

	Italian baseline		**L1 English**		**L1 Spanish**	
	Item tot = 168	*%*	*Item tot = 240*	*%*	*Item tot = 240*	*%*
Reading						
Generic (Gen)	168	100	204	85.00	186	77.50
Specific (Sp)	168	100	203	84.58	182	75.83

The Italian natives behaved at ceiling across the board, confirming that definite forms are equally used in generic and specific statements, in Italian. Both trilingual groups did quite well, supplying a similar proportion of definite subjects, although the English appeared more accurate than the Spanish.

The data were analysed statistically by means of a a logistic mixed effects regression model (Model.Ita.Oral). In this model, Accuracy was predicted by Reading (Gen vs. Sp), with cIta.Prof being added as a separate fixed effect. Simple contrasts were coded for Reading, and Sp (specific) was set as a reference level. Random effects included by-subjects and by-item random intercepts. A Chi-Square Test found a significant main effect of cIta.Prof (X^2 = 37.75, *df* = 1, $p < .001$). As can be seen in Table 55, the model revealed only a significant effect of cIta.Prof (*ß* = 0.37, *SE* = 0.06, *z* = 6.052, $p < .001$). These findings indicate that all participants were similarly accurate across readings, but the L3 learners were likely to do significantly better with increasing competence in Italian. The effect of proficiency is also visible from Figure 16.

Table 55: Model output (Italian Oral Task)

		Accuracy	
Predictors	*Odds Ratios*	*CI*	*p*
(Intercept)	215.87	50.83 – 916.82	**<0.001**
Reading:Gen	1.18	0.43 – 3.26	0.749
cIta Prof	1.45	1.29 – 1.64	**<0.001**

Note. The abbreviations in the table have the following meanings: cIta.Prof (centered Italian proficiency) and Gen (generic).

Figure 16: Effect of Reading and Italian Proficiency (Italian Oral Task model)

Note. The abbreviations in the graph have the following meanings: cIta.Prof (centered Italian proficiency, Gen (general) and Sp (specific).

Thus, Italian definite plurals are confirmed to be equally used in generic and specific statements. The learners' use of this form became target-like with higher proficiency in the L3. This finding may be explained as a result of performative pressure, especially for the less proficient learners.

6.4.4 Summary

In this section, I have presented the performances of the English and Spanish L3 learners in the Italian experiment, together with those of the Italian native speakers. The data confirm the distribution of NPs with kind reference postulated by the theory for Italian, as to the relevant contrasts within properties. In general, they also indicate that the judgment tasks utilized in this study are a valid instrument to test such constructions.

In L3 Italian, successful acquisition of generic subjects was observed in the judgement data, while performative constraints seemed to affect oral production, with L3 proficiency predicting accuracy. Results from the Form–to–Meaning Task point to a preference for specific interpretations of definite subjects, which may be explained as a task effect, as the reader will see

in the next chapter. On existential subjects and number neutral objects, overall, the contrasts between (un)acceptable structures were successfully mastered by both trilingual groups. However, their judgements of existential partitive plurals were not as decisive as those of the natives, while accuracy on singular objects was predicted by L3 proficiency.

The next section describes data on the L3 learners' individual behaviours in judging Italian generic nouns. Language immersion is also analysed in relation to these behaviours.

6.5 Assessing the role of language experience (immersion)

In Section 1.5.2, I discussed the possibility that language immersion may affect patterns of crosslinguistic influence (CLI) in the acquisition of generic expressions in L3 Italian. More precisely, since they resided in a country where the societal language coincides with their L1, the trilinguals are, in fact, very likely to be dominant in such language, namely English for the English group and Spanish for the Spanish group. Therefore, on the basis of analogous immersion conditions in their dominant language, there could be a (qualitative) difference between the two groups' performances in the L3, depending on the structural correspondences between the dominant background language and Italian. A better design to test the effects of language immersion could have included a total of four groups, namely two mirroring groups recruited in England (L1 English–L2 Spanish–L3 Italian and L1 Spanish–L2 English–L3 Italian learners) and other two groups recruited in Spain (L1 Spanish–L2 English–L3 Italian and L1 English–L2 Spanish–L3 Italian learners). However, the implementation of such setup was not possible, due to difficulties with finding these participants. To look into potential between-group differences, I review again the findings from the Italian AJT.

In judging Italian generic expressions, a statistical difference between groups was found on existential subjects, with the English trilinguals' performance diverging from the Italian baseline, particularly in assigning higher ratings to unacceptable bare and definite plurals. Nonetheless, a clear advantage for either trilingual population cannot be established, on this and the other targeted properties. Moreover, much individual variation was generally observed. For these reasons, I now provide a qualitative analysis of the learners' behaviours.

6.5.1 Individual data on L3 Italian generic NPs

As has been pointed out throughout this chapter, individual variation in the learners' performances was observed in many instances. In order to assess whether judgments could be considered (in)determinate, on each property, we established a 1.0 threshold difference in ratings between acceptable and unacceptable structures. Judgements were expressed on a 1–

4 rating scale. Table 56 displays the L3 learners' accuracy against the threshold difference. The total participant (*pt*) count is 30, in each group.

Table 56: Accuracy rates calculated by a minimum 1.0 difference in ratings (L3 Italian AJT)

	L1 English		**L1 Spanish**	
	pt	*%*	*pt*	*%*
Existential subjects				
partitive vs bare plural	17	56.67	11	36.67
partitive vs definite plural	6	20.00	4	13.33
Generic subjects				
definite vs. bare plural	22	73.33	17	56.67
NN objects (nno)				
definite vs. bare singular	14	46.67	13	43.33
Specific subjects (ss)				
definite vs. bare plural	23	76.67	14	46.67

Note. The abbreviations in the table have the following meanings: NN (number neutral) and *pt* (participant).

What is evident from Table 56 is that the English trilinguals were generally more certain than the Spanish ones about distinguishing between acceptable vs. unacceptable forms, across properties. Whereas this outcome was expected with regard to NN objects, thanks to the structural similarity between English and Italian singular objects, the English learners' advantage on generic subjects is surprising. Indeed, despite the formal correspondence of Italian and Spanish generic subjects, fewer learners discriminated between definite and bare plurals generics in the Spanish (56.67%) than in the English (73.33%) group. These findings might be accounted for by factors such as L2 and L3 immersion, which I now assess.

6.5.2 Language immersion in the L2 and L3

Data on the trilinguals' immersion in their additional languages were gathered by means of the Language History Questionnaire (Li, Zhang, Yu & Zhao, 2020), which provides aggregated scores for such variables. L2 and L3 immersion mean scores for each group are presented in Table 57.

Table 57: Mean aggregated scores in the L2 and L3 by group on a 0-to-1 range

	L1 English Trilinguals		**L1 Spanish Trilinguals**	
	m	*sd*	*m*	*sd*
L2 immersion	0.45	0.15	0.73	0.09
L3 immersion	0.16	0.12	0.12	0.09

As Table 57 illustrates, whilst the two groups were similarly immersed in the L3 (Italian), the gap between the English trilinguals' immersion in L2 Spanish and the Spanish trilinguals' immersion in L2 English looks more remarkable. To examine these differences statistically, we ran paired-samples t-tests, using the function *ttest* (R package *lessR*). Normality assumptions were checked by means of Shapiro-Wilk normality tests. As regards the data on L3 immersion, no significant difference was found between the two groups' immersion in Italian (t = -0.150, p = .883). On the other hand, upon examining the L2 immersion data, a significant difference was observed between the L2s' mean aggregated scores (t = -7.200, p < .001). Thus, the two groups differed statistically only in their immersion in the L2, whereby the Spanish were found to be more immersed than the English in their L2. In other words, the use of L2 English by the Spanish group was statistically greater than the use of L2 Spanish by the English group, both on a daily and cumulative basis.

To recapitulate, in this section, I have described the AJT performances qualitatively, and established that some of the learners in each group have not acquired the targeted properties in L3 Italian. Indeed, despite potentially facilitative CLI from the background language sharing a similar construction with the L3, a proportion of learners did not discriminate between acceptable and unacceptable structures. In such cases, non-facilitation from the other (typologically more distant) background language could well be at play. Specifically, some of the learners clearly exhibited non-facilitative CLI from English on generic subjects, and from Spanish on NN objects, whilst data on existential subjects are less robust. What is more, higher L2 immersion (and therefore activation) for the Spanish group may account for their general disadvantage in evaluating generic expressions in Italian. These facts suggest that more L3 input may be needed to notice similarities between background and target languages. The instances of hybrid transfer (i.e., transfer from two source languages on the same property) unveiled by these individual behaviours are consistent with property-by-property driven transfer models. To the contrary, language setting did not impact acquisition in the manner anticipated by the Scalpel Model.

6.6 Summary

In this chapter, I have descried and analysed the results of the English experiment as taken by the English native baseline and the L1 Spanish trilinguals, of the Spanish experiment as taken by the Spanish native baseline and the L1 English trilinguals, as well as the Italian experiment, which compared the Italian native baseline with the two trilingual populations. We found evidence that the distribution of nominals with kind reference generally reflects the

hypotheses made by the semantic theory, in each language. In addition, learners showed acquisition of most of the target properties in their L2. This indicates that, for such properties, transfer could indeed take place from either background language.

In general, (L3) Italian generic expressions were successfully acquired by both trilingual populations, as contrasts between (un)acceptable structures within properties were overall mastered in a target-like fashion. At the same time, we observed differential acquisition of generic expressions, with data on kind-referring subjects being the most compelling. Specifically, whereas they successfully distinguished between acceptable and unacceptable structures as existential subjects, partitive plurals were not fully accepted by the trilinguals. Additionally, the English group was observed to differ significantly from the native baseline, particularly in expressing higher ratings of unacceptable structures. This behaviour could be suggestive of negative transfer from L1 English, where existential bare plurals are grammatical, and, possibly, from L2 Spanish, where the contrast between bare plurals (ungrammatical) and definite plurals (infelicitous) had been acquired by this group. As for NN objects, although the trilinguals distinguished between acceptable definite singulars and unacceptable bare singulars, performance became fully target-like with higher proficiency in Italian. These findings may point to the occurrence of positive transfer from Spanish, on generic subjects, and English, on NN objects, especially for the less proficient learners. On the other hand, at the more advanced acquisition stages, target-like performance can also be explained as a result of acquisition itself. This seems to be the case for generic subjects, recalling that the English group had not fully acquired this property in their L2 Spanish. As to the interpretation of generic NPs, the two groups similarly exhibited a large preference for their specific readings. Accuracy in oral production was predicted by L3 proficiency. These results are in line with the Scalpel Model and Linguistic Proximity Model predictions about property-by-property transfer, as regards the early stages of L3 acquisition.

Additional qualitative analyses of individual behaviours revealed evidence of transfer occurring on the same property, in a manner not fully anticipated by the models for the acquisition of L3 Italian generics. Matters related to relative activation of the L2 may explain some instances of non-facilitation. In Chapter 7, I discuss the findings on the L3 learners, in relation to the research questions and the literature in the field.

Chapter 7 Discussion

7.1 Introduction

This chapter offers a discussion of the results of the L3 Italian experiment, in relation to the specific research questions addressed in this study and the broader context of third language acquisition. Chapter 7 has the following structure. In Section 7.2, I discuss the results in light of the specific and general research questions of this study. After this, I assess to what extent the data support each of the models of L3 acquisition takin into account herein, i.e., the Typological Primacy Model (Rothman *et al.*, 2019), the Scalpel Model (Slabakova, 2017) and Linguistic Proximity Model (Westergaard, 2021a,b), as well as the L2 Status Factor (Bardel & Sánchez, 2017; Falk & Bardel, 2010). In the following section, I consider the contributions that these results make to additional debates in the field of third language acquisition. Section 7.5 presents a discussion of the limitations of the research project. Finally, a summary and conclusion of the dissertation are provided in Section 7.6.

7.2 Answering the research questions

The main goal of this research is to investigate the acquisition of noun phrases (NPs) with kind reference in Italian as an L3/Ln, in populations with English and Spanish as background languages, pinpointing possible transfer effects from these languages to Italian. To this end, I tested two groups of L3 Italian learners, i.e., a L1 English–L2 Spanish group residing in England and a L1 Spanish–L2 English group residing in Spain. The study addresses the following research questions.

General research question

1) How does L1 or L2 knowledge influence the acquisition of a third or additional language knowledge of different expressions of kind and generic meanings?

Specific research questions

2) What is the most probable transfer trajectory in early acquisition of L3 Italian? In particular, i) Is transfer likely to be wholesale or property-by-property? and ii) Is it only facilitative or can it be non-facilitative as well?

3) How does transfer develop at more advanced stages?

4) In what ways do external factors modulate the L3 acquisition of generics? That is, i) To what extent is grammaticalization facilitative? and ii) How does L1/L2 experience impact L3 acquisition?

In order to answer these research questions, I created two comprehension tasks and one production task. To look into comprehension of generic nouns, I utilized an Acceptability Judgment Task (AJT) in Context, modelled on Ionin, Montrul & Santos (2011b), Ionin, Grolla, Santos & Montrul (2015) and Montrul & Ionin (2010), and a Form–to–Meaning Task (FMT), inspired by Gelman & Raman (2003). To assess oral use of generics, I deployed an Elicited Oral Production Task (EOPT), modelled on Miller (2016). In addition, I used the Language Background Questionnaire (LHQ 3.0) (Li, Zhang, Yu & Zhao, 2020), to obtain measures of immersion in the L2 and L3.

In general, the L1 baseline data largely confirmed the NPs' distribution predicted by the semantic theories for Italian, English and Spanish, as to both their acceptability and oral use. A preference for the specific interpretation of definite nouns was also found, across the board, possibly being due to a task effect.

As to the L2 data, most of the targeted constructions were acquired in the L2, but to different degrees for each language. While the L1 Spanish did generally well on English generic and specific subjects, as well as number neutral (NN) objects, performance on existential subjects was predicted by proficiency. In addition, judgements of existential bare plurals did not reach acceptance, suggesting that negative Spanish influence (i.e., ungrammaticality of bare plurals) perdured on this property. In L2 Spanish, the L1 English patterned together with the Spanish natives in expressing decisive judgments on existential, generic and specific subjects, but fail to do so on nn objects. Equally, a group effect was found on generic subjects, indicating the presence of some negative English transfer, with Spanish bare plurals being to some extent tolerated. In oral production, L2 proficiency mattered only for the Spanish group.

Turning to L3 Italian, the results from the Acceptability Judgment Task point to overall successful acquisition of the target nominals, as being measured against the contrasts between (un)acceptable forms. At the same time, while both trilingual groups behaved alongside the Italian natives on generic (and specific) subjects, the English group's judgements of existential subjects differed significantly from the baseline and, less strongly, from the Spanish group, by expressing higher ratings of unacceptable bare and definite plurals. moreover, on NN objects, only the more advanced l3 learners seemed to fully master this property. As regards the L3 Italian Form–to–Meaning Task, while a tendency to interpret definite nouns specifically was found, the strength of such a preference varied by language

group, with the Italian natives answering generically significantly more often than the English. This might suggest a L1 effect for the latter group, definite nouns carrying specific interpretation only, in English. As for production of Italian generic subjects, their oral use was predicted by L3 proficiency. The poorer performance of the less proficient learners might be related to cognitive loads associated with online production.

To shed light over individual variability in performance, we looked into the acquisition rates of each of the properties investigated, by establishing an (admittedly stipulated) 1.0 threshold difference in rating between acceptable and unacceptable structures, on a 4-point scale. Under this analysis, it emerged that, in either trilingual group, some of the learners had not acquired the targeted expressions, suggesting that non-facilitation from the background language typologically more distant from the L3 could be at play, i.e., English on subjects and Spanish on objects. Moreover, the L1 English trilinguals were generally observed to outperform the Spanish ones. Whereas the (slightly) better performance of the L1 English on NN objects could be related to their higher experience in English, the poorer performance of the L1 Spanish on generic subjects is somewhat surprising. Further analyses of the learners' experience with their second language highlighted a relative high immersion of the Spanish in L2 English, which might have countered the benefits deriving from structural similarity between Spanish and Italian subjects.

7.2.1 (Non)facilitative transfer trajectories in early acquisition of L3 Italian

7.2.1.1 Typology-driven transfer scenarios

The first specific research question of this study, RQ2(i), probes the most probably transfer pattern in early acquisition of L3 Italian, by asking whether transfer from the L1 and /or L2 to the L3 is likely to be complete or dynamic. Let us first review the predictions of the typology-driven transfer models considered herein. Under typology-driven transfer scenarios, early acquisition of Italian generic subjects is very likely to be facilitated by the Spanish grammars of the trilinguals. This is because the two Romance languages share structural correspondences, in these contexts, as well as a more general lexical closeness. As for existential subjects, they constitute a less straightforward case, since the lexical mismatch between Spanish and Italian indefinite nominals might hinder the detection of their structural similarity. Consequently, these two properties alone cannot allow us to assess the results as being triggered by holistic (wholesale) or dynamic (property-by-property) L3 transfer. For this reason, in Section 4.9, I singled out number neutral (NN) objects as key property for making such distinction, at the early stages of L3 Italian acquisition, with the *Negative Transfer Prediction*. Recall that, while Spanish allows bare singular objects, English and Italian realize these objects as phrases, with indefinite and definite singular

determiners, respectively. Definite singulars are possible in Spanish, but pragmatically infelicitous. On bare singulars, two partially diverging learning outcomes are hypothesized by holistic transfer, as predicted by the Typological Primacy Model, and dynamic transfer, as predicted by the Scalpel Model and Linguistic Proximity Model. If bare singulars are rated highly, this would indicate negative influence from Spanish as the sole source of transfer (wholesale transfer). If bare singulars receive indeterminate ratings, this will indicate simultaneous influence (hybrid transfer) from the two background languages, with negative effects from Spanish and positive effects from English. The statistical results from Model.ita.NNO revealed that, across groups, definite singulars were rated significantly more highly than bare singulars, but learners who were advanced in L3 Italian did better than the less advanced ones. In other words, there is evidence of a learning difficulty with NN objects, in early L3 Italian. To narrow the focus on these stages, I present data on the non-advanced learners' performances. To this end, learners who scored at least 40/50 in the C-Test would be classified as advanced, while learners with scores below 39/50 would be considered as non-advanced. Each group of learners consists of 30 individuals. Table 58 illustrates the descriptive statistics, while Figure 17 compares the data points' distributions across groups.

Table 58: Accuracy by mean rating (1–4 scale) and percentage of choice on Italian NN objects (Non-advanced L3 Italian learners)

	Italian baseline		**L1 English**		**L1 Spanish**	
	m (sd)	*%*	*m (sd)*	*%*	*m (sd)*	*%*
NN objects (nno)						
bare singular (BS)	1.77 (1.20)	23.02	2.75 (1.05)	58.30	2.97 (1.19)	67.71
definite singular (DefS)	3.69 (0.65)	90.48	3.12 (0.97)	71.43	3.40 (0.91)	86.46

Note. The abbreviations in the table have the following meanings: *m* (mean), NN (number neutral) and *sd* (standard deviation).

Similarly to the Italian baseline, the non-advanced learners rated more highly the acceptable definite singulars than the unacceptable bare singulars, with the gap between these forms being smaller for the trilinguals. Moreover, the L1 Spanish expressed higher ratings than the L1 English, for both forms. This (non-statistically significant) difference is also observable in Figure 17. Here, data points are concentrated between ratings of 2 and 4 on bare singulars, for both groups, and on definite singulars, for the English group only, while those of the Spanish on definite singulars are mostly associate with the values of 3 and 4. Let us now evaluate how the English and Spanish grammars may have contributed to these learning outcomes at non-advanced stages of L3 Italian.

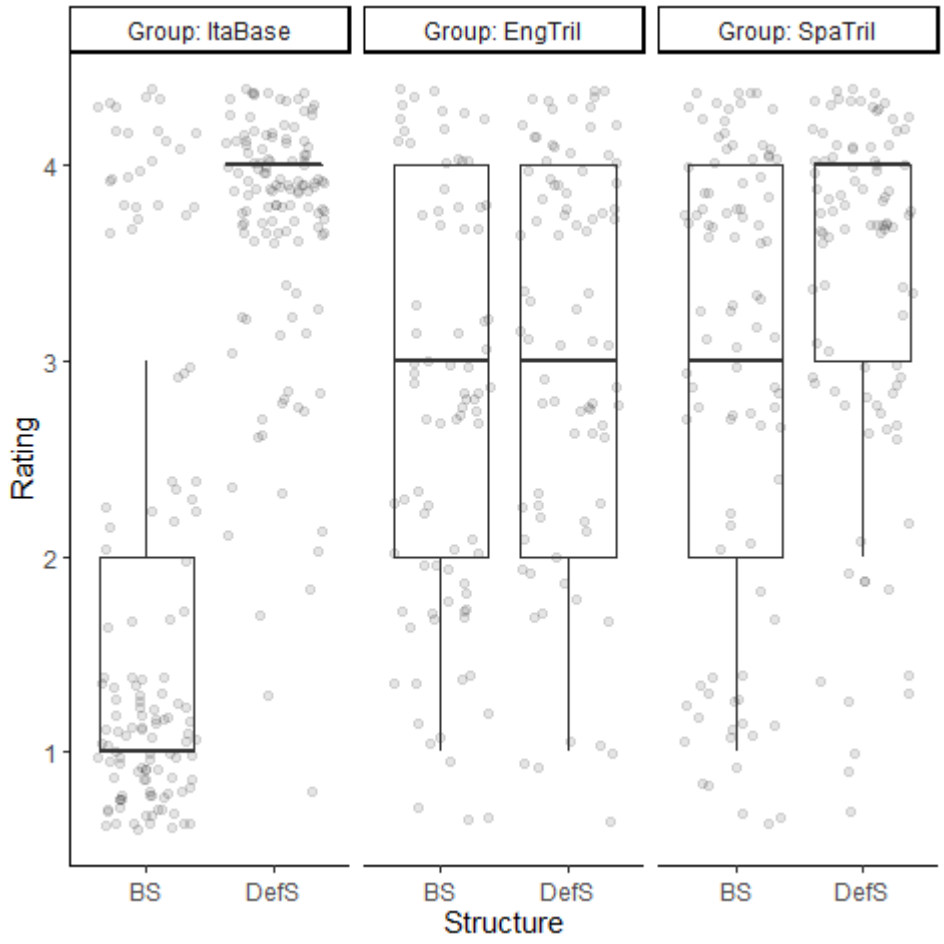


Figure 17: Non-advanced trilinguals' performances on L3 Italian NN objects (Rating by Structure boxplot with data points)

Note. The abbreviations in the graph have the following meanings: BS (bare singular), DefS (definite singular), EngTril (English trilinguals), ItaBase (Italian baseline) and SpaTril (Spanish trilinguals).

According to the *Negative Transfer Prediction*, judgments on definite singulars should be indeterminate, under both holistic and property-based transfer scenarios. This was the case for the English group in particular, while the Spanish more decisively accepted this form. As for bare singulars, their ratings should be high (or higher than definite singulars) if transfer comes completely from Spanish, or indeterminate if transfer comes from Spanish and English, at the same time. The data indicate indeterminacy on bare singulars, for both groups. I now evaluate to what extent this similar behaviour on Italian bare singulars can result from hybrid transfer from both Spanish and English.

As regards the non-advanced L1 English, their performance on Italian NN objects pretty much resembles that of the whole group of L1 English learners on Spanish objects. Specifically, both Spanish bare and definite singulars were rated slightly below the value of 3, with data points

being similarly distributed between the ratings of 2 and 4, for the most part (see Figure 8). Thus, the non-advanced English learners might be transferring their L2 Spanish, in which NN objects were not successfully acquired, to their L3 Italian interlanguage grammar. This phenomenon has been previously observed by Sánchez (2020), where low proficiency L3 English learners were found to transfer their L2 German interlanguage grammar, including both target-like and non-target like German verb constructions, to English. Even assuming such a possibility, one cannot rule out a simultaneous occurrence of English influence, for this population. Transfer from English to Italian could manifest in this way. On the one hand, the non-advanced English trilinguals' indecisiveness with Italian bare singulars would stem from an analogous tolerance with English bare singulars, unveiled in the L1 data (see Section 6.2.1.3). On the other hand, the fact that, in L3 Italian, learners' acceptance of definite singulars is higher than that of bare singulars, but not high enough to reach statistical significance, could be explained with the non-identical correspondence between English and Italian determiner phrases, in these contexts. Specifically, the use of an indefinite (rather than definite) determiner in English might have impacted the mapping between readings (NN interpretation) and forms (definite determiner phrase). In other words, beneficial effects from English could have been countered by a tolerance for bare singulars, in this same language, and a non-straightforward correspondence between English and Italian objects. In a nutshell, the less proficient L1 English learners could be relying on both their L1 English grammar and L2 Spanish interlanguage grammar, in expressing (indecisive) judgments of Italian NN objects.

The behaviour of the non-advanced L1 Spanish on this property looks more consistent with the Italian grammar, in that ratings of definite singulars leaned more decisively towards acceptance (see Figure 17). Instead, judgments of bare singulars pretty much align with those expressed by their English counterparts. Hybrid transfer from Spanish and English can to some extent explain the Spanish learners' ratings of Italian bare singulars as well, recalling that acquisition of English NN objects was generally confirmed by the L2 experiment data (see Chapter 6). First of all, the Spanish learners' accuracy on definite singulars might result from facilitation from (L2) English, which expresses weak readings with overt determiners. This would imply that the Spanish learners successfully shifted the weak readings of (English) indefinite nouns to (Italian) definite nouns. If this is the case, it would seem that the L1 Spanish did a better job than the L1 English, in this operation. In this regard, a scenario under which the L1 English would have transferred their (non-target-like) Spanish grammar and the L1 Spanish their (target-like) English grammar to L3 Italian would be partially compatible with the predictions made by the L2 Status Factor on this property (see Chapter 5). Returning to the possibility of hybrid transfer, the less proficient L1 Spanish learners' indeterminacy on Italian bare singulars would then derive from negative (L1) Spanish influence, since bare singulars are actually the target option, in Spanish. Hence, for both

non-advanced populations, simultaneous transfer from English and Spanish might be occurring in different modalities, given the differential availability of NN objects in their Spanish grammars. On a qualitative level, these results are not fully supportive of the *Negative Transfer Prediction*. Nonetheless, since the differences in behaviour between the two non-advanced groups were not significant statistically, I am inclined to consider the uncertainty on Italian NN objects as more likely deriving from hybrid transfer from English and Spanish than from wholesale transfer from Spanish. Primary facilitation from L2 English could also be at play, for some of the Spanish learners. I should note, however, that our populations did not include true beginners, for which complete transfer is hypothesized under the TPM. In addition to this, we must note that NN objects were tested in the Acceptability Judgement Task only, and additional data supportive of their acquisition in other tasks (e.g., oral production) would allow us to more precisely distinguish a learning scenario shaped by complete transfer from one prompted by dynamic transfer.

Turning to generic subjects (kind-referring subjects), Spanish is expected to be the source language for transfer, be it holistic or property-based, in early L3 Italian acquisition. On generic subjects, the behaviour of the trilinguals and the Italian natives appeared to be homogeneous, as the fact that no statistical model could be fitted to the data also indicates. Therefore, acquisition of this property can be considered as successful, overall. I now illustrate the performances of the non-advanced trilinguals only, to assess possible qualitative between-group differences.

Table 59: Accuracy by mean rating (1–4 scale) and percentage of choice on Italian generic subjects (Non-advanced L3 Italian learners)

	Italian baseline		**L1 English**		**L1 Spanish**	
	m (sd)	*%*	*m (sd)*	*%*	*m (sd)*	*%*
Generic subjects (gs)						
bare plural (BP)	1.49 (0.94)	14.29	2.63 (0.73)	55.95	2.74 (1.31)	59.38
definite plural (DefP)	3.69 (0.74)	86.51	3.45 (0.82)	83.33	3.45 (1.00)	81.25

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

As is visible from Table 59, both trilingual groups patterned together with the Italian natives in accepting definite plurals over bare plurals, while being more tolerant with the latter form. Additionally, the Spanish rated slightly more highly than the English bare plural subjects. However, ratings of this form are similarly distributed along the scale, with rejections associated with the values of 1 and 2 being outliers for the English (see Figure 18).

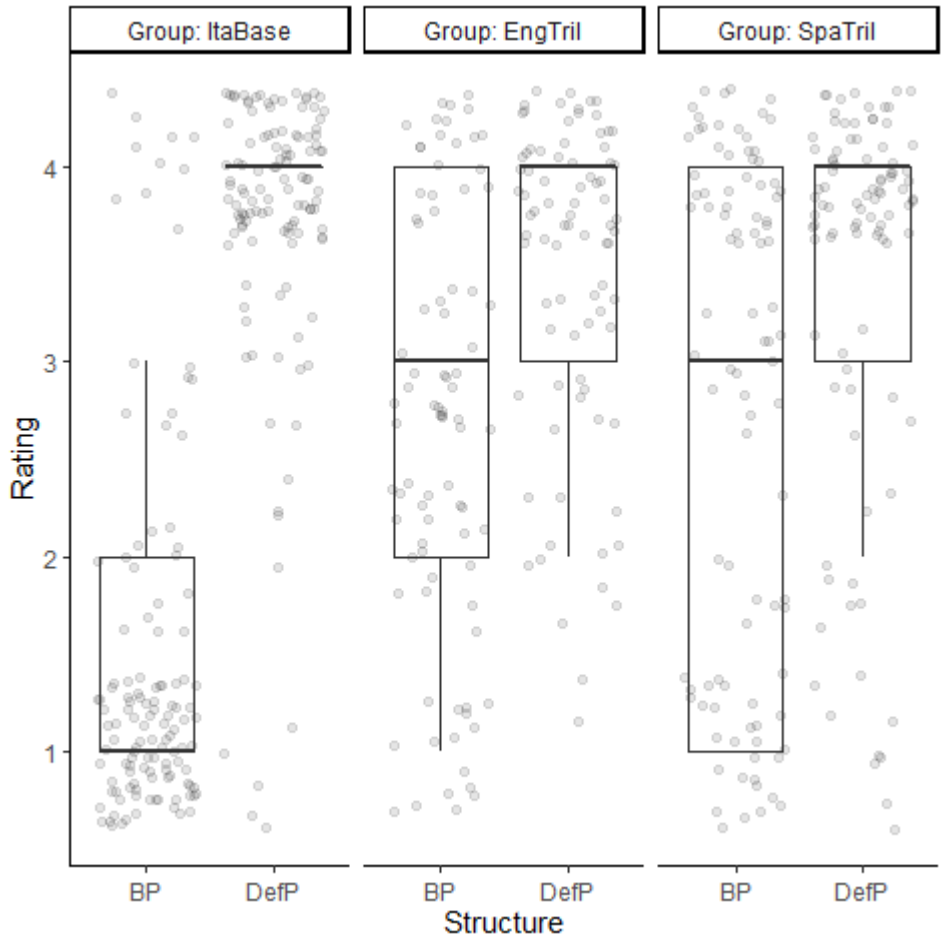


Figure 18: Non-advanced trilinguals' performances on L3 Italian generic subjects (Rating by Structure boxplot with data points)

Note. The abbreviations in the graph have the following meanings: BP (bare plural), DefP (definite plural), EngTril (English trilinguals) and SpaTril (Spanish trilinguals).

According to typology-driven transfer models, the non-advanced learners are expected to accept definite plurals and reject bare plurals, on the basis of facilitation from Spanish. While the behaviour on definite plurals appears to be in line with these predictions, those on bare plurals are only partially borne out. Furthermore, we should recall that the English exhibited instances of negative L1 transfer in being tolerant with L2 Spanish generic bare plurals. Overall, the learners' somewhat indecisive rejection of bare plurals is indicative of English negative influence, whether this is determined by the L1 grammar (for the English group) or the L2 grammar (for the Spanish group). Hence, if positive Spanish transfer is in place in early acquisition of L3 Italian generic subjects. Its effects seem to manifest more pronouncedly in the acceptance of definite plurals than in the rejection of bare plurals. These data indicate that both background languages were activated when the trilinguals processed the L3 input provided in the experimental materials, affecting differentially their judgments of (un)acceptable structures. Despite being unexpected,

such a learning outcome is not incompatible with the postulations of the Linguistic Proximity Model about language activation (Westergaard, 2021a,b), whereby negative transfer from English would trump beneficial structural similarity between Spanish and Italian, to some extent. As mentioned in Section 2.4.1, a possible explanation of this pattern could concern Chierchia's Economy Principle, by which bare plurals may be selected as form to transfer, thanks to their structure being simpler than that of definite plurals, as suggested by Serratrice *et al.* (2009). Serratrice and colleagues accounted for this possible acquisition pattern in this way:

> If economy considerations underlie cross-linguistic influence, then the more economical option to achieve a generic reading should, at least occasionally, be preferred in Italian over the more costly projection of a DP. (Serratrice, Sorace, Filiaci & Baldo, 2009: 244)

In other words, crosslinguistic influence on generic nouns could be (occasionally) driven by economy considerations. Therefore, English bare plurals would be transferred to Italian, for their being a less costly option to process for the learners. Although this learning mechanism was discussed regarding bilingual acquisition, I argue that it could also account for the results presented above. In fact, given that at the earlier stages of L3 acquisition the grammatical representations of the target language are very likely unstable, at times, these non-advanced populations might have been taxed when processing the L3 input, resorting to the most economical option (bare plural) for transfer.

As regards existential subjects, both L3 acquisition scenarios based on typologically driven transfer anticipate that Spanish would be the source language, and that its effects would be facilitative, i.e., rejection of bare plurals and (to a lesser extent) definite plurals, and acceptance of partitive plurals. A caveat of these predictions is that facilitation can take place only if learners can detect the structural correspondence between Spanish and Italian indefinite plurals, realized as partitives in Italian only. Results from Model.Ita.ES revealed overall acquisition of this property, i.e., acceptance of partitive plurals against both bare and definite plurals, with proficiency playing a marginal role in these differentiations. At the same time, a group effect was observed in that the L1 English expressed overall significantly higher ratings than the natives. I now illustrate the descriptive statistics for the non-advanced learners.

Table 60: Accuracy by mean rating (1–4 scale) and percentage of choice on Italian existential subjects (Non-advanced L3 Italian learners)

	Italian baseline		L1 English		L1 Spanish	
	m (sd)	*%*	*m (sd)*	*%*	*m (sd)*	*%*
Existential subjects (es)						
bare plural (BP)	1.34 (0.62)	7.14	2.16 (1.00)	33.33	1.92 (1.10)	28.13
definite plural (DefP)	2.22 (1.03)	43.65	2.60 (1.22)	55.95	2.40 (1.26)	43.75
partitive plural (PartP)	3.28 (1.09)	79.37	2.73 (1.08)	57.14	2.14 (1.22)	37.50

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

Across groups, bare plurals were the form being assigned the lowest ratings, while, among the L3 learners, only the English rated more highly partitive plurals than definite plurals. However, unlike the natives, none of the trilingual groups fully accepted partitive plurals, their mean ratings being below the value of 3.0. This indecisiveness may indicate a specific learning difficulty associated with the semantics of existential constructions. In general, much individual variation can be observed on (infelicitous) definite plurals, as displayed in Figure 19. Moreover, the Spanish seemed more accurate than the English in rejecting bare plurals, with higher data points' concentration around the value of 1, as opposed to the value of 2 of the former.

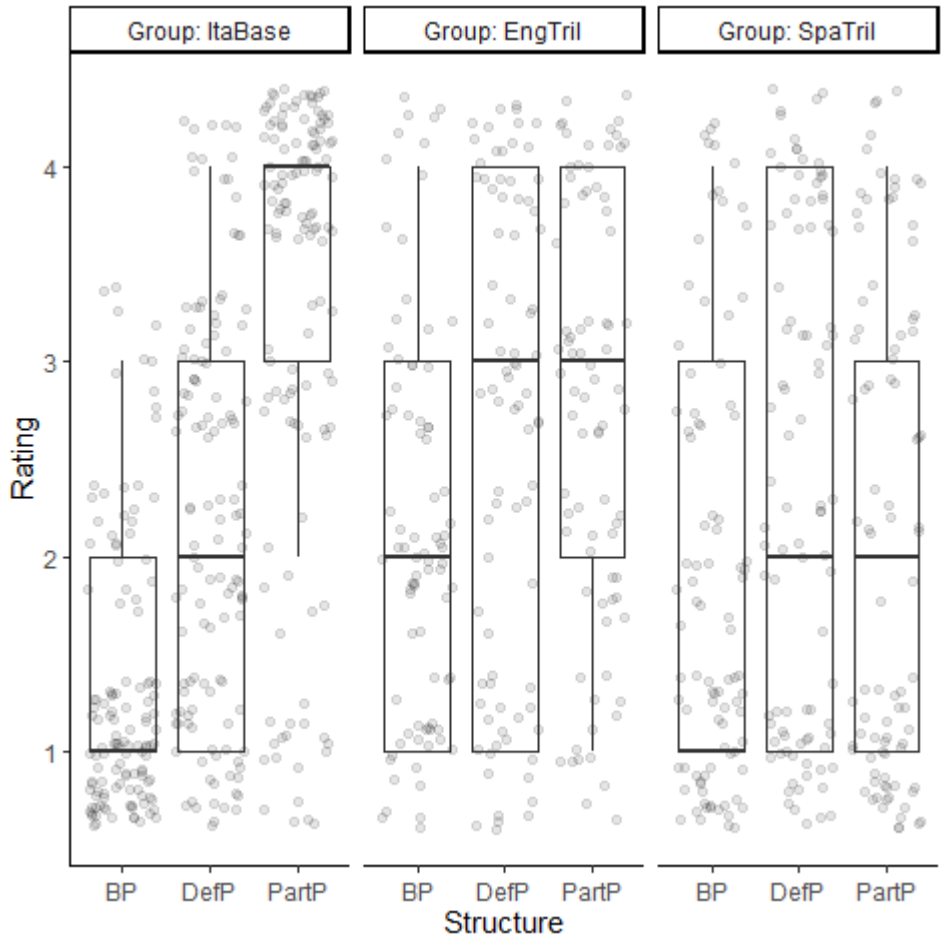


Figure 19: Non-advanced trilinguals' performances on L3 Italian existential subjects (Rating by Structure boxplot with data points)

Note. The abbreviations in the graph have the following meanings: BP (bare plural), DefP (definite plural), EngTril (English trilinguals), ItaBase (Italian baseline), PartP (partitive plural) and SpaTril (Spanish trilinguals).

Returning to the predictions for early acquisition of Italian existential subjects, i.e., facilitative Spanish influence, these data provide clearer evidence as to the rejection of bare plurals, while being somewhat fuzzy on the other two forms. Indeed, whereas the L1 English appeared to be in the process of acquiring Italian partitive plurals (with the main data points ranging between the values of 2 and 4), the L1 Spanish rather showed the opposite distribution (with the main data points ranging between the values of 1 and 3) (see Figure 19). Therefore, the L1 English group did better on the acceptance of partitive plurals, although (infelicitous) definite plurals received similar ratings. Having said this, it is reasonable to interpret the L1 English learners' behaviour as more target-like than that of the L1 Spanish, in that the intuition about Italian requiring a dedicated form (other than bare plurals) to express existential readings was more pronounced for the former group. Which form this should be chosen, between definite and partitive plurals,

though, looks uncertain in their interlanguage grammar. it seems plausible that their L2 Spanish grammar had sustained this intuition, given that the L2 experiment data generally indicated acquisition of Spanish existential subjects by the L1 English group. If this is the case, how can we account for the differential behaviour of the non-advanced L1 Spanish, on this property?

One possible explanation may concern proficiency in L3 Italian. Indeed, higher competence in Italian for the non-advanced English group might have backed their detection of the structural similarity between the two Romance languages, on this property. To ascertain this, we run paired-samples t-tests on the trilingual groups' mean scores in the Italian proficiency test. The t-tests were performed on the non-advanced learners, as well as the full experimental groups (for the general trend), using the function *ttest* (R package *lessR*). Normality assumptions were checked by means of Shapiro-Wilk normality test. Similarly to the full experimental trilingual populations, no significant difference was found between the non-advanced L1 English and L1 Spanish learners' proficiency in Italian (t = 0.754, p = .464). Table 61 shows the learners' relative mean scores and standard deviations. Given the quite homogeneous proficiency in Italian of the two non-advanced groups, with only a small and statistically non-significant advantage for the English, I rule out L3 proficiency as explanatory factor of the relatively better performance of this group, on Italian existential subjects.

Table 61: Mean proficiency scores in L3 Italian (maximum score = 50)

	All levels in L3		**Non-advanced in L3**	
	m	*sd*	*m*	*sd*
L1 English trilinguals	38.50	8.29	31.36	6.46
L1 Spanish trilinguals	37.43	9.16	30.56	6.89

Note. The abbreviations in the table have the following meanings: *m* (mean) and *sd* (standard deviation).

Another possible explanation of the learners' behaviour could relate to the status of Spanish as a second language, for the non-advanced L1 English, along the lines of the L2 Status Factor. On this view, the knowledge of Spanish existential nouns might have facilitated their intuitions on partitive plurals as possibly competing with definite plurals, to express existential readings in Italian. However, such an account would predict accuracy on rejecting bare plurals for the English group only, lacking full explanatory force for the very similar accuracy rate of the Spanish, on this form. Instead, the role of Spanish in early acquisition of Italian existential subjects appears mostly limited to target-like rejections of bare plurals, across groups. On the other hand, it is unclear to what extent the knowledge of this Romance language has (positively) affected acceptance of partitive plurals, from a descriptive standpoint, given the ongoing competition between this form

and definite plurals. The lexical mismatch between Italian and Spanish indefinite articles is likely to have impeded the mapping between forms (partitive phrases) and meanings (indefinite readings), in Italian. These results are only partially in line with what was anticipated by the Typological Primacy Model, and the Scalpel Model and Linguistic Proximity Model, on existential subjects.

To recapitulate, the data presented in this section are indicative of crosslinguistic influence (CLI) mostly happening on a property-by-property basis, i.e., from both the L1 and L2, in early acquisition of L3 Italian noun phrases with kind reference. The learners' behaviour on generic (kind-referring) subjects presents the most straightforward case, with the non-advanced trilinguals having mastered the contrast between acceptable definite plurals and unacceptable bare plurals. This indicates overall positive Spanish CLI. These findings are consistent with the predictions of wholesale transfer, made by the Typological Primacy Model, as well as those about property-based transfer, made by the Scalpel Model and Linguistic Proximity Model. Nonetheless, both the non-advanced English and Spanish groups exhibited some tolerance with Italian bare plurals, at times selected for transfer, being more economical than definite plurals (see Serratrice *et al.*, 2009). This is suggestive of negative English influence. In other words, both background languages contributed to shaping transfer trajectories in early acquisition of Italian generic subjects, with Spanish having a primary role in this process.

On the other hand, (beneficial) CLI from Spanish appeared restricted to the rejection of bare plurals, as to the judgments of Italian existential subjects. Indeed, although partitive plurals were rated more highly than bare plurals by the non-advanced L3 learners, their ratings were not close to acceptance. These facts signal a learning difficulty with Italian existential subjects. Additionally, instances of (L2) facilitative Spanish influence were found for the non-advanced L1 English trilinguals in the higher accuracy on partitive plurals. Since accuracy on definite plurals also approached acceptance, though, the Spanish grammar of this group seemed to be facilitative only to some degree. Further, the English were also statistically more tolerant with bare plurals than the Italian baseline, indicating possible instances of negative English transfer, occurring alongside positive transfer from Spanish on partitive plurals. The fact that Italian and Spanish indefinite plurals are not morphologically identical is likely to have impeded the discovery of structural similarity, as hypothesized by the Linguistic Proximity Model.

Turning to Italian number neutral objects, there is evidence of simultaneous influence from English and Spanish on the indeterminate ratings of the non-advanced learners, with only a numerical (but not statistical) preference for definite singulars over bare singulars. Narrowing the focus on bare singulars, overall, this form was not highly accepted (or accepted over definite

singulars), as hypothesized in case of holistic transfer from Spanish. Keeping in mind that the English learners have not acquired this property in L2 Spanish, if negative transfer were in place, this would be evident from the results of the Spanish group. To the contrary, the Spanish did not assign high ratings to bare singulars, and certainly did not accept bare singulars over definite singulars. In fact, it was the other way around. Positive facilitation from L2 English might also account for the more target-like performances of the Spanish learners on this property, at least on a qualitative level. Therefore, I argue that hybrid transfer from English (with overall positive effects) and Spanish (with negative effects) can provide a comprehensive account of the behaviour of the less proficient L3 learners, on Italian number neutral objects. To answer RQ2(i), then, these findings indicate a learning trajectory shaped by property-by-property rather than wholesale transfer, in early acquisition of L3 Italian generics.

7.2.1.2 Facilitative vs. non-facilitative transfer

According to the Scalpel Model (Slabakova, 2017) and the Linguistic Proximity Model (Westergaard, 2021a,b), typological transfer should generally ease the L3 acquisition process, since it is considered to happen on a property-by-property basis, when structural correspondences between background and target languages are identified by the parser. However, misleading input, for example due to lexical similarities, or lack of complete identity between properties may trump the positive effects of typological proximity and determine negative transfer. Non-facilitation can be expected throughout the acquisition span but would be more evident at the early acquisition stages. Detrimental transfer effects are also postulated by the Typological Primacy Model (Rothman *et al.*, 2019), as a possible consequence of complete transfer. If the learner's selection of the source grammar to copy is based on surface (lexical) resemblance between languages, the syntactic structures being transferred might not actually correspond with those of the L3, and negative influence from that language would originate. Hence, non-facilitation in early L3 acquisition is contemplated by both sets of models.

The data on the non-advanced learners discussed above provide instances of transfer, supporting the following answer to RQ2(ii) (In early acquisition of L3 Italian generics, is transfer only facilitative or can it be non-facilitative as well?). At the early stages, crosslinguistic influence (CLI) can be both facilitative and non-facilitative, depending on the degree of correspondence between constructions. More specifically, when lexical and syntactic correspondences between one background language (Spanish) and target language (Italian) are in place, influence from that language is facilitative. This is the case for generic subjects, which are realized with the same structure (definite plural noun) in Spanish and Italian. Nonetheless, a secondary pattern of negative CLI was also observed, with non-facilitative English influence on the relative acceptance

of bare plurals generics. Reasons related to the morphological form characteristics, i.e., bare plurals being the most economical option, can explain these facts, in accordance with the Scalpel Model's postulations about the input factor also possibly affecting the L3 knowledge outcomes.

Primary positive influence from Spanish is also expected on existential subjects under the typology-driven transfer models, although the non-identical correspondence between Spanish and Italian indefinite nouns might hinder these beneficial effects. This is what was indeed observed in the less proficient L3 learners' behaviour, which, despite similarly rejecting bare nouns, did not express a clear preference for a dedicated form (partitive plural), to use in these contexts. So, on Italian existential subjects, beneficial CLI from Spanish appears constrained by the different lexicalization of the indefinite plural article in the two Romance languages, evident in the indecisive judgments of partitive plurals. On the other hand, the learners' overall target-like behaviour on the ungrammatical form (bare plural) is arguably unaffected by such lexical mismatch. As to definite plurals, this (infelicitous) form is likely competing with partitive plurals as acceptable option in the trilinguals' interlanguage grammar, given that mean ratings of these two noun types were closer than those of bare plurals and definite plurals, for either group (see Table 60). I argue that, at the L3 early stages, learners were in the process of developing knowledge of Italian requiring a determiner phrase to express existential readings, similarly to Spanish, and that their uncertainty on the target form stems from the lexical mismatch between Spanish and Italian plural indefinite articles. This outcome is anticipated by the Bottleneck Hypothesis (Slabakova, 2014; 2019), by which the forms-meanings mapping of functional morphological elements (e.g., indefinite determiners) is indeed hard for learners to work out. In this process, learners might have extended the use of definite plurals to existential contexts, in lieu of partitive plurals, based on their knowledge of Spanish. This claim is supported by the baseline data, whereby existential definite plurals were in fact observed to be infelicitous options (see Chapter 6).

Turning to number neutral (NN) objects, the non-advanced learners' indeterminacy on this property in Italian very likely stems from simultaneous transfer from English and Spanish. The evidence points to influence from Spanish being mostly negative and manifesting differentially in the two groups' behaviour, at a qualitative level. As regards the non-advanced L1 English, they possibly transferred their L2 Spanish interlanguage grammar, in which both bare and definite singulars were similarly tolerated, to L3 Italian, in which they expressed equally indeterminate ratings of the two forms. As for their Spanish counterparts, negative Spanish influence mostly manifested in their indecisive judgments of Italian bare singulars. On the other hand, if influence from English is at play, this seems to have been more beneficial to the Spanish learners than to the English learners, in that the former were more accurate on definite singulars than the latter, and exhibited a more target-like behaviour on this property. It must be noted that, since the L1

English lacked a representation of NN objects in their Spanish grammar, data on early acquisition of this property in Italian do not allow us to fully adjudicate between the predictions about complete vs. dynamic transfer. Nonetheless, the data on the non-advanced L1 Spanish are more robust, and certainly do not provide evidence of complete Spanish transfer, as discussed above.

In sum, structural proximity between properties facilitated early L3 acquisition of Italian generics differentially, with matters related to construction characteristics (i.e., input factor) countering these benefits. While data on generic subjects are more robust, indicating some facilitation from Spanish, performance on existential subjects was not fully native-like, with the lexical mismatch between Spanish and Italian indefinite articles possibly undermining the effects of positive Spanish influence. The non-advanced trilinguals' behaviour on number neutral objects also revealed some learning difficulty, especially for the English learners, which seemed to benefit less than the Spanish from the structural correspondence between English and Italian objects. The construction saliency and the subtle differences in its realization across languages, i.e., between Italian and Spanish on existential subjects and Italian and English on singular objects, can account for these differential learning outcomes, as hypothesized by the Scalpel Model (Slabakova, 2017: 5) and Linguistic Proximity Model (Westergaard, 2021a: 395-396).

7.2.2 Transfer trajectories at the advanced stages of L3 Italian

RQ3 probes how transfer develops at the more advanced stages of L3 acquisition. Whereas typology-driven transfer models predict differential outcomes as to whether one language only (TPM) or both background languages (SM and LPM) can be a source of transfer in early L3 acquisition, they similarly hypothesize the possibility of property-by-property transfer later on. The results from the statistical analysis showed that the advanced L3 Italian learners successfully mastered all the targeted expressions, as to the contrasts between (un)acceptable structures, although ratings of existential partitive subjects were not decisive. Table 62 visualizes the advanced learners accuracy rates, which were calculated against a 1.0 threshold difference in mean ratings between (un)acceptable structures, taken to signal the property acquisition. The total participant number is 30, including 16 L1 English and 14 L1 Spanish learners.

Table 62: Accuracy rates calculated by a minimum 1.0 difference in ratings in the L3 Italian AJT (Advanced learners only)

	L1 English (tot = 16)		L1 Spanish (tot = 14)	
	pt	*%*	*pt*	*%*
Existential subjects				
partitive vs bare plural	12	75	8	57.14
partitive vs definite plural	4	25	4	28.57
Generic subjects				
definite vs. bare plural	16	100	11	78.57
NN objects (nno)				
definite vs. bare singular	11	68.75	10	71.43
Specific subjects (ss)				
definite vs. bare plural	16	100	8	57.14

Note. The abbreviations in the table have the following meanings: NN (number neutral) and *pt* (participant).

Following on from the statistical analysis, Table 62 shows that, while most of the advanced learners have indeed acquired generic (and specific) subjects, and NN objects, this was not the case for existential subjects. However, the English group seemed to generally do better than the Spanish one, although the latter exhibited a slight advantage on NN objects, as well as on the contrast between existential definite and partitive plurals. To answer RQ3 (How does transfer develop at more advanced stages?), I now consider each property individually, evaluating possible patterns of recovery from negative L1 or L2 transfer.

On generic subjects, while the English advanced performed at ceiling, roughly 22% of the Spanish did not successfully discriminate between definite and bare plural nouns. Recall that the non-advanced learners exhibited much variation on the ratings of Italian bare plural generics, suggesting occasional negative influence from English, across groups. Therefore, the lower accuracy of the advanced Spanish on this property is suggestive of negative transfer lingering over beyond the early stages of L3 acquisition, for some of these learners. Even so, it remains to clarify why only the Spanish showed (some) difficulty in rejecting bare plurals as an ungrammatical option in Italian. I argue that this is to be related to the Spanish learners' general tolerance with English bare plurals, discussed in the next section. This behaviour might have determined the indecisiveness of some of these learners in dismissing bare plurals as possible forms in Italian, even as specific subjects, which are ungrammatical across the board. This would account, at least in part, for the relatively low accuracy (57.14%) of the Spanish on specific subjects. Hence, at the

advanced stages of L3 Italian, there is evidence of marginal perdurance of negative English influence in the judgements of bare generic subjects, in particular for the Spanish learners.

As regards existential subjects, with advanced L3 proficiency, the discrimination between bare and partitive plurals improved. However, when considering individual behaviour, the fact that partitive plurals were not accepted over definite plurals as strongly as over bare plurals suggests that the effects of positive Spanish influence mostly manifests on the latter discrimination. Additionally, while the English outperformed the Spanish on accepting partitive plurals over bare plurals, the Spanish seemed to do better in differentiating between partitive plurals and definite plurals. Hence, at the advanced stages of L3 Italian, positive influence from Spanish would consolidate in a clearer rejection of bare plurals against partitive plurals.

On number neutral (NN) objects, results from the statistical analysis showed that definite singulars were preferred over bare singulars with advanced proficiency in Italian. Nonetheless, roughly 30% of the advanced learners, in either group, did not acquire Italian objects. A possible explanation of this outcome could be related to Spanish negative transfer. In principle, this could account for the behaviour of the Spanish learners, which certainly have a stable representation of this property in their L1 grammar. However, we should recall that negative Spanish transfer on Italian NN objects lacked full explanatory power on the judgments of the non-advanced Spanish population, so eventual residual negative effects should be limited. Moreover, such an explanation would shed light on the indecisive judgments of some of the advanced English learners only, given that just 3/7 of these participants had acquired NN objects in L2 Spanish. On the other hand, the non-target-like behaviour of some of the advanced learners may also be attributed to the construction characteristics. Specifically, the interpretation carried by Spanish singular objects, i.e., number neutral reding, is similar but not exactly the same interpretation carried by the Italian objects, i.e., weak reading. So, while performance on Italian NN objects was target-like, overall, the uncertainty of some of the advanced learners can most likely be explained by reasons related to input characteristics. Successful acquisition of NN objects could potentially be related to generally stronger positive influence from English, as the learners increased their exposure to the L3 input, being generally able to detect structural similarity between English and Italian determiner phrases. If this is the case, such an outcome would be in line with the SM and LPM predictions about a stronger influence of English, structurally proximate to Italian on this property, with the overcoming of lexical confounds (surface transfer) from Spanish, at the more advanced stages of L3 Italian. On the other hand, the larger availability of positive evidence in the input may have itself determined acquisition. We acknowledge that, given the absence of data on L2 subtractive groups (i.e., L1 English–L2 Italian and L1 Spanish–L2 Italian learners), and that this property is present in at least one of the background languages, our findings are not conducive to

a clear adjudication between these two learning scenarios. In addition, evidence on this property is limited to the judgment data only, making the case for their acquisition less strong than for other constructions, for example generic subjects.

To recapitulate, with higher competence in L3 Italian, all the generic expressions examined were mastered in a target-like fashion, in terms of the contrasts between acceptable and unacceptable forms. Potentially, this may indicate that the overall patterns of crosslinguistic influence (CLI) observed in early L3 Italian acquisition of generics became more pronounced. Specifically, on existential subjects, the strength of positive CLI from Spanish should be higher, with most advanced learners successfully distinguishing between bare and partitive plurals. Likewise, on number neutral objects, facilitative English influence would manifest more clearly at the advanced stages, with a fairly high overall accuracy rate (70%). Late emergence of CLI could be explained with a bottleneck effect (Slabakova, 2014; 2019), in the sense that, at intermediate competence levels, the L3 learners were still in the process of figuring out the morphological forms associated with NN objects, and therefore unable to identify the specific structural correspondence necessary to prompt crosslinguistic influence. Moreover, while indicating a more straightforward case of acquisition, data on generic subjects could be explained with an interesting pattern of hybrid transfer for the advanced Spanish group, with primary facilitation from Spanish and marginal non-facilitation from English. Issues related to input characteristics possibly contributed to hinder beneficial effects from Spanish (on existential subjects) and English (on NN objects). As mentioned earlier, though, we should note that the study design does not allow us to clearly tease apart the occurrence of transfer from acquisition per se. Thus, in response to RQ3, these findings provide only tentative evidence in support of transfer happening in a property-by-property manner in advanced L3 acquisition, and consequently of the Scalpel Model and Linguistic Proximity Model formulations about the developmental stages of L3 acquisition.

7.2.3 The role of external factors in L3 acquisition of Italian generic NPs

Beside linguistic transfer, this study also investigated variables related to the input characteristics (grammaticalization of the definite article) and language experience (immersion), as contributing to shaping the learning outcomes on L3 Italian generics (RQ4). Specifically, RQ4 addressed i) the extent to which grammaticalization is facilitative and ii) how L1 and L2 experience impacts L3 acquisition. To this end, I first consider the predictions made by the Grammaticalization Hypothesis (GH), presented in Section 1.5.3. According to the GH, acquiring those forms whose determiner is the definite article should be generally easy, as the high frequency of the definite article makes these forms salient in the input. The learner could also treat this determiner as a default. Our data support this prediction, in that generic subjects and NN objects, both realized as

definite nouns, were overall acquired by the trilingual populations. This is further corroborated by the learners' performance on the baseline condition, namely specific subjects, which were also successfully acquired. At the same time, though, learners were less accurate on NN objects than generic subjects, with L3 proficiency particularly affecting the acquisition of the former property. These facts may be accounted for by the different degree of saliency of generic subjects vs. NN objects. Indeed, despite the general high frequency of the definite article, expressions with weak readings in object position are lexically restricted to a certain verb class, the so called 'to have predicates' (Espinal, 2010). Therefore, it could well be the case that more CLI is associated with generic subjects than NN objects, since the former property is likely to be more frequent (or salient) in the input (Slabakova, 2023: 43–44). Having said this, the acquisition of generic definite nouns (generic subjects and NN objects) was found to be actually easier than that of indefinite nouns (existential subjects, for which ratings of partitive nouns did not reach acceptance. For this reason, I argue that the GH prediction about ease of acquisition of Italian definite forms is generally borne out. This expectation is in line with the Bottleneck Hypothesis (Slabakova, 2014) and the Scalpel Model's (Slabakova, 2017) postulation of (high) frequency of a construction enhancing its acquisition, which the GH is grounded in.

Turning to language immersion, it was hypothesized that acquisition of L3 Italian generics would be easier for those learners whose dominant (background) language shares a similar structure with the L3. Thus, the English group was anticipated to be more accurate on NN objects, while the Spanish one to do better on generic subjects. From a statistical standpoint, the two groups performed similarly, as no main effect for group was found, on these properties. From a qualitative one, in general, the English were observed to outperform the Spanish, with a greater advantage on generic subjects (by 16.66%) than NN objects (by 3.34%) (see Section 6.5.1). These data are only partially in line with our expectations about learning settings. I now return to the Grammaticalization Hypothesis, since we also anticipated a possible interaction between article frequency and learning setting. On the one hand, the high frequency of the Italian definite article would reduce the English learners' disadvantage on generic subjects; on the other hand, it would counter the Spanish learners' disadvantage on NN objects. This seems to be the case for objects, given the small gap in accuracy between groups. As to generic subjects, the English learners did not only catch up on their Spanish counterparts but also outperformed them. Hence, whilst the central claim of the GH about Italian definite nouns being easy to acquire is generally supported, its predictions about the interaction between structure frequency and learning setting are supported to a lesser extent.

Whereas the two groups share analogous higher experience with their dominant (first) language, their exposure and usage of the L2 and L3 may differ. As illustrated in Section 6.5.2, immersion

scores in L3 Italian were similarly low, but those in the L2 were higher for the Spanish (m = 0.73) than the English (m = 0.45). In line with the LPM postulations about language activation (Westergaard, 2021a,b), these facts could explain learners' similar performances on NN objects, with the English showing a slight advantage only over the Spanish (see Table 56). Thus, the Spanish group's high immersion in English may have contributed to countering negative influence from Spanish on Italian NN objects, while possibly interfering with the detection of structural similarities with Italian on existential and generic subjects. Furthermore, the relative high activation of L2 English for this population could have some explanatory power over their poorer performance on (control) specific subjects, where bare plurals seemed to be competing with definite plurals as Italian specific nouns, for some learners. Recalling that English existential and generic subjects are rendered with bare plurals, the Spanish learners might have overextended the use of this form to specific contexts too. In a nutshell, higher activation of L2 English seems to help us work out the qualitative difference in performances between the groups, as to Italian generic nominals. Simultaneous activation of the prior languages during the L3 acquisition process is postulated by the Scalpel Model (Slabakova, 2017) and Linguistic Proximity Model (Westergaard, 2021a,b).

Differential L2 immersion can in turn have implications on language inhibition, during the processing of the experimental input. To illustrate, let us consider the case of generic subjects, on which the Spanish learners were numerically outperformed by the English. On this property, the English option (bare plural) should be discarded in favour of the Spanish option (definite plural), which is the same as the target one. However, because the degree of activation of the L2 (English) was relatively high, for this population it was hard to dismiss bare plural as ungrammatical, despite the helpful correspondence between Spanish and Italian generic nouns. Likewise, the lower activation of L2 Spanish would make it easy for the English population to inhibit Spanish, as to Italian NN objects. However, given that L2 Spanish objects were not successfully acquired, this explanation remains mainly a speculation. In addition, this would also imply a special role of the L2 in modulating L3 transfer trajectories, depending on the degree of its overall activation.

To sum up, external factors such as article grammaticalization and language immersion were observed to have a moderate impact on L3 acquisition of Italian generic expressions (RQ4). In particular, whereas the advanced grammaticalization of the Italian definite article generally facilitated acquisition of definite nouns (RQ4i), higher experience in the dominant language did not substantially enhance the performance on those structures that are shared between this language and the L3 (RQ4ii). The findings on article grammaticalization are in line with the Scalpel Model's predictions.

7.2.4 The influence of L1 and L2 knowledge in L3 acquisition of generic expressions

After having presented the study findings, we can now address RQ1, which more generally concerns the influence of prior language knowledge on the acquisition of L3 knowledge of generic expressions. The data reviewed above show that the influence exercised by the participants' L1 and L2 on the L3 manifests differentially across generic expressions, depending on how transparent structural correspondences are across languages. This seems particularly true at the early acquisition stages. More specifically, this knowledge likely influenced their judgements of generic subjects, and existential subjects, with primary positive effects from Spanish. However, CLI effects were stronger on generic subjects, which are realized with the same forms (definite plurals) in Spanish and Italian. To the contrary, they were somewhat weaker on existential subjects, due to the lexical mismatch between indefinite articles in the Romance languages.

On the other hand, data on number neutral (NN) objects unveiled a quite complex pattern of CLI, with one of the background languages possibly affecting performance more decisively in later L3 acquisition. Indeed, only those learners who were advanced in Italian were fully target-like, in judging these objects. Instead, although some instance of positive English transfer was found for the less proficient learners, data were less compelling. If a delay in the occurrence of crosslinguistic influence is assumed, it is likely to stem from a mapping problem, as the interpretation carried by the Spanish objects (a proper number neutral reading) subtly differs from that carried by the English and Italian ones (a more general weak reading). Hence, the strength of CLI may depend on the degree to which structures correspond to one another, across languages. This concerns similarity between the readings caried by a form, and its lexical realizations. under this scenario, when learners get to overcome these potential issues, CLI is likely to be mostly facilitative.

7.3 The current models of third language acquisition

Throughout this chapter, I have argued that the Scalpel Model (SM) and Linguistic Proximity Model (LPM) can provide the best account of our data, which showed early-stages dynamic transfer from English and Spanish, across properties. In this section, I revisit the predictions about early stages' acquisition of L3 Italian generic expressions, according to these models, as well as the Typological Primacy Model (TPM) and the L2 Status Factor (L2SF). Table 63 displays an overview of such predictions, matched with the study findings.

Table 63: Predictions and findings on NPs with kind reference in early-stages L3 Italian

Predictions	**TPM**	**SM & LPM**	**L2SF**
Kind-referring and generic subjects	Easy	Easy	Easy (L1 English–L2 Spanish)
Existential subjects	Moderately easy	Moderately easy	Moderately easy (L1 English–L2 Spanish)
Number neutral objects	Moderately hard	Moderately easy	Moderately easy (L1 Spanish–L2 English)
Overall findings	**Not supported**	**Supported**	**Not supported**

Let us first consider the hypothesis of the TPM, which hinge on the idea of wholesale transfer from Spanish. This would entail that acquisition of generic subjects, and to a lesser extent, existential subjects would be easy, but that of NN objects would be hard, across the board. As expected, learners were generally accurate on subjects with kind and generic readings, by distinguishing between acceptable definite plurals and unacceptable bare plurals, in comprehension, and making use of definite plurals, in production. This suggests positive influence from Spanish, across groups. However, a certain tolerance for bare plurals was also observed at the individual level, indicating the occurrence of negative English transfer. This is unexpected under the TPM. Performances on existential subjects were indicative of (positive) transfer from Spanish, although their acquisition was mastered to a lesser extent, due to issues related to the input qualities. Turning to number neutral objects, their acquisition was somewhat hard, but for different reasons from those postulated by this model. More specifically, learners' uncertainty on Italian objects does not originate from ratings of bare singular being high, or higher than those of definite plurals, as expected under the TPM. In fact, bare singulars were rated lower than definite singulars, by both groups. That is, if indeterminacy on this property is indicative of negative Spanish transfer, such effects are not as pronounced as it was anticipated under holistic transfer. Positive influence from English and problems related to mapping between forms and meanings are likely to explain these facts. Hence, in our data, there is no clear evidence of transfer happening holistically from Spanish, contra the TPM predictions.

The SM and LPM predictions would imply a similar outcome as the TPM ones on generic subjects and, possibly, on existential subjects, that is, ease of acquisition, with positive Spanish influence. This was more straightforwardly the case for the former than the latter property, as expected. As to individual variation on generic bare plurals, this was not anticipated by our predictions. Nonetheless, we believe that this individual behaviour is related with the input characteristics, namely the more economical structure of bare plurals as opposed to definite plurals (Chierchia, 1998; Serratrice *et al.*, 2009). Therefore, despite not being fully supportive of the SM and LPM

specific predictions for this study, data on generic subjects are in line with the idea of external factors interplaying with linguistic transfer in shaping the L3 acquisition process, as postulated by these same models. As to NN objects, the SM and LPM hypothesized early stages' hybrid transfer, with (moderate) negative effects from Spanish and positive ones from English, which would be evident in uncertain judgments of both bare and definite singulars. This is indeed what was found. However, it must be noted that the occurrence of negative Spanish influence can properly describe the L1 Spanish group's performance only, since their English counterparts had not actually acquired this property in L2 Spanish. Beneficial influence from English is likely to have contrasted the (limited) detrimental effects of Spanish, at least for the L1 Spanish learners. At the same time, the overall uncertainty of the learners on Italian objects can be explained with a mapping problem, i.e., a difficulty in associating the readings carried by these objects, which slightly differ across the languages examined, with the corresponding forms. Taken together, the findings on NN objects indicate that the less proficient learners did not find it very easy to acquire this property, but the higher ratings of definite singulars over bare singulars are suggestive that such difficulty is moderate. All in all, the patterns of crosslinguistic influence observed at the early stages of L3 Italian are generally consistent with the specific predictions made by the SM and LPM, and with the more general idea that the structures of all the known grammars can be potentially transferred, being such languages coactivated in the learner's mind.

As regards the L2SF, the model would hypothesize different learning outcomes for the two trilingual groups, primarily depending on the order of acquisition of the background languages. More specifically, the source language being transferred would be the second language, irrespective of structural correspondences with the L3. So, the English group would transfer their L2 Spanish grammar, which implies facilitation on generic (and existential) subjects, and non-facilitation on NN objects. Conversely, the Spanish group would be influenced by their L2 English grammar, which would determine non-facilitation on subjects, and facilitation on objects. Overall, these predictions are not borne out by our data, since the two groups did not differ significantly in their performances on Italian nouns. That is, both the non-advanced English and Spanish trilinguals found it easy to acquire generic subjects, while they similarly had (some) difficulty with existential subjects and NN objects. Having established this, we do not rule out the possibility that the second language may occasionally exercise a stronger role in determining crosslinguistic influence, when the L2 is highly activated in the learner's mind. This possibility could shed light on the better performances of the Spanish group on NN objects, especially with advance L3 proficiency, recalling that their activation of English was generally high. In addition, it could account for the instances of non-facilitative English transfer found for some of the advanced L1 Spanish on generic subjects. Hence, our data do not indicate that CLI consistently originates from

the learners' second language, across properties and groups. These findings are not in line with the L2SF predictions about early acquisition of L3 Italian generic nominals.

7.4 Additional contextual observations

In this section, I address a few points related to the literature on the L3 acquisition of generics, as well as to the wider literature on L3 acquisition. I start with comparing the L3 Italian learners from this study to the previous research on adult acquisition of generic nominals in L3 Romance. In particular, I consider the findings on generic and existential subjects in L3 Brazilian Portuguese, presented in Ionin, Montrul & Santos (2011b) and Ionin, Grolla, Santos & Montrul (2015). Similarly to ours, those results revealed that, for language triads including English and Spanish as background languages and a Romance as third language, the acquisition of NPs with kind and generic readings is predominantly influenced by the grammar of Spanish, which serves as main source of (positive) transfer. After this, I discuss the contributions brought to the broader field of L3 acquisition by our research. First, I engage with the points made by Westergaard (2021b) and Ionin (2021) on how structural similarities across languages can be established, providing evidence from this research. In doing so, I highlight the relevance of external factors related to the input characteristics (e.g., article grammaticalization) for a better understanding of transfer patterns from the L1 and L2 to the L3, following Slabakova (2017).

7.4.1 Comparisons to previous studies of genericity in L3 Romance

As highlighted in Section 1.5.1, the body of studies looking into L3 Romance acquisition of noun phrases with interpretations pertaining to the genericity domain is limited, and has mostly examined learners of L3 Brazilian Portuguese (Ionin et *al.*, 2011b; Ionin *et al.*, 2015). In those studies, the learners' L1 and L2 were (alternatively) English and Spanish, or another Romance behaving the same as Spanish on generics such as French and Italian. The former research probed the interpretation of generic subjects, the latter that of existential and generic subjects, in early and developmental stages of L3 BrP. Their findings point to overall primary facilitation from Spanish, on generic subjects, and to some facilitation from English, on existential subjects. This means that, in BrP, definite plural nouns were preferred over bare plural nouns as generic subjects. Recalling that Brazilian Portuguese allows both bare and definite plurals in generic contexts, these results were taken as evidence that, on this property, transfer took place in a holistic manner, since English was not equally (or cumulatively) facilitative. On the other hand, data on existential subjects showed that bare plurals were being accepted, at least by some of the learners, in particular among the L1 English group, suggesting possible facilitation from English. Therefore, when considering the data on the two properties together, it appears that

crosslinguistic influence is likely to be driven by abstract structural similarities, being detected by the learners property by property, as opposed to holistic structural similarity. Our data bring further evidence in favour of this explanation. Indeed, whereas Spanish facilitated the acquisition of generic subjects across the board, there is evidence of beneficial English influence on number neutral (NN) objects, in (early) L3 Italian. However, it must be noted that, both in the BrP studies and this study, data pointing to a beneficial role of English are less compelling than those signalling beneficial effects from Spanish. We believe that, in both cases, issues related to the input qualities may have hindered the positive effects deriving from the knowledge of the English grammar. These are the prevalent use of Brazilian Portuguese existential bare plurals in formal registers, and possibly their reduced frequency in the input (Ionin *et al.*, 2015: 332), as well as a mapping problem related with NN objects. On the basis of this comparison, I argue that the most probable transfer trajectory in the acquisition of L3 Romance generic expressions is likely to be characterized by a facilitative role of Spanish, on the property being similar between the background and the target Romance languages (e.g., generic subjects), and of English, on the property being similar between English and the target Romance language (e.g., NN objects). However, facilitation from Spanish appears stronger than facilitation from English, this possibly being due to reasons related with the frequency of the construction, as well as its degree of similarity across languages.

7.4.2 Contributions to the investigation of third language acquisition

According to typology-driven transfer models of L3/Ln acquisition, when acquiring a third language, the learner is likely to experience crosslinguistic influence (CLI) from the previously acquired languages. For the TPM, the full grammar of one source language solely would be transferred, initially on the basis of surface similarity, or syntactic similarities, later. For the SM and LPM, structural proximity between properties is principally responsible for determining linguistic influence. In either case, it remains an open question how proximity between structures (or micro-cues) is established by the parser, given that syntactic structures are rarely completely identical, across languages (Westergaard, 2021a: 397). For example, Ionin (2021) pointed out that it would be relevant to measure the degree of similarity between structures, for this purpose. I now provide a tentative answer to this question, by assessing to what extent the properties investigated herein can be considered similar crosslinguistically, and the factor involved in this adjudication.

I suggest that the following ranking may account for the similarity degree between Italian and Spanish versus English generic expressions. First of all, the structures for which the learner can establish stronger linguistic proximity are subjects with kind and generic readings, which carry the

same interpretations across the three languages, and are realized with the same forms (definite plural nouns) in Spanish and Italian. Generic subjects are the property that our L3 learners acquired most easily. Second, singular objects have a similar (but not the same) interpretation, this being properly number neutral (NN) reading in Spanish, and a weak reading in English and Italian. In addition, the presence of an overt determiner in English and Italian makes these nominals similar in these languages. However, English and Italian use different forms, respectively indefinite and definite nouns, to express weak readings. The acquisition of objects was found to be less easy than that of generic subjects. Finally, existential subjects carry similar interpretations, being the same (i.e., indefinite readings) in Spanish and Italian. Recall that, on the theoretical framework adopted, English bare plurals derive their existential readings via DKP (Derived Kind Predication) before the existential closure is in place (see Section 2.4.1). Furthermore, the two Romance languages similarly express these readings with determined phrase (plural indefinites), although Italian indefinite articles are partitive. The resulting lexical mismatch may well mislead the learners, when parsing the L3 input. Existential subjects were the hardest structure for the learners to acquire. As argued earlier, the advanced grammaticalization of the Italian definite article is likely to have sustained acquisition of generic subjects and NN objects. All in all, problems related with form–meaning mappings, together with input saliency, seem to affect the learners' perception of (abstract) structural similarity between properties. Table 64 summarizes the linguistic facts involved in shaping the properties' degree of similarity. The properties are ordered by ease of acquisition.

Table 64: Degree of proximity between generic expressions in Italian, Spanish and English

Property	**Reading**	**Forms**	**Acquirability**
Generic subjects	Same	Same in Spanish and Italian	High
Number neutral objects	Similar (close in English and Italian)	Similar in English and Italian (different article)	Medium
Existential subjects	Similar (same in Spanish and Italian)	Similar in Spanish and Italian (different article lexical form)	Low

Although the interplay between the properties' characteristics looks complex, what is evident from Table 64 is that a more transparent mapping between readings and forms across structures is associated with easier acquisition (see also DeKeyser, 2005; Slabakova, 2019). In other words, learners seem to detect more easily (and sooner) structural correspondences between the target language and the background language(s) when the same reading is mapped onto the same form (i.e., generic subjects). On the other hand, when such a mapping is less straightforward, acquisition gets harder. These observations seem consistent with the idea that a highly

transparent (or one-to-one) correspondence between forms and meanings can ease the acquisition of those properties which are characterized by such a relationship over those which are not, as has been proposed for L1 (Martin, Demirdache, García del Real, van Hout & Kazanina, 2020; van Hout, 1998; 2008) and L2 (e.g., Anderson, 1984) acquisition. However, we should recall that Italian definite nouns express both the generic and the specific reading and that the latter interpretation is conflated into the former (i.e., the specific interpretation is part of the generic one, in terms of truth-value) (see Section 1.5). Therefore, what our data indicate is that acquisition appears to be easier for constructions whose form-meaning associations are consistently transparent across languages, whether this association is one-to-one, or it concerns (multiple) conflated meanings. Moreover, it must be noted that, on the basis of structural similarity, existential subjects could be deemed less hard to acquire than number neutral objects, since they carry the same readings in Spanish and Italian. Again, in order to anticipate possible L3 transfer trajectories, we reiterate the importance of including variables such as construction saliency in the L3 input (i.e., definite article grammaticalization) among the linguistic facts enabling, the discovery of structural similarities across languages. Specifically, construction saliency relates with the amount of CLI potentially being provided with each property, in that more frequent structures are predicted to prompt more crosslinguistic influence than less frequent ones (Slabakova, 2023).

7.4.3 Summary

In this section, I have highlighted the major areas for which this research further contributes to the understanding of the field of L3 acquisition. Regarding the interpretation of L3 Romance NPs with kind reference, our findings on generic subjects are In line with those on Brazilian Portuguese. Precisely, both sets of data indicate that Spanish is the predominant source of (facilitative) transfer to a target Romance language. On the other hand, when a property is similar in the L3 and the other source language (English), some evidence on facilitation from English has been unveiled. This was the case for existential subjects in Brazilian Portuguese and number neutral objects in Italian. As to this language combinations, these facts suggest evidence of (mainly facilitative) property-by-property CLI. Moreover, our study brings novel empirical evidence on structure pertaining to the same semantic domain (genericity), which present a different degree of structural correspondence, crosslinguistically. We suggest a possible "similarity ranking", being dependent on how much transparent the mapping between forms and meanings are. As for Italian, generic subjects are the forms with the highest degree of structural proximity between the source and target languages and, consequently, were acquired more easily than number neutral objects and existential subjects. Additionally, we pointed to a relevant role

of the input factor, namely saliency of the constructions containing the definite article in Italian, in easing the learners' retrieval of structural similarity.

7.5 The study limitations

This section focuses on two limitations of the current study, which concern the experiment design. The first limitation is related to the absence of subtractive language groups, namely a group of L1 English learners of L2 Italian and a group of L1 Spanish learners of L2 Italian, among our participants. This would have allowed direct comparisons between bilingual and trilingual populations, on the same data. The second limitation relates to a possible task effect, as to the findings on Italian definite plural subjects being preferentially interpreted specifically, in the Form–to–Meaning Task.

7.5.1 Deploying a language-mirroring groups design

As highlighted in Section 4.7, the most effective methodology to test wholesale vs. property-based transfer is deemed to be the *language subtractive design* by the SM and LPM scholars (Westergaard, Mitrofanova, Rodina & Slabakova, 2023). This design includes one trilingual and two bilingual groups, all learning the same target language. Each of the bilingual groups would have as first language one of the trilinguals' background languages. This way, the effects of each background language could be singled out, by comparing the trilinguals and bilinguals' performances. Our methodology does not include L2 Italian learners, but rather *language-mirroring groups*, which shares the same L3 but whose prior languages are being alternated. This type of study set up is specifically meant to tease apart the role of (overall) typological similarity from that of order of acquisition (Puig-Mayenco, González Alonso & Rothman, 2020). We acknowledge that this is a limitation of the current study, as to providing compelling empirical evidence in support of the property-based transfer models.

Nonetheless, as demonstrated throughout the chapter, the crosslinguistic patterns revealed by our data point to a dynamic role of both the L1 and L2 in the L3 knowledge outcomes. Therefore, our findings can contribute, to some extent, to the debate around which of the typology-driven transfer models can best account for transfer trajectories in L3 acquisition of generics. Moreover, a substantial body of studies on adult L2 acquisition of generic subject NPs of L1 English learners of L2 Spanish shows that, if negative English influence is in place, this manifests in the tolerance with Spanish bare plural nouns in generic contexts (see Chapter 3). This is also what our data indicate, especially with regard to the non-advanced Italian learners' judgments, which exhibited much individual variation on the acceptability of this form.

On the other hand, it would have been certainly helpful to gather data on the acquisition of generics by adult L1 Spanish–L2 Italian learners since data on this population are scant. This seems particularly needed for a better understanding of our findings on specific bare plurals (ungrammatical across the languages examined), which were accepted by some of the non-advanced participants. While the behaviour of the L1 English learners could be partially explained with a similar (unexpected) tolerance with English specific bare plurals revealed by the literature for English native speakers (see Section 3.2), that of the L1 Spanish looks even more surprising. To illustrate, if a potential group of L1 Spanish–L2 Italian learners shows a level of individual variability in their judgments of Italian specific bare plural comparable with that exhibited by our L1 Spanish trilinguals, this might suggest difficulty with working out what is incorrect in the sentence, for example by focusing on the subject-verb agreement rather than on argument NPs. The fact that our experiment presents sentences in isolation, as opposed to in a side-by-side modality, could further increase such a difficulty. A possible general improvement of the Acceptability Judgment Task design could be then to underline the portion of the test sentence containing the targeted structure to evaluate (Ionin, Choi & Liu, 2021).

To recapitulate, the first limitation of this study concerns the choice of a *language-mirroring-group design* over a *subtractive language* one. The former was privileged in order to look into language experience, as an additional factor conjuring up with transfer in shaping performance on L3 Italian generics. A combination of the two methodologies was also taken into account but was not implemented, due to difficulties with recruiting the L2 Italian learners. The major implication of the arrangements deployed is that, despite providing evidence of property-by-property transfer, our data do not suffice the testing of the Scalpel Modle and Linguistic Proximity Model.

7.5.2 Possible task effect on NPs' interpretations in the Form–to–Meaning Task

The results from the Italian Form–to–Meaning Task unveiled a clear preference for specific over generic interpretations of plural definite subjects (see Section 6.4.2). Our findings seemingly diverge from the previous literature on L1 and L2 Spanish, where these nouns were preferentially interpreted generically, irrespective of the context (Ionin, Montrul & Crivos, 2011; Pérez-Leroux, Munn, Schmitt & DeIrish, 2004). However, unlike their experiments, ours presented one stimulus type only (e.g., *Are strawberries red?*), in association with a visual non-supportive of the generic reading (e.g., picture of two green strawberries). This question could potentially have a 'yes' answer, when interpreted generically, or a 'no' answer, when interpreted specifically. For our results to be fully comparable with the previous literature, though, an additional condition would be needed, i.e., a condition presenting the same visual context associated with a stimulus that cannot be interpreted generically (e.g., *Are strawberries green?*). Although inserting this condition

in the task would have provided more solid data, we opted for a simpler design. This was done to avoid taxing the participants with a lengthy experiment altogether, and a possibly too complex version of the English task, as informal feedback from the English natives participating in the pilot studies suggested.

Nonetheless, in a very similar study setup, no preferred interpretive patterns of Italian definite subjects was observed by Redolfi, Soares, Czypionka & Kupisch (2021) (see also Section 5.3). Interestingly, their study included the two conditions aforementioned, for example a picture of yellow frogs (non-canonical visual), matched with both a canonical stimulus (*Le rane sono verdi* 'The frogs are green') and with a non-canonical stimulus (*Le rane sono gialle* 'The frogs are yellow'), in terms of truth-value of the generic reading. In fact, the adult Italian native speakers tested therein accepted definite plurals around 50% of the times, , in either condition, suggesting that specific and generic readings are equally available for this form. An important difference between our and their task is that we included plural definite nouns only as target forms, as opposed to both plural definites and demonstratives in their research. It could be possible that definite nouns triggered specific readings less strongly than demonstratives (which only carry this reading), as has been previously discussed in the literature.

At the same time, a possible explanation of the much greater proportions of specific answers unveiled in our data could result from the task design, given that a preference for the specific reading was unveiled across languages. More precisely, being presented with a context (e.g., two green strawberries) contrasting with the truth-value of the generic assertion referred to in the question stimulus (e.g., *Are strawberries red?*), participants might have been induced to largely provide (specific) 'no' answers. This seems to be the case also for the native baselines. Precisely, the English and Spanish natives provided right the same number of specific responses (98% of the cases), which is expected for the former but surprising for the latter. The Italian natives exhibited the same trend, but surely allowed for more generic answers (17.14% of the times). In other words, both the L1 native and the L3 Italian populations in this study patterned alike in giving predominantly specific answers to questions containing plural definite nouns. Whereas in English the specific interpretation is the only possible, the Spanish and Italian data suggest a preference for specific readings of such nominals. All in all, while indicating the availability of both the generic and the specific reading of definite nouns for the Italian baseline, our data do not seem much informative with regard to possible transfer patterns from the background languages (English and Spanish) to L3 Italian.

7.6 Summary and conclusion

In this dissertation, I have investigated the acquisition of noun phrases (NPs) with kind reference in Italian as a third or additional language. In doing so, I looked into the most probable transfer trajectory from the L1 and L2 (English and Spanish) to L3 Italian. Specifically, I have attempted to establish whether crosslinguistic influence (CLI) is best explained as a complete phenomenon, as postulated by the Typological Primacy Model (TPM) (Rothman *et al.*, 2019) or a dynamic one, as hypothesized by the Scalpel Model (SM) (Slabakova, 2017) and Linguistic Proximity Model (Westergaard, 2021a,b). The experimental tools deployed were an Acceptability Judgment Task (AJT) in Context and a Form–to–Meaning Task, to examine comprehension of generics, and an Elicited Oral Production Task (EOPT), to examine their oral use. As far as early-stages L3 acquisition is concerned, both the TPM and SM/LPM consider CLI to be driven by typological similarity between background and target languages. However, while for the TPM the grammar of one source language solely gets fully copied, determining wholesale transfer, for the SM and LPM all the prior grammars are simultaneously activated in the acquisition process, making transfer possibly derive from either or both source languages, on a property-by-property basis. On the other hand, a model hinging on the similar cognitive status of the L2 and L3 when both are learnt in the classroom, namely the L2 Status Factor (L2SF) (Bardel & Sánchez, 2017; Falk & Bardel, 2010) predicts a primary role of the L2 in determining CLI to the L3, irrespective of its structural correspondences with the L3. Moreover, the SM also highlights the relevance of external factors, namely factors related to input qualities (e.g., construction frequency) or experiential ones (e.g., language immersion) in shaping the L3 knowledge outcomes, together with linguistic influence.

In general, our results show that the predictions by which early-stages CLI happens dynamically, on the basis of (abstract) structural similarities between the L3 and both background languages, are borne out, while lexical confounds (surface resemblance) from Spanish also affected the less proficient learners' performance. In line with previous research on generic interpretation in L3 Romance (e.g., Ionin, Montrul & Santos, 2011b; Ionin, Grolla, Santos & Montrul, 2015) and with the SM and LPM postulations on property based CLI, facilitative influence from Spanish was anticipated on generic subjects, while English facilitation was expected on NN objects, with increasing effects with higher L3 proficiency. Negative Spanish effects were also hypothesized on objects. In addition, Spanish facilitation was expected on existential subjects. Moreover, in consistency with the SM hypotheses on external factors, high frequency of the Italian definite article (i.e., article grammaticalization) should ease the acquisition of generic subjects and NN objects. As to language immersion, English-dominant learners would do better on objects, while Spanish-dominant learners would be more accurate on subjects.

The empirical evidence provided in this study supports the prediction of property-by-property CLI, although we acknowledge that it is limited to the judgements data, as to number neutral objects. As expected, the L3 Italian learners exhibited positive influence from Spanish on kind-referring subjects, by accepting definite plurals and rejecting bare plurals. In oral production, L3 proficiency was a predictor. On existential subjects, the expectation of (positive) Spanish influence was partially met, being mostly restricted to the rejection of ungrammatical bare plurals. Turning to NN objects, on which hybrid transfer was crucially hypothesized, there is evidence of simultaneous positive influence from English and some negative influence from Spanish. This manifested in indeterminate judgements, with the less proficient learners' ratings of bare singulars approaching acceptance. Furthermore, the input factor (article grammaticalization) was found to be relevant, as definite nouns such as kind-referring subjects and NN objects were overall acquired. Instead, language immersion did not modulate acquisition in the expected manner, with the L1 English learners being more accurate than the L1 Spanish on kind-referring subjects, at the individual level.

Hence, as far as NPs with kind reference are considered, our data on early L3 Italian indicate that crosslinguistic influence is likely to manifest dynamically, with facilitative effects from Spanish on one property (generic subjects) and (primary) facilitative effects from English on another property (NN objects), in line with the Scalpel Model and Linguistic Proximity Model postulations. At the same time, data on the more advanced acquisition stages are less compelling, as the study design does not allow us to clearly tease apart the effects of CLI from those of acquisition itself. A similar transfer trajectory to that unveiled in our data characterized the performances of L3 learners of Brazilian Portuguese, experiencing facilitation from Spanish on generic subjects, and (some) helpful effects from English on existential subjects (Cf. Ionin *et al.*, 2015). By the same token, the Typological Primacy Model's predictions about holistic transfer from Spanish only are not supported, given positive English influence on objects, at the early stages of L3 Italian. Regarding a special role of the second language, as hypothesized by the L2 Status Factor, this was not confirmed in our data, since the L1 English group and the L1 Spanish group showed a similar behaviour, across properties.

At the same time, we also observed instances of negative influence that were not specifically elicited by our predictions about property-based transfer. These include individual variation in the judgments of kind referring subjects, with a certain tolerance for bare plurals. We interpreted this behaviour through reasons related to the input characteristics, i.e., bare plural being the most economical form to transfer (e.g., Serratrice, Sorace, Filiaci & Baldo, 2009). Such an explanation is possible if we assume that both background languages are co-activated in the learner's mind, and that interferences from the language structurally non-corresponding with the L3 are possible

(Slabakova, 2017; 2023). The properties of the input are also likely to have affected the learners' performances on number neutral objects, especially at lower L3 competence levels. Indeed, their difficulty can be attributed to a non-transparent mapping between forms (the NP type deployed in this construction) and readings (being the Spanish one distinctive). Consequently, more parsing of L3 input would be needed to retrieve the structural correspondence with the background language similar to Italian (i.e., English). This scenario is in line with the LPM hypotheses that a non-complete identity between corresponding structures can have some detrimental effects on the learning process (Westergaard, 2021a). On the other hand, another characteristic of the (L3) input, that is, the advanced degree of grammaticalization of the definite article, was found to be beneficial to the acquisition of Italian definite phrases, as mentioned earlier. We believe that the degree of similarity between structures should be carefully gaged when making predictions on crosslinguistic influence from the L1 and L2 to the L3, by eliciting the extent to which structural similarity can be in fact beneficial, along the lines of the SM and LPM considerations on the matter.

In conclusion, this dissertation advances our understanding of how the acquisition of various noun phrases with kind and genericity meanings in a third or additional language is influenced by their knowledge in the prior languages. The evidence of crosslinguistic influence (CLI) occurring property by property, with primary beneficial effects from the background language structurally closer to the L3, that is, Spanish on generic subjects and English on number neutral objects, indicates that both the first and the second language are simultaneously activated in the acquisition of L3 Italian generics. Keeping in mind the limitation of this study setup, these data bring further support to the Scalpel Model (Slabakova, 2017) and Linguistic Proximity Model's (Westergaard, 2021a,b) hypotheses about a full transfer potential of all previously known structures. At the same time, the great individual variation found across generic expressions also reveals interference from the other background language, in a modality that is only partially anticipated by these models. I argue that input characteristics such as the grammaticalization of the definite article and the degree of similarity between structures contribute to these differential acquisition rates, with generic subjects being more easily acquired than number neutral objects, and existential subjects, in L3 Italian.

Appendix A Proof of ethical approval

Email record

From: Eergo2@soton.ac.uk
To: Boglioni E.
Subject: Approved by Faculty Ethics Committee - ERGO II 55001
Date: Fri 5/29/2020 12:52

Approved by Faculty Ethics Committee - ERGO II 55001

UNIVERSITY OF Southampton

ERGO II – Ethics and Research Governance Online https://www.ergo2.soton.ac.uk

Submission ID: 55001
Submission Title: L3 Acquisition of Genericity in the Italian Nominal System
Submitter Name: Eleonora Boglioni

Your submission has now been approved by the Faculty Ethics Committee. You can begin your research unless you are still awaiting any other reviews or conditions of your approval.

Comments:

-

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E.Boglioni@soton.ac.uk coordinator

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Appendix B The Acceptability Judgment Task (AJT) in Context

B.1 The English AJT

INSTRUCTIONS

In this task, you will read a series of stories followed by a sentence. You will see every story 2 or 3 times, each time with a different sentence. Please, rate the sentence depending on how accurate it sounds to you. You must evaluate how well the sentence goes in the context of the story, or how good a continuation of the story it is. Sometimes the sentence just does not sound right. You need to indicate your rating on a scale from 1 to 4, with 1 as the sentence not going well with the story or not sounding right, and 4 as the sentence being a perfect continuation of the story. If you are unsure about your judgment, please check the "I don't know" option.

1 = Completely unnatural in the context of the story

2 = Somewhat unnatural

3 = Fairly natural

4 = Completely natural in the context of the story

First, you are going to practice the format with some examples. Then, you will get started with the test!

EXAMPLE 1

Andrew teaches statistics at Southampton University. He travels worldwide to present his work. Every time he presents at a conference, Andrew feels very confident.

Andrew is used to talking in public.

This sentence is a good continuation of the story, so we rate it as 4.

EXAMPLE 2

Andrew teaches statistics at Southampton University. When he started his job, Andrew only stayed in the lab, and never attended any conferences. But now Andrew presents at conferences, and enjoys talking in public.

Andrew used to talk in public.

This sentence does not go well with the story because it describes something that was not true in the past. We rate it as 1.

EXAMPLE 3

Andrew teaches statistics at Southampton University. Normally, Andrew works in his office alone, but these days he has to share his room with a visiting professor from Spain.

Andrew is share his office temporarily.

This sentence just does not sound right in English. We rate it as 1.

Andrew is sharing with his office temporarily.

Again, this sentence does not sound right in English. We rate it as 1.

TARGETS

Existential subjects

STORY A

Chris loves Italian lakes. Last summer he took a trip to Lake Como. Chris had a wonderful time there. One day when swimming, he got really surprised!

a. Dolphins were jumping around him.

b. The dolphins were jumping around him.

STORY B

The other day Mary was reading a book at home. Suddenly, she heard some weird sounds coming from outside. Mary rushed to the window. Do you know what she saw?

a. Kangaroos were playing in the garden.

b. The Kangaroos were playing in the garden.

STORY C

Last Saturday was Colin's birthday. I wanted to make a cake for him. So, I went to the supermarket to get eggs. But I could not go in! Can you imagine that?

a. Chickens were running through the supermarket.

b. The chickens were running through the supermarket.

STORY D

Marta works in Milan. She takes the train every day to get to the city. This morning she could not travel, though! There was no service at all. Everybody was so surprised!

a. Horses were blocking the railroad.

b. The horses were blocking the railroad.

STORY E

Carla has plenty of new things every week! Last night she was looking for a new dress in her wardrobe. But everything was upside down. She could not believe it!

a. Turtles were resting on the clothes.

b. The turtles were resting on the clothes.

STORY F

Stephen is taking an exam today. Stephen prepared a lot, but he feels so tired. Unfortunately, he had to get up before 5! Do you know what happened?

a. Birds were signing in his room.

b. The birds were singing in his room.

Kind-referring subjects

STORY A

I really like to go to the Museum of Natural Science in town. There you can learn about species that can no longer be found nowadays. For example, I learnt that…

a. Mammoths became extinct 10,500 years ago.

b. The mammoths became extinct 10,500 years ago.

STORY B

Wendy loves to hike in Italy. She knows a lot about Italian mountains. Recently, she has read that predator population has decreased dramatically there. Now,

a. Wolves are rare in Italy.

b. The wolves are rare in Italy.

STORY C

Selina is passionate about Italian food. She often cooks homemade sauces for pasta. The other day Selina found out something very surprising about Italian foods! Actually,

a. Tomatoes came from the Americas a few centuries ago.

b. The tomatoes came from the Americas a few centuries ago.

STORY D

I know you are passionate about big cats. If you go on safari in Central Africa, you will see many types of big cats there. For example,

a. Lions are common in Central Africa.

b. The lions are common in Central Africa.

STORY E

I know you are interested in food history. If you go to the local museum, you will see that various types of fruits were brought from Europe to America. For example, you will find out that…

a. Melons were introduced to America in the 17th century.

b. The melons were introduced to America in the 17th century.

STORY F

Health matters a lot to Lisa. She always eats healthy food like vegetables. Lisa found out that many types of vegetables came to Europe a long time ago. For example,

a. Potatoes came to Spain around 1570.

b. The potatoes came to Spain around 1570.

Specific subjects

STORY A

For Christmas Mark received three presents: one shirt and two scarves. Mark looks unhappy with these presents though. For example,

a. The scarves are very short.

b. Scarves are very short.

STORY B

Nigel studies in Southampton. He lives in a residence hall with other students. Every morning Nigel takes two buses to get to class. He does not like this service, though! In fact,

a. The buses leave ahead of time.

b. Buses leave ahead of time.

STORY C

Debbie always gets sweet food after exercising. Today Debbie is eating a box with ten cookies. But she thinks they are bad!

a. The cookies are sugar free.

b. Cookies are sugar free.

STORY D

Jenna normally loves to go to school. But this year she looks unhappy. There are two new professors in the school. Jenna says they do odd things. Can you believe that?

a. The professors smoke during class.

b. Professors smoke during class.

STORY E

I love to shop at the farmer's market near the library. Today I bought three potatoes and two courgettes for lunch. But now I see they are quite odd!

a. The courgettes are purple.

b. Courgettes are purple.

STORY F

Ann works at the local bookshop. She is checking a new box with pencils and pens that was delivered this morning. Ann looks really surprised!

a. The pens have yellow ink.

b. Pens have yellow ink.

Number neutral objects

STORY A

Kate and Alan follow the same Facebook page on music. They are going to a concert in town together, but they just missed the bus. Alan asks Kate if…

a. She has a car.

b. She has car.

STORY B

Peter is an interior designer. He works for a big company in Barcelona. Sara is doing an internship there, and loves Peter's projects. Sara notices that…

a. Peter uses a pencil to design.

b. Peter uses pencil to design.

STORY C

John and I have worked together for 15 years. We usually get along well! We even spend the holidays together at the seaside. In fact,

a. John has a house by the sea.

b. John has house by the sea.

STORY D

Kim and I are taking a class of Spanish. We love this course! We always do lots of fun activities. The instructor is nice too! But he does not like computers, and…

a. He still uses a pen to grade the assignments.

b. He still uses pen to grade the assignments.

STORY E

Jess and Pam study fashion in Rome. Tonight, they are going to a party in a club. Jess always puts on jeans, but this time she wants to look different. Pam sees that…

a. Jess is wearing a skirt.

b. Jess is wearing skirt.

STORY F

Today Mariel looks excited. It is Black Friday, and she is going to be shopping with Carmen all day. But Carmen calls to say she is feeling unwell. Unfortunately,

a. Carmen has a fever.

b. Carmen has fever.

B.2 The Spanish AJT

INSTRUCCIONES

En esta tarea vas a leer una serie de historias y una oración después de cada historia. Verás cada historia dos o tres veces, cada vez con una oración diferente. Califica la oración según su aceptabilidad. Tu evaluación tiene que expresar cómo la oración corresponde al contexto de la historia, o cómo de buena es como continuación de la historia. A veces la oración simplemente no suena bien. Debes indicar tu clasificación según una escala de 1 a 4, donde 1 indica que la oración no va bien con la historia o que no suena bien, mientras 4 indica que la oración es una continuación perfecta de la historia. Si no estás seguro de tu juicio, marca la opción “No sé”.

1 = Completamente raro en el contexto de la historia

2 = Un poco raro

3 = Bastante bien

4 = Completamente bien en el contexto de la historia

Primero vas a practicar el formato de la tarea con algunos ejemplos. Después, ¡empezará la tarea!

EJEMPLO 1

Andrés enseña estadística en la Universidad de Southampton. Andrés viaja por todo el mundo para presentar su trabajo. Cada vez que expone una presentación en una conferencia, está muy seguro de sí mismo.

Andrés está acostumbrado a hablar en público.

Esta oración es buena continuación de la historia, entonces la clasificamos con un 4.

EJEMPLO 2

Andrés enseña estadística en la Universidad de Southampton. Cuando empezó su trabajo, Andrés siempre estaba en el laboratorio, así que nunca participaba en conferencias. Pero ahora Andrés expone sus trabajos en conferencias y le gusta mucho hablar en p**ú**blico.

Andrés solía hablar en público.

Esta oración no va bien con la historia porque se refiere a algo acerca del pasado que no es verdadero. La clasificamos con un 1.

EJEMPLO 3

Andrés enseña estadística en la Universidad de Southampton. Normalmente Andrés trabaja en su oficina a solas, pero en este periodo tiene que compartirla con un profesor invitado de España.

Andrés está compartir su oficina temporalmente.

Esta oración simplemente no suena bien en español. La clasificamos con un 1.

Andrés está compartiendo con su oficina temporalmente.

De nuevo, esta oración simplemente no suena bien en español. La clasificamos con un 1.

TARGETS

Existential subjects

STORY A

Nicolás adora los lagos italianos. El verano pasado se fue de viaje al Lago de Como. ¡Nicolás lo pasó muy bien por allá! Un día estaba nadando y algo le sorprendió muchísimo.

a. Delfines saltaban por todos lados.

b. Los delfines saltaban por todos lados.

c. Unos delfines saltaban por todos lados.

STORY B

El otro día María leía un libro en casa cuando de repente oyó algunos sonidos muy raros de fuera. María corrió a la ventana y ¿sabes lo que vio?

a. Canguros estaban jugando en el jardín.

b. Los canguros estaban jugando en el jardín.

c. Unos canguros estaban jugando en el jardín.

STORY C

El sábado pasado fue el cumpleaños de Tomás. Quise hacerle una tarta, así que me fui al supermercado para comprar algunos huevos. Pero no pude entrar. ¡No lo vas a creer!

a. Pollos corrían por el supermercado.

b. Los pollos corrían por el supermercado.

c. Unos pollos corrían por el supermercado.

STORY D

Marta trabaja en Milán. Marta toma el tren todos los días para ir al trabajo. ¡Pero esta mañana no pudo viajar! No había ningún tren y todos se quedaron muy sorprendidos.

a. Caballos estaban bloqueando la vía del tren.

b. Los caballos estaban bloqueando la vía del tren.

c. Unos caballos estaban bloqueando la vía del tren.

STORY E

Carla tiene muchísima ropa. ¡Carla compra cosas nuevas cada semana! Anoche estaba buscando un vestido nuevo en el armario. Pero todo estaba desordenado. ¡No lo pudo creer!

a. Tortugas descansaban encima de la ropa.

b. Las tortugas descansaban encima de la ropa.

c. Unas tortugas descansaban encima de la ropa.

STORY F

Esteban tiene un examen hoy. Esteban se preparó mucho, pero se siente muy cansado. ¡Lamentablemente, tuvo que levantarse antes de las 5! ¿Sabes lo que paso?

a. Pájaros cantaban en su habitación.

b. Los pájaros cantaban en su habitación.

c. Unos pájaros cantaban en su habitación.

Kind-referring subjects

STORY A

Me encanta visitar el Museo de Ciencias Naturales en el centro. En ese lugar se puede aprender de especies que ya no existen. Por ejemplo, aprendí que…

a. Mamuts se extinguieron hace 10500 años.

b. Los mamuts se extinguieron hace 10500 años.

STORY B

Wendy adora hacer senderismo en Italia. Wendy sabe muchas cosas de las montañas italianas. Recientemente ha leído que la población de los predadores ha disminuido muchísimo por allá. Ahora…

a. Lobos son raros en Italia.

b. Los lobos son raros en Italia.

STORY C

Selina es una apasionada de la comida italiana. A menudo prepara salsas caseras para la pasta. El otro día descubrió algo muy sorprendente acerca de los alimentos italianos. En realidad…

a. Tomates llegaron de América hace algunos siglos.

b. Los tomates llegaron de América hace algunos siglos.

STORY D

Sé que eres un apasionado de los grandes felinos. Si vas de safari al África Central, verás muchos tipos de felinos por allá. Por ejemplo,

a. Leones son comunes en África Central.

b. Los leones son comunes en África Central.

STORY E

Sé que te interesa la historia de la gastronomía. Si vas al museo local, aprenderás que varios tipos de frutos fueron traídos de Europa a América. Por ejemplo, descubrirás que…

a. Melones fueron introducidos en América en el siglo XVII.

b. Los melones fueron introducidos en América en el siglo XVII.

STORY F

La salud importa mucho a Lisa. Ella siempre come alimentos sanos como las verduras. Lisa supo que muchos tipos de verduras llegaron a Europa hace mucho tiempo. Por ejemplo,

a. Patatas llegaron a España alrededor del 1570.

b. Las patatas llegaron a España alrededor del 1570.

Specific subjects

STORY A

Por Navidad Max recibió tres regalos: una camisa y dos bufandas. Pero Max no est**á** muy contento con estos regalos. Por ejemplo,

a. Las bufandas son muy cortas.

b. Bufandas son muy cortas.

STORY B

Leonardo estudia en Southampton. Vive en una residencia universitaria con otros estudiantes. Todas las mañanas Leonardo toma dos autobuses para ir a clase. ¡Pero a él no le gusta este modo de transporte! De hecho,

a. Los autobuses salen con antelación.

b. Autobuses salen con antelación.

STORY C

Paloma siempre toma comida dulce después de que hace ejercicio. Hoy está comiendo un paquete de diez galletas. ¡Pero no le gustan nada!

a. Las galletas tienen poco azúcar.

b. Galletas tienen poco azúcar.

STORY D

Normalmente a Laura le gusta ir al colegio. Pero este año no parece contenta. Hay dos nuevos profesores en el colegio. Laura dice que hacen cosas muy raras. ¡No lo vas a creer!

a. Los profesores fuman en clase.

b. Profesores fuman en clase.

STORY E

Me gusta hacer la compra en el mercado cerca de la biblioteca. Hoy compré dos patatas y tres calabacines para el almuerzo. ¡Pero ahora me doy cuenta de que tienen algo raro!

a. Los calabacines son morados.

b. Calabacines son morados.

STORY F

Ana trabaja a la papelería local. Hoy está revisando una caja con bolígrafos y lápices que llegó por la mañana. ¡Ana parece muy sorprendida!

a. Los bolígrafos tienen tinta amarilla.

b. Bolígrafos tienen tinta amarilla.

Number neutral objects

STORY A

Rosa y Víctor siguen la misma página de m*ú*sica en el Facebook. Están yendo a un concierto en el centro juntos, pero acaban de perder el *ú*ltimo *autobús. Víctor* le pregunta a Rosa si…

a. Tiene coche.

b. Tiene el coche.

STORY B

Diego es un diseñador de interiores. Trabaja en una empresa de Barcelona. Sara está haciendo prácticas con él y le encantan los proyectos que hace Diego. Sara ve que…

a. Diego usa lápiz para dise*ñ*ar.

b. Diego usa el lápiz para dise*ñar.*

STORY C

Hace 15 a*ñ*os que José y yo trabajamos juntos. ¡Nos llevamos muy bien! Incluso *vamos* de vacaciones juntos a la costa. De hecho,

a. José tiene casa cerca del mar.

b. José tiene la casa cerca del mar.

STORY D

Sergio y yo estamos haciendo un curso de espa*ñ*ol. Nos gusta esta clase porque siempre hacemos muchas actividades divertidas. El profesor es amable también. Pero no le gustan los ordenadores y todavía…

a. Usa bolígrafo para corregir los deberes.

b. Usa el bolígrafo para corregir los deberes.

STORY E

Jess y Pam estudian moda en Roma. Esta noche van a ir a una fiesta en un club. Jess siempre se pone vaqueros, pero esta vez quiere cambiar de estilo. Pam la mira y ve que…

a. Jess lleva falda.

b. Jess lleva la falda.

STORY F

Hoy Mariela está muy alegre. Empiezan las rebajas y se va a ir de compras con Carmen. Pero Carmen la avisa de que se encuentra mal. Lamentablemente,

a. Carmen tiene fiebre.

b. Carmen tiene la fiebre.

B.3 The Italian AJT

ISTRUZIONI

In questo test leggerai una serie di storie e una frase dopo ogni storia. Vedrai ogni storia 2 o 3 volte, ogni volta seguita da una frase diversa. Dai una valutazione alla frase in base a quanto ti sembra accurata. Devi valutare quanto la frase è appropriata al contesto della storia o quanto funziona bene come continuazione della storia. A volte semplicemente la frase non sembra corretta. Devi indicare la tua valutazione su una scala da 1 a 4, dove 1 indica che la frase non funziona bene con la storia o non sembra corretta, mentre 4 indica che la frase è una continuazione perfetta della storia. Se non sei sicuro/sicura del tuo giudizio, scegli la risposta “Non lo so”.

1 = Completamente innaturale nel contesto della storia

2 = Un po’ innaturale

3 = Abbastanza naturale

4 = Completamente naturale nel contesto della storia

Per prima cosa, proverai il formato del test con alcuni esempi. Poi, inizierà il test!

ESEMPIO 1

Marco insegna statistica all'Università di Southampton. Marco viaggia in tutto il mondo per presentare il suo lavoro. Ogni volta che presenta a una conferenza, si sente molto sicuro di se stesso.

Marco è abituato a parlare in pubblico.

Questa frase è una buona continuazione della storia, quindi le diamo 4.

ESEMPIO 2

Marco insegna statistica all'Università di Southampton. All'inizio del suo lavoro, Marco stava sempre in laboratorio e non andava mai alle conferenze. Ma adesso Marco presenta alle conferenze e gli piace molto parlare in pubblico.

Marco parlava in pubblico spesso.

Questa frase non funziona bene con la storia perché descrive una situazione del passato che non è vera. Le diamo 1.

ESEMPIO 3

Marco insegna statistica all'Università di Southampton. Di solito Marco lavora nel suo ufficio da solo, ma in questo periodo deve condividerlo con un professore in visita dalla Spagna.

Marco sta condividere il suo ufficio temporaneamente.

Questa frase semplicemente non sembra corretta in italiano. Le diamo 1.

Marco sta condividendo con il suo ufficio temporaneamente.

Di nuovo questa frase semplicemente non sembra corretta in italiano. Le diamo 1.

TARGETS

Existential subjects

STORY A

Nick adora i laghi italiani. La scorsa estate ha fatto un viaggio al lago di Como. Nick si è trovato molto bene la! Un giorno stava nuotando e qualcosa lo ha davvero sorpreso!

a. Delfini saltavano intorno a lui.

b. I delfini saltavano intorno a lui.

c. Dei delfini saltavano intorno a lui.

STORY B

L'altro giorno Maria stava leggendo un libro a casa. All'improvviso ha sentito dei suoni strani che venivano da fuori. Maria è corsa alla finestra e sai che cosa ha visto?

a. Canguri stavano giocando in giardino.

b. I canguri stavano giocando in giardino.

c. Dei canguri stavano giocando in giardino.

STORY C

Sabato scorso era il compleanno di Giancarlo. Volevo fargli una torta, così sono andata al supermercato per comprare alcune uova. Ma non sono potuta entrare! Ci credi?

a. Polli correvano per il supermercato.

b. I polli correvano per il supermercato.

c. Dei polli correvano per il supermercato.

STORY D

Marta lavora a Milano. Marta prende il treno tutti I giorni per andare al lavoro. Questa mattina però non ci è potuta andare! Non c'era nessun treno e tutti erano davvero sorpresi!

a. Cavalli stavano bloccando la ferrovia.

b. I cavalli stavano bloccando la ferrovia.

c. Dei cavalli stavano bloccando la ferrovia.

STORY E

Carla ha moltissimi vestiti. Carla compra abiti nuovi tutte le settimane! Ieri sera stava cercando un vestito nuovo nell'armadio. Ma era tutto sottosopra. Non ci poteva proprio credere!

a. Tartarughe riposavano sopra i vestiti.

b. Le tartarughe riposavano sopra i vestiti.

c. Delle tartarughe riposavano sopra i vestiti.

STORY F

Oggi Stefano ha un esame. Stefano si è preparato moltissimo, ma si sente molto stanco. Purtroppo si è dovuto alzare prima delle 5! Sai cosa è successo?

a. Uccellini cantavano nella sua camera.

b. Gli uccellini cantavano nella sua camera.

c. Degli uccellini cantavano nella sua camera.

Kind-referring subjects

STORY A

Amo andare al Museo di Scienze Naturali in città. Lì si possono imparare delle cose su specie che non esistono più. Per esempio, ho imparato che…

a. Mammut si sono estinti circa 10500 anni fa.

b. I mammut si sono estinti 10500 anni fa.

STORY B

Wendy adora fare trekking in Italia. Wendy sa molte cose delle montagne italiane. Di recente ha letto che la popolazione dei predatori è diminuita moltissimo là. Ora…

a. Lupi sono rari in Italia.

b. I lupi sono rari in Italia.

STORY C

Selina è appassionata di cibo italiano. Spesso prepara salse fatte in casa per la pasta. L'altro giorno ha scoperto una cosa molto sorprendente sui cibi italiani In realtà…

a. Pomodori sono arrivati dall'America alcuni secoli fa.

b. I pomodori sono arrivati dall'America alcuni secoli fa.

STORY D

So che sei appassionato di grandi felini. Se fai un safari in Africa centrale, puoi vedere molti tipi di grandi felini là. Per esempio,

a. Leoni sono comuni in Africa centrale.

b. I leoni sono comuni in Africa centrale.

STORY E

So che sei interessato alla storia della cucina. Se andrai al museo locale, imparerai che vari tipi di frutti sono stati trasportati dall'Europa all'America. Per esempio, scoprirai che…

a. Meloni sono stati introdotti in America nel XVII secolo.

b. I meloni sono stati introdotti in America nel XVII secolo.

STORY F

La salute conta molto per Lisa. Lei mangia sempre cibi sani come le verdure. Lisa ha saputo che molti tipi di verdura sono arrivati in Europa molto tempo fa. Per esempio,

a. Patate sono arrivate in Spagna attorno al 1570.

b. Le patate sono arrivate in Spagna attorno al 1570.

Specific subjects

STORY A

A Natale Max ha ricevuto tre regali: una camicia e due sciarpe. Però Max non è contento di questi regali. Per esempio,

a. Le sciarpe sono molto corte.

b. Sciarpe sono molto corte.

STORY B

Leonardo studia all'Università di Southampton. Vive in una casa con altri studenti. Tutte le mattine Leonardo prende 2 autobus per andare a lezione. Però non gli piace questo tipo di servizio. Infatti,

a. Gli autobus partono in anticipo.

b. Autobus partono in anticipo.

STORY C

Debora mangia sempre qualcosa di dolce dopo la palestra. Oggi Debora sta mangiando un pacchetto con dieci biscotti. Ma non le piacciono per niente!

a. I biscotti contengono poco zucchero.

b. Biscotti contengono poco zucchero.

STORY D

Di solito a Laura piace andare a scuola. Ma quest'anno non sembra contenta. Ci sono due nuovi professori a scuola. Laura dice che fanno cose strane. Non mi crederai!

a. I professori fumano in classe.

b. Professori fumano in classe.

STORY E

Mi piace molto fare la spesa al mercato vicino alla biblioteca. Oggi ho comprato due patate e tre zucchine per il pranzo. Però ora ho notato che hanno qualcosa di strano!

a. Le zucchine sono viola.

b. Zucchine sono viola.

STORY F

Anna lavora alla cartoleria del centro. Oggi sta controllando una scatola di penne e matite che è arrivata la mattino. Anna sembra molto sorpresa!

a. Le penne contengono inchiostro giallo.

b. Penne contengono inchiostro giallo.

Number neutral objects

STORY A

Rosa e Alan seguono la stessa pagina Facebook sulla musica. Stanno andando a un concerto in centro insieme, ma hanno appena perso l'ultimo autobus. Alan chiede a Rosa se…

a. Ha la macchina.

b. Ha macchina.

STORY B

Diego è un designer. Lavora per un'importante azienda di Barcellona. Sara è lì in prova e le piacciono molto i progetti di Diego. Sara nota che…

a. Diego usa la matita per disegnare.

b. Diego usa matita per disegnare.

STORY C

Io e Giovanni lavoriamo insieme da 15 anni. Siamo proprio buoni amici! Pensa che passiamo anche insieme le vacanze al mare. Infatti,

a. Giovanni ha la casa al mare.

b. Giovanni ha casa al mare.

STORY D

Io e Sergio stiamo facendo un corso di spagnolo. Ci piacciono molto le lezioni! Facciamo sempre moltissime attività divertenti. Anche l'insegnante è simpatico! Ma non ha il computer e…

a. Usa la penna per correggere i compiti.

b. Usa penna per correggere i compiti.

STORY E

Jess e Pam studiano moda a Roma. Questa sera vanno a una festa in discoteca. Jess si mette sempre i jeans, ma questa volta vuole cambiare look. Pam la guarda e vede che…

a. Jess porta la gonna.

b. Jess porta gonna.

STORY F

Oggi Marisa è molto contenta. Cominciano i saldi e così andrà a fare shopping con Carmen. Però Carmen la avvisa che non sta bene. Purtroppo…

a. Carmen ha la febbre.

b. Carmen ha febbre.

Appendix C The Form–to–Meaning Task (FMT)

C.1 The English FMT

INSTRUCTIONS

In this task, you will answer a series of YES/NO questions.

Answer each question saying the word YES or the word NO.

Please, provide your answers on the basis of the pictures and your knowledge of the world.

In the next slides, you are going to practice the format with one sample set. Then, you will get started with the test!

SAMPLE 1

Here is a ball.

Is it moving?

SAMPLE 2

Here is a ball.

Is it moving?

SAMPLE 3

Here is a ball.

Is it moving?

Appendix C

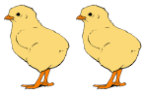
TARGETS

Set 1

Generic mismatch

Here are 2 birds.

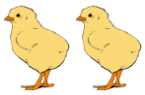
Do birds fly?



Specific mismatch

Here are 2 birds.

Do the birds fly?



Match (control)

Here are 2 birds.

Do birds fly?

Set 2

Generic mismatch

Here are some flowers.

Do flowers grow on land?

Specific mismatch

Here are some flowers.

Do the flowers grow on land?

Match (control)

Here are some flowers.

Do flowers grow on land?

Set 3

Generic mismatch

Here are some keys.

Are keys made of metal?

Specific mismatch

Here are some keys.

Are the keys made of metal?

Match (control)

Here are some keys.

Are keys made of metal?

Set 4

Appendix C

Generic mismatch

Here are 2 cows.

Do cows eat grass?

Specific mismatch

Here are 2 cows.

Do the cows eat grass?

Match (control)

Here are 2 cows.

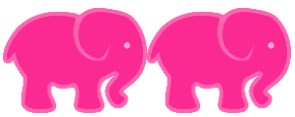
Do cows eat grass?

Set 5

Generic mismatch

Here are 2 elephants.

Are elephants grey?



Specific mismatch

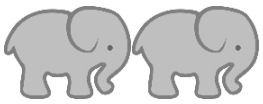
Here are 2 elephants.

Are the elephants grey?

Match (control)

Here are 2 elephants.

Are elephants grey?



Set 6

Generic mismatch

Here are 2 strawberries.

Are strawberries red?

Specific mismatch

Here are 2 strawberries.

Are the strawberries red?

Match (control)

Here are 2 strawberries.

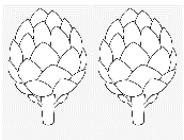
Are strawberries red?

Set 7

Generic mismatch

Here are 2 artichokes.

Are artichokes green?

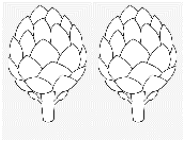


Appendix C

Specific mismatch

Here are 2 artichokes.

Are the artichokes green?



Match (control)

Here are 2 artichokes.

Are artichokes green?

Set 8

Generic mismatch

Here are 2 giraffes.

Do giraffes have long necks?

Specific mismatch

Here are 2 giraffes.

Do the giraffes have long necks?

Match (control)

Here are 2 giraffes.

Do giraffes have long necks?

Set 9

Generic mismatch

Here are 2 bears.

Do bears live in the mountains?

Specific mismatch

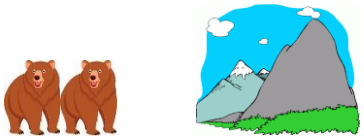
Here are 2 bears.

Do the bears live in the mountains?

Match (control)

Here are 2 bears.

Do bears live in the mountains?



Set 10

Generic mismatch

Here are 2 bananas.

Are bananas yellow?

Specific mismatch

Here are 2 bananas.

Are the bananas yellow?

Appendix C

Match (control)

Here are 2 bananas.

Are bananas yellow?

C.2 The Spanish and Italian FMTs

TARGETS

Set 1

Mismatch

SPANISH

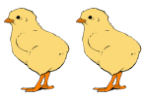
Aquí hay 2 pájaros.

¿Los pájaros vuelan?

ITALIAN

Ecco 2 uccelli.

Gli uccelli volano?



Match (control)

SPANISH

Aquí hay 2 pájaros.

¿Los pájaros vuelan?

ITALIAN

Ecco 2 uccelli.

Gli uccelli volano?

Set 2

Mismatch

SPANISH

Aquí hay unas flores.

¿Las flores crecen en el suelo?

ITALIAN

Ecco dei fiori.

I fiori crescono nel terreno?

Match (control)

SPANISH

Aquí hay unas flores.

¿Las flores crecen en el suelo?

ITALIAN

Ecco dei fiori.

I fiori crescono nel terreno?

Set 3

Mismatch

SPANISH

Aquí hay unas llaves.

¿Las llaves están hechas de metal?

ITALIAN

Ecco delle chiavi.

Appendix C

Le chiavi sono fatte di metallo?

Match (control)

SPANISH

Aquí hay unas llaves.

¿Las llaves están hechas de metal?

ITALIAN

Ecco delle chiavi.

Le chiavi sono fatte di metallo?

Set 4

Mismatch

SPANISH

Aquí hay 2 vacas.

¿Las vacas comen hierba?

ITALIAN

Ecco 2 mucche.

Le mucche mangiano l'erba?

Match (control)

SPANISH

Aquí hay 2 vacas.

¿Las vacas comen hierba?

ITALIAN

Ecco 2 mucche.

Le mucche mangiano l'erba?

Set 5

Mismatch

SPANISH

Aquí hay 2 elefantess.

¿Los elefantes son grises?

ITALIAN

Ecco 2 elefanti.

Gli elefanti sono grigi?

Match (control)

SPANISH

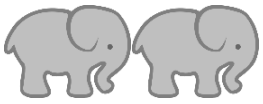
Aquí hay 2 elefantess.

¿Los elefantes son grises?

ITALIAN

Ecco 2 elefanti.

Gli elefanti sono grigi?



Set 6

Appendix C

Mismatch

SPANISH

Aquí hay 2 fresas.

¿Las fresas son rojas?

ITALIAN

Ecco 2 fragole.

Le fragole sono rosse?

Match (control)

SPANISH

Aquí hay 2 fresas.

¿Las fresas son rojas?

ITALIAN

Ecco 2 fragole.

Le fragole sono rosse?

Set 7

Mismatch

SPANISH

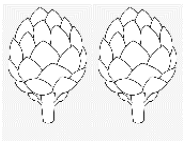
Aquí hay 2 alcachofas.

¿Las alcachofas son verdes?

ITALIAN

Ecco 2 carciofi.

I carciofi sono verdi?



Match (control)

SPANISH

Aquí hay 2 alcachofas.

¿Las alcachofas son verdes?

ITALIAN

Ecco 2 carciofi.

I carciofi sono verdi?

Set 8

Mismatch

SPANISH

Aquí hay 2 jirafas.

¿Las jirafas tienen el cuello largo?

ITALIAN

Ecco 2 giraffe.

Le giraffe hanno il collo lungo?

Match (control)

SPANISH

Aquí hay 2 jirafas.

¿Las jirafas tienen el cuello largo?

Appendix C

ITALIAN

Ecco 2 giraffe.

Le giraffe hanno il collo lungo?

Set 9

Mismatch

SPANISH

Aquí hay 2 osos.

¿Los osos viven en las montañas?

ITALIAN

Ecco 2 orsi.

Gli orsi vivono in montagna?

Match (control)

SPANISH

Aquí hay 2 osos.

¿Los osos viven en las montañas?

ITALIAN

Ecco 2 orsi.

Gli orsi vivono in montagna?

Set 10

Mismatch

SPANISH

Aquí hay 2 bananas.

¿Las bananas son amarillas?

ITALIAN

Ecco 2 banane.

Le banane sono gialle?

Match (control)

SPANISH

Aquí hay 2 bananas.

¿Las bananas son amarillas?

ITALIAN

Ecco 2 banane.

Le banane sono gialle?

Appendix D The Elicited Oral Production Task (EOPT)

D.1 The English EOPT

INSTRUCTIONS

In this task, you will see a series of pictures, a question about the pictures and an incomplete answer you have to finish.

To complete the sentence, you must use the words below the images.

Please, do not use numbers in your answers.

In the next slides, you are going to practice the format with a sample set. Then, you will get started with the test!

EXAMPLE 1

Somebody is a dentist and is working in his studio right now.

JULIAN

Who is a dentist?

___*(Julian)*___ is a dentist.

EXAMPLE 2

Julian is a dentist and is working in his studio right now.

PATIENT

What does he do in his studio?

Julian usually treats ___(*patients)*___.

EXAMPLE 3

Appendix D

Julian is a dentist and is working in his studio right now.

TREAT

What is he doing in his studio?

Julian ___*(is treating)*___ Mr. Brown right now.

TARGETS

Generic subjects

Item G1

In the world, there are many birds that lay eggs.

For example:

HEN

What birds lay eggs?

___*(Hens)*___ lay eggs.

Item G2

n the world, there are many animals that have wings.

For example:

SEAGULL

What animals have wings?

___*(Seagulls)*___ have wings.

Item G3

There are many animals that live in the desert.

For example:

CAMEL

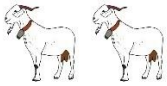
What animals live in the desert?

___*(Camels)*_____ live in the desert.

Item G4

In the world, there are many animals that have horns.

For example:



GOAT

What animals have horns?

___*(Goats)*___ have horns.

Item G5

In the world, there are many animals that hop.

For example:

FROG

What animals hop?

___*(Frogs)*___ hop.

Item G6

In the world, there are many birds that are colourful.

For example:

PARROT

Appendix D

What birds are colourful?

___*(Parrots)*___ are colourful.

Item G7

In the world, there are many animals that bite.

For example:

CROCODILE

What animals bite?

___*(Crocodiles)*___ bite.

Item G8

In the world, there are many animals that sleep during the day.

For example:

BAT

What animals sleep during the day?

___*(Bats)*___sleep during the day.

Specific subjects

Item S1

Here are some animals.

TIGER

BULL

In this picture, what animals are resting?

___*(The tigers/Tigers)*___ are resting.

Item S2

Here are some animals.

LION

EAGLE

In this picture, what animals are hunting?

___*(The eagles/Eagles)*___ are hunting.

Item S3

Here are some animals.

HIPPO

TOUCAN

In this picture, what animals are drinking?

___*(The hippos/Hippos)*___ are drinking.

Item S4

Here are some animals.

DOG

RABBIT

In this picture, what animals are running?

___*(The rabbits/Rabbits)*___ are running.

Item S5

Here are some animals.

STORK

SQUIRREL

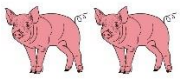
Appendix D

In this picture, what animals are making a nest?

___*(The stork/Storks)*___ are making a nest.

Item S6

Here are some animals.



PIG

DEER

In this picture, what animals are eating?

___*(The deer/Deer)*___ are eating.

Item S7

Here are some animals.

CHAMELEON

ANT

In this picture, what animals are climbing?

___*(The chameleons/Chameleons)*___ are climbing.

Item S8

Here are some animals.

PANTHER

WOLF

In this picture, what animals are crying?

___*(The wolves/Wolves)*___ are crying.

D.2 The Spanish EOPT

LIST OF TARGET ANSWERS

Generic subjects

Item G1: ___*(Las gallina)*___ ponen huevos.

Item G2: ___*(Las gaviotas)*___ tienen alas.

Item G3: ___*(Los camellos)*___ viven en el desierto.

Item G4: ___*(Las cabras)*___ tienen cuernos.

Item G5: ___*(Las ranas)*___ saltan.

Item G6: ___*(Los loros)*__ son coloridos.

Item G7: ___*(Los cocodrilos)*___ muerden.

Item G8: ___*(Los murciélagos)*___ duermen durante el día.

Specific subjects

Item S1: ___*(Los tigres)*___ están descansando.

Item S2: ___ (*Las águilas)* ___ están cazando.

Item S3: ____ *(Los hipopótamos)* ___ están bebiendo.

Item S4: ___*(Los conejos)*___ están corriendo.

Item S5: ___ *(Las cigüeñas)* ___ están haciendo su nido.

Item S6: ___*(Los ciervos)*___ están comiendo.

Item S7: ___ *(Los camaleones)* ___ están subiendo a una rama.

Item S8: ___*(Los lobos)*___ están llorando.

D.3 The Italian EOPT

LIST OF TARGET ANSWERS

Generic subjects

Item G1: ___*(Le galline)*___ fanno le uova.

Item G2: ___*(I gabbiani)*___ hanno le ali.

Item G3: ___*(I cammelli)*___ vivono nel deserto.

Item G4: ___*(Le capre)*___ hanno le corna.

Item G5: ___(Le rane)___ saltano.

Item G6: ___(I pappagalli)__ sono colorati.

Item G7: ___(I coccodrilli)___ mordono.

Item G8: ___ (I pipistrelli)___ dormono di giorno.

Specific subjects

Item S1: ___(Le tigri)___ stanno riposando.

Item S2: ___(Le aquile)___ stanno cacciando.

Item S3: ___(Gli ippopotami)___ stanno bevendo.

Item S4: ___(I conigli)___ stanno correndo.

Item S5: ___(Le cicogne)___ stanno facendo il nido.

Item S6: ___(I cervi)___ stanno mangiando.

Item S7: ___ (I camaleonti)___ stanno salendo su un ramo.

Item S8: ___(I lupi)___ stanno piangendo.

Appendix E The C-Test

E.1 The English C-Test

Passage 1

Hilary Clinton

Hillary Rodham Clinton was born in 1947 in Chicago. Her father owned a small textile business and her mother was a homemaker. When s_*he*_ was a teen_*ager*_ she wr_*ote*_ a letter t_*o*_ NASA ask_*ing*_ what s_*he*_ had t_*o*_ do t_*o*_ become a_*n*_ astronaut, b_*ut*_ was to_*ld*_ that wo_*men*_ were n_*ot*_ being acce_*pted*_ on t_*he*_ programme a_*t*_ that ti_*me*_. She m_*et*_ her fut_*ure*_ husband, Bill Clinton, wh_*en*_ both we_*re*_ studying a_*t*_ Yale Law Sch_*ool*_ and th_*ey*_ later mo_*ved*_ to Arkansas. In 2001 she was elected to the US Senate and in this way became the first woman in US history to be a senator and first lady at the same time. She lost the 2016 presidential election to Donald Trump.

Passage 2

Pigeons

A new law that came into force last Monday bans the feeding of pigeons in London's Trafalgar Square. Anyone cau_*ght*_ giving fo_*od*_ to th_*em* will fa_*ce*_ a fine o_*f*_ up t_*o*_ £500. Si_*nce*_ 2002, diff_*erent*_ ways o_*f*_ frightening t_*he*_ pigeons aw_*ay*_ have be_*en*_ tried b_*ut*_ none ha_*ve*_ worked. T_*he*_ London Ci_*ty*_ Council h_*as*_ spent £25m do_*ing*_ the sq_*uare*_ up. O_*ne*_ Councillor sa_*id*_ "the improv_*ements*_ wouldn't wo_*rk*_ if t_*he*_ square w_*as*_ still infested with pigeons". However, pigeon supporters plan to ignore the new law and will continue to feed the birds.

E.2 The Spanish C-Test

Passage 1

Hilary Clinton

Hillary Rodham Clinton nació en 1947 en Chicago. El padre poseía una pequeña empresa textil y la madre era ama de casa. Cuando e_*ra*_ adolescente, escr_*ibió*_ una ca_*rta*_ a la NASA pregu_*ntando*_ lo q_*ue*_ debería ha_*cer*_ para lle_*gar*_ a ser astro_*nauta*_, pero l_*e*_ dijeron q_*ue*_ no admi_*tían*_ mujeres e_*n*_ aquella ép_*oca*_. Conoció a s_*u*_ futuro mar_*ido*_, Bill Clinton,

cuando am_*bos*_ estudiaban e_*n*_ la Facu_*ltad*_ de Derecho d_*e*_ Yale y luego s_*e*_ mudaron a Arkansas jun_*tos*_. En 2001 f_*ue*_ elegida pa_*ra*_ el sen_*ado*_ estadounidense y d_*e* _esta manera fue la primera mujer de la historia estadounidense que llegó a ser senadora y primera dama al mismo tiempo. Perdió las elecciones presidenciales en 2016 contra Donald Trump.

Passage 2

Palomas

Una nueva ley que entró en vigor el lunes pasado prohíbe darles de comer a las palomas en Trafalgar Square en Londres. Cualquiera q_*ue*_ sea sorpr_*endido*_ alimentándolas ha_*rá*_ frente a u_*na*_ multa d_*e*_ hasta 500£. De_*sde*_ 2002 s_*e*_ intenta ahuy_*entar*_ a las pal_*omas*_ de difer_*entes*_ maneras, pe_*ro*_ ninguna h_*a*_ funcionado. E_*l*_ ayuntamiento d_*e*_ Londres h_*a*_ gastado 25 mil lib_*ras*_ haciendo refo_*rmas*_ en l_*a*_ plaza. U_*n*_ concejal di_*jo*_: "Las mej_*oras*_ no s_*e*_ verían s_*i*_ la pl_*aza*_ todavía estu_*viera*_ infestada de palomas". Sin embargo, los defensores de las palomas piensan en ignorar la nueva ley y continuarán dando de comer a las aves.

E.3 The Italian C-Test

Passage 1

Hilary Clinton

Hilary Rodham Clinton è nata nel 1947 a Chicago. Il padre possedeva una piccola azienda tessile e la madre era casalinga. Quando e_*ra*_ adolescente, scr_*isse*_ una let_*tera*_ alla NASA chie_*dendo*_ che co_*sa*_ dovesse fa_*re*_ per dive_*ntare*_ astronauta, m_*a*_ le dis_*sero*_ che n_*on*_ ammettevano do_*nne*_ a quel te_*mpo*_. Ha conos_*ciuto*_ il s_*uo*_ futuro mar_*ito*_, Bill Clinton, quando entr_*ambi*_ studiavano al_*la*_ Facoltà d_*i*_ Giurisprudenza d_*i*_ Yale e più ava_*nti*_ si so_*no*_ trasferiti ins_*ieme*_ in Arkansas. N_*el*_ 2001 è st_*ata*_ eletta n_*el*_ senato statunitense e in questo modo è stata la prima donna della storia statunitense a diventare senatrice e first lady allo stesso tempo. Ha perso le elezioni presidenziali del 2016 contro Donald Trump.

Passage 2

Piccioni

Una nuova legge entrata in vigore lunedì scorso proibisce di dare da mangiare ai piccioni in Trafalgar Square a Londra. Chiunque ve_*nga*_ sorpreso a da_*r(e)*_ loro ci_*bo*_ farà fro_*nte*_ a una mu_*lta*_ fino a 500£. D_*al*_ 2002 s_*i*_ cerca d_*i*_ scacciare i picc_*ioni*_ in div_*ersi*_ modi m_*a*_

nessuno d_*i*_ questi h_*a*_ funzionato. I_*l*_ comune d_*i*_ Londra h_*a*_ speso 25mila ster_*line*_ per met_*tere*_ a nuovo l_*a*_ piazza. U_*n*_ assessore h_*a*_ detto: “I miglio_*ramenti*_ non s_*i*_ vedrebbero, s_*e*_ la pia_*zza*_ fosse ancora infestata di piccioni”. Tuttavia, i difensori dei piccioni hanno intenzione di ignorare la nuova legge e continueranno a dare da mangiare agli uccelli.

Appendix F The Language History Questionnaire (LHQ)

The itemized LHQ 3.0 (full version available at https://lhq-blclab.org/)

1. Participant ID number

2. Age

3. Gender

4. Education

5. Parents' Education

6. Handedness

7. Indicate your native language(s) and any other languages you have studied or learned, the age at which you started using each language in terms of listening, speaking, reading, and writing, and the total number of years you have spent using each language.[21]

Language	Listening	Speaking	Reading	Writing	Years of use*

*Notes For "Years of use", you may have learned a language, stopped using it, and then started using it again. Please give the total number of years.

8. Country of origin

9. Country of residence

10. Indicate the way you learned or acquired your non-native language(s). Check one or more boxes that apply.

Non-native language	Immersion*	Classroom instruction	Self-learning
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐
	☐	☐	☐

[21] Question 7 is used to calculate the aggregated score for Immersion, by combining Age of Acquisition and Years of Use, with the participate' age.

* e.g., Immigrating to another country where the dominant language is different from your native language so you learn this language through immersion in the language environment.

11. Indicate the age at which you started using each of the languages you have studied or learned in the following environments (Including native language).

Language	At home	With friends	At school	At work	Language software	Online games

12. Estimate how many hours per day you spend engaged in the following activities in each of the languages you have studied or learned (including the native language).

Language	Watching television	Listening to radio/podcasts	Reading for fun	Reading for school/work	Using social media and Internet	Writing for school/work

13. Estimate how many hours per day you spend speaking with the following groups of people in each of the languages you have studied or learned (including the native language).[22]

Language	Family members	Friends*	Classmates	Others (co-workers**, roommates, etc.)

Note *Include significant others in this category if you did not include them as family members (e.g., married partners).

**Include anyone in the work environment in this category (e.g., if you are a teacher, include students as co-workers).

14. How often do you use each of the languages you have studied or learned for the following activities? (including the native language)

[22] Questions 12 and 13 are used to calculate the aggregated score for dominance. Because in the itemized questionnaire questions about proficiency are not included, this score/proportion manly reflects language usage rather than dominance.

	Never	Rarely	Sometimes	Regularly	Often	Usually	Always	
	1	2	3	4	5	6	7	
Language	Thinking	Talking to yourself	Expressing emotion*	Dreaming	Arithmetic**	Remembering numbers***	Praying	

Note *This includes shouting, cursing, showing affection, etc.

**This includes counting, calculating tips, etc.

***This includes telephone numbers, ID numbers, etc.

15. Use the comment box below to provide any other information about your language background or usage.

Appendix G The statistical analysis

G.1 The Italian experiment

Italian Acceptability Judgment Task

Existential subjects

Model.Ita.ES: RatingZs predicted by Structure in interaction with cIta.Prof.

Linear mixed model fit by REML. t-tests use Satterthwaite's method [lmerModLmerTest]

Formula: RatingZs ~ Structure * cIta.Prof + Group + (1|Subject) + (1|Item)

Post-hoc pairwise comparison of Structure (with Tukey method of adjustment)

Contrast	estimate	SE	df	t.ratio	p.value
PartP – BP	0.884	0.111	15	7.993	<.0001
PartP – DefP	0.321	0.111	15	2.898	0.0281
BP – DefP	-0.563	0.111	15	-5.095	0.0004

Post-hoc pairwise comparison of Group (with Tukey method of adjustment)

Contrast	estimate	SE	df	t.ratio	p.value
ItaBase – EngTril	-0.368	0.136	76.6	-2.707	0.0226
ItaBase – SpaTril	-0.133	0.139	76.5	-0.956	0.6068
EngTril – SpaTril	0.235	0.108	77.2	2.180	0.0810

Post-hoc pairwise comparison of Proficiency by Structure (with Tukey method of adjustment)

Contrast	estimate	SE	df	t.ratio	p.value
PartP – BP	0.0525	0.00561	1324	9.372	<.0001
PartP – DefP	0.0362	0.00559	1325	6.470	<.0001
BP – DefP	-0.0164	0.00556	1324	-2.947	0.0092

Number neutral objects

Model.Ita.NNO: RatingZs predicted by Structure in interaction with cIta.Prof.

Linear mixed model fit by REML. t-tests use Satterthwaite's method [lmerModLmerTest]

Formula: RatingZs ~ Structure * cIta.Prof + Group + (1|Subject) + (1|Item)

Specific subjects

Model.Ita.SS: RatingZs predicted by Structure in interaction with cIta.Prof.

Linear mixed model fit by REML. t-tests use Satterthwaite's method [lmerModLmerTest]

Formula: RatingZs ~ Structure * cIta.Prof + Group + (Structure|Subject) + (1|Item)

Italian Form–to–Meaning Task

Model.Ita.FMT: Accuracy predicted by Reading.

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) [glmerMod]

Family: binomial (logit)

Formula: Accuracy ~ Reading + Group + (1|Subject) + (1|Item)

Post-hoc pairwise comparison of Group (with Tukey method of adjustment)

Contrast	estimate	SE	df	t.ratio	p.value
ItaBase – EngTril	-2.268	0.743	Inf	-3.051	0.0064
ItaBase – SpaTril	-0.905	0.661	Inf	-1.369	0.3574
EngTril - SpaTril	1.363	0.711	Inf	1.916	0.1342

Italian Elicited Oral Production Task

Model.Ita.Oral: Accuracy predicted by Reading.

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) [glmerMod]

Family: binomial (logit)

Formula: Accuracy ~ Reading + cIta.Prof + (1|Subject) + (1|Item)

G.2 The English experiment

English Acceptability Judgment Task

Existential subjects

Model.Eng.ES: RatingZs predicted by Structure in interaction with cEng.Prof.

Linear mixed model fit by REML. t-tests use Satterthwaite's method [lmerModLmerTest]

Formula: RatingZs ~ Structure * cEng.Prof + Group + (1 + Structure|Subject) + (Group|Item)

Generic subjects

Model.Eng.GS: RatingZs predicted by Structure.

Linear mixed model fit by REML. t-tests use Satterthwaite's method [lmerModLmerTest]

Formula: RatingZs ~ Structure + Group + cEng.Prof + (1 + Structure|Subject) + (1|Item)

Number neutral objects

Model.Eng.NNO: RatingZs predicted by Structure in interaction with cEng.Prof.

Appendix G

Linear mixed model fit by REML. t-tests use Satterthwaite's method [lmerModLmerTest]

Formula: RatingZs ~ Structure + cEng.Prof + (1 + Structure|Subject) + (Group|Item)

Specific subjects

Model.Eng.SS: RatingZs predicted by Structure in interaction with cEng.Prof.

Linear mixed model fit by REML. t-tests use Satterthwaite's method [lmerModLmerTest]

Formula: RatingZs ~ Structure * cEng.Prof + Group + (1 + Structure|Subject) + (Group|Item)

English Form–to–Meaning Task (L2)

Model.L2Eng.FMT: Accuracy predicted by Reading.

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) [glmerMod]

Family: binomial (logit)

Formula: Accuracy ~ Reading + (1|Subject) + (1|Item)

Post-hoc pairwise comparison of Reading (with Tukey method of adjustment)

Contrast	estimate	SE	df	z.ratio	p.value
(Gen+Sp) – (Gen-Sp)	23.71	58.076	Inf	0.408	0.9122
(Gen+Sp) – (Sp-Gen)	19.26	58.076	Inf	0.332	0.9412
(Gen-Sp) – (Sp-Gen)	-4.45	0.391	Inf	-11.389	<.0001

English Elicited Oral Production Task

Model.Eng.Oral: Accuracy predicted by Reading.

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) [glmerMod]

Family: binomial (logit)

Formula: Accuracy ~ Reading + cEng.Prof + (1|Subject) + (1|Item)

G.3 The Spanish experiment

Spanish Acceptability Judgment Task

Existential subjects

Model.Spa.ES: RatingZs predicted by Structure in interaction with cSpa.Prof.

Linear mixed model fit by REML. t-tests use Satterthwaite's method [lmerModLmerTest]

Formula: RatingZs ~ Structure * cSpa.Prof + (Structure|Subject) + (1|Item)

Post-hoc pairwise comparison of Structure (with Tukey method of adjustment)

Contrast	estimate	SE	df	t.ratio	p.value
IndefP – BP	1.092	0.129	36.4	8.492	<.0001
IndefP – DefP	0.707	0.134	38.3	5.275	<.0001
BP – DefP	-0.386	0.165	43.7	2.334	0.0616

Generic subjects

Model.Spa.GS: RatingZs predicted by Structure in interaction with Group.

Linear mixed model fit by REML. t-tests use Satterthwaite's method [lmerModLmerTest]

Formula: RatingZs ~ Structure * Group + cSpa.Prof + (Structure|Subject) + (1|Item)

Number neutral objects

Model.Spa.NNO: RatingZs predicted by Structure in interaction with Group.

Linear mixed model fit by REML. t-tests use Satterthwaite's method [lmerModLmerTest]

Formula: RatingZs ~ Structure * Group + cSpa.Prof + (1 + Structure|Subject) + (Group|Item)

Specific subjects

Model.Spa.SS: RatingZs predicted by Structure in interaction with cSpa.Prof.

Linear mixed model fit by REML. t-tests use Satterthwaite's method [lmerModLmerTest]

Formula: RatingZs ~ Structure * cSpa.Prof + Group + (1 + Structure|Subject) + (Group|Item)

Spanish Form–to–Meaning Task

Model.Spa.FMT: Accuracy predicted by Reading in interaction with cSpa.Prof.

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) [glmerMod]

Family: binomial (logit)

Formula: Accuracy ~ Reading * cSpa.Prof + (1|Subject) + (1|Item)

Spanish Elicited Oral Production Task

Model.Spa.Oral: Accuracy predicted by Reading.

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) [glmerMod]

Family: binomial (logit)

Formula: Accuracy ~ Reading + Group + (1|Subject) + (1|Item)

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