Discours

Revue de linguistique, psycholinguistique et informatique. A journal of linguistics, psycholinguistics and computational linguistics

26 | 2020
Varia

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Electronic version

URL: <https://journals.openedition.org/discours/10709>

DOI: 10.4000/discours.10709

ISSN: 1963-1723

Publisher:

Laboratoire LATTICE, Presses universitaires de Caen

Electronic reference

Maria Andreou, Jacopo Torregrossa and Christiane Maria Bongartz, "The Sharing of Reference Strategies across Two Languages: The Production and Comprehension of Referring Expressions by Greek-Italian Bilingual Children", *Discours* [Online], 26 | 2020, Online since 02 November 2020, connection on 03 February 2023. URL: <http://journals.openedition.org/discours/10709> ; DOI: <https://doi.org/10.4000/discours.10709>

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Maria Andreou, Jacopo Torregrossa, Christiane Maria Bongartz, « The Sharing of Reference Strategies across Two Languages: The Production and Comprehension of Referring Expressions by Greek-Italian Bilingual Children », *Discours* [En ligne], 26 | 2020, mis en ligne le 2 novembre 2020.

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URL : <http://journals.openedition.org/discours/10709>

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Titre du numéro : *Varia*

Coordination : Nicolas Hernandez & Lydia-Mai Ho-Dac

Date de réception de l'article : 16/12/2019

Date d'acceptation de l'article : 23/04/2020

Presses
universitaires
de Caen

The Sharing of Reference Strategies across Two Languages: The Production and Comprehension of Referring Expressions by Greek-Italian Bilingual Children

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Several studies have observed that bilinguals tend to use and accept overspecified, redundant referring expressions in one of their two languages. This tendency has been mainly analysed as an effect of cross-linguistic influence (for instance, from a non-null-subject language to a null-subject one) or quantity and quality of language exposure. We aim to show that, beyond cross-linguistic and language-exposure effects, the use and acceptability of overspecified forms is the outcome of individual patterns of reference management, which are shared across the two languages. We tested 31 Greek-Italian bilingual children by using a narrative task (assessing the use of referring expressions in discourse) and a timed judgement task (related to the interpretation of referring expressions). The results show that reference strategies can be shared between the two languages and, in the bilingual group at stake in this study, this sharing is not modulated by language dominance or proficiency. The study introduces individual variation as one of the factors to consider when dealing with bilingual reference acquisition.

Keywords: overspecification, bilingualism, referential strategies, individual variation

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This study was part of the SFB 1252 "Prominence in Language" in the project C03 "Reference management in bilingual narratives" (principal investigators: Prof. Christiane Bongartz and Prof. Jacopo Torregrossa) at the University of Cologne and was funded by the German Research Foundation (DFG – Deutsche Forschungsgemeinschaft).

1. Introduction

- 1 In reference production, speakers have to keep track of discourse referents and use referring expressions that encode the degree of prominence of these referents at any given point in discourse. Usually, more reduced referring expressions (such as overt pronouns or nulls – depending on whether the language at stake is non-null-subject or null-subject, respectively) are used to refer to entities that are prominent in

discourse, while more explicit referring expressions (such as full nouns, henceforth DPs [Determiner Phrases]) usually refer to non-prominent referents. Several factors affect a referent's discourse prominence including the argument (subject vs. object) or information (topic vs. focus) status of its previous mention, the distance (in number of words or clauses) between its current and previous mention and the number of referents that are introduced between two mentions of the same referent (Arnold, 2010). From the comprehension perspective, these prominence-lending (or demoting) cues are used by listeners to interpret referring expressions. For instance, null subjects in null-subject languages such as Italian tend to be interpreted as referring to subject antecedents (Carminati, 2002 as a main reference). However, there is great variation in how a referent's prominence is mapped into the use of referring expressions (in production) or an interpretation is associated with a referring expression (in comprehension), depending on various factors, including language acquisition and development (Hendriks et al., 2014) or cognitive constraints interacting with the representation of a referent's prominence (e.g., low working memory skills, which may be associated with a rapid decay in the representation of a referent and its associated degree of prominence, Rosa & Arnold, 2011).

2 In this paper, we will consider reference production and comprehension by bilingual children. Across the literature on bilingual reference production, studies have focused on the identification of cross-linguistic effects of one language on the other, limiting the analysis of referential choices to only one of the two languages (cf. the review in Section 3). To the best of our knowledge, however, no existing study has analysed reference use in both languages. Therefore, the possibility remains open that certain patterns of production (or comprehension) of referring expressions are shared across the two languages. A referent's discourse prominence is represented at the conceptual level. This conceptual representation underlies both languages (L1 and L2) and may be mapped into the same use of referring expressions across the two languages, provided that the languages provide a similar inventory of referring expressions, as in the case of the two languages at issue in this contribution (Greek and Italian) – cf. Francis (2011) for a model of the interaction between the two languages of a bilingual and an underlying conceptual store.

3 The main aim of this study is to understand to what extent reference use by Greek-Italian bilingual children can be shared across their two languages, considering evidence from both reference production and comprehension. In particular, we will focus on the production/comprehension of overspecified (i.e., redundant) forms, given that overspecification has often been indicated as a typical strategy in bilingual reference acquisition (cf. references in Section 3).

4 The bilinguals considered in this contribution speak two languages, which are very close to each other with respect to the inventory of referring expressions available in their lexicon. Furthermore, they are relatively balanced across their two languages, as will be shown in Section 5. These two conditions allow us to control for the effects

of cross-linguistic influence, on the one hand, and language dominance, on the other hand, which have been identified as crucial factors influencing bilingual reference production. Therefore, the observation of a similar use of referring expressions across the two languages is very likely to depend on individual variation in the way each child represents a referent's discourse prominence.

- 5 Before conducting the analysis, we will present the referential systems of Greek and Italian respectively and define overspecification in relation to these two systems (Section 2). Then, we will review previous work showing that overspecification is a typical feature of bilingual reference production and identifying possible factors that affect the production of overspecified forms by bilinguals (Section 3).

2. Referring expressions: the case of Greek and Italian

- 6 Greek and Italian are both null-subject languages, since the subject of finite clauses (either matrix or embedded) can be left silent, as shown by the examples in [1] and [2]:

[1] Ø Trexi.
Ø run.PRES.ACT.IND.3SG.
'S/he runs'

[2] Ø Corre.
Ø run.PRES.ACT.IND.3SG.
'S/he runs'

- 7 Our account of the distribution of different types of referring expressions in Greek and Italian will be based on Accessibility Theory, as formulated by Ariel (1990). According to Ariel, the form of referring expressions encodes the degree of discourse prominence of their antecedent, with reduced forms (such as pronouns or nulls) expressing a higher level of a referent's prominence than phonologically heavier forms (such as DPs), which encode lower degrees of prominence. [3] and [4] show how referring expressions are ordered on a prominence-marking scale ranging from complex DPs to reduced expressions in Greek and Italian, respectively. The hierarchy focuses on referring expressions that appear in subject position (cf. Torregrossa et al., 2015).

[3] Italian: l'uomo anziano < l'uomo < quell'uomo < quest'uomo < lui < Ø

[4] Greek: o γέρος άνθρωπος < o άνθρωπος < ekínos o άνθρωπος < aftós o άνθρωπος < aftós < Ø

[English translation: the old man < the man < that man < this man < he]

- 8 [3] and [4] show that Greek and Italian split the prominence hierarchy along the same categories. From the morphological point of view, Greek is more complex

3. Defining overspecification

- 11 As shown in Sections 1 and 2, referring expressions encode the degree of prominence of their antecedents. For example, in [7], adapted from Arnold (2010), the pronoun *she* in the third clause tends to refer to the subject constituent in the previous clause, which is in turn established as the discourse topic in the first clause “Elsi was in her bedroom”. Reference to Sarah (which is in object position and is not the discourse topic) would have required the use of a more explicit referring expression (such as “Sarah” or “her friend”).

[7] Elsi was in her bedroom. She called Sarah. *She* asked many questions.

- 12 However, when looking at spontaneous production, it is not rare to observe the use of explicit referring expressions in association with relatively high degrees of a referent’s prominence. This would correspond to the redundant use of the proper name “Elsi” (instead of “she”) in the third clause in [7]. For example, a study conducted on English monolingual adult speakers by Arnold and Griffin (2007) showed that the mere presence of a potential competitor referent in the immediate discourse context (e.g., Sarah in [7]) may boost the use of DPs (vs. reduced forms) to refer to the target referent (Elsi in this case), even when the target referent and the competitor are of different gender (and hence unambiguous). Keeping track of more than one discourse referent results in increased load on the attentional resources involved in the representation of a referent’s prominence. This leads to demotion of the referent’s degree of prominence and the consequent use of referring expressions encoding relatively low degrees of prominence (i.e., DPs vs. pronouns). That attentional operations are involved in the mental representation of a referent’s prominence is suggested also by studies on monolingual children’s reference acquisition, showing that differences in working memory resources motivate variation in the use of overspecified referring expressions (e.g., demonstrative pronouns instead of personal pronouns in German, cf. Torregrossa, 2017; see also De Cat, 2015 on the role of working memory in reference production and Broadway & Engle, 2010 on the relationship between working memory and attention).

- 13 Overspecification has been shown to be a hallmark of bilingual reference production and comprehension. Here, a distinction should be made. On the one hand, many studies reporting overspecification in bilingual reference production deal with bilinguals speaking a combination of a null-subject and clitic language (e.g., Greek or Italian) and a non-null subject and non-clitic language (e.g., English or German). In the null-subject and clitic language, bilinguals tend to produce overt pronouns in subject or object position, respectively, in contexts in which a null subject or a clitic would be expected (Belletti et al., 2007 on English near-native speakers of Italian; Serratrice et al., 2004 on English-Italian bilingual children; Tsimpili et al., 2004 on attrited Greek and Italian L2 speakers of English). This tendency has been analysed in terms of cross-linguistic influence from the

language with a simpler referential system (e.g., English, whose pronoun system has only overt pronouns) to the language with a more complex one (e.g., Italian, that allows for both null and overt pronouns, as has been shown in Section 2) – cf. Müller & Hulk (2001) and Serratrice et al. (2004) for different accounts of the mechanisms underlying cross-linguistic influence. On the other hand, several studies (mainly dealing with reference production) have found overspecification in the form of overproduction of DPs (Lozano, 2016; Ryan, 2015; Serratrice, 2007; Torregrossa & Bongartz, 2018). This effect cannot be accounted for in terms of cross-linguistic effects, since all the language combinations taken into account (e.g., Italian-English in Serratrice, 2007 and Italian-German in Torregrossa & Bongartz, 2018) have DPs. Furthermore, the production of overspecified DPs has also been observed among bilinguals speaking a combination of two null-subject languages (e.g., Greek and Spanish in Georgopoulos, 2017 or Greek and Albanian in Torregrossa et al., submitted) or two non-null-subject languages (e.g., English and French, as in Leclercq & Lenart, 2013). These findings have been interpreted in terms of lack of proceduralisation of the grammatical options available in a language (e.g., clitics, null subjects and overt pronouns), mainly due to reduced language experience (Ellis, 2005). The use of DPs may be considered as a strategy to ensure accuracy, avoid ambiguity for the listeners and “[...] compensate for other non-target like features of the participants’ interlanguage” (Ryan, 2015: 853).

14 Among the factors that have been found to influence the overproduction of DPs, exposure to the target language seems to play a significant role: the tendency to overproduce DPs is more visible under lower degrees of exposure (Andreou et al., 2015 on Greek-German bilingual children, Torregrossa & Bongartz, 2018 on Italian-German bilingual children and Torregrossa et al., submitted on Greek-Albanian, Greek-English and Greek-German children).

15 Most of the abovementioned studies assume a unidirectional influence from one language to the other. However, bilinguals’ two languages can interact with each other bidirectionally (Cook, 2003; Francis, 2011). For example, among L2-speakers speaking a null-subject language as L1 and a non-null-subject language as L2, one may observe (even at advanced proficiency levels) the use of null-subjects in the non-null-subject language (influence of the L1 on the L2, Judy & Rothman, 2010) as well as the overproduction of overt subjects in the L1 (influence of the L2 on the L1, Belletti et al., 2007). In this case, cross-linguistic influence leads to a different outcome in the two languages (null-subjects in the L2 and overt subjects in the L1) and no sharing of reference use across the two languages is observable. Here, we intend to show that, apart from cross-linguistic effects from one language to the other, certain patterns of reference production and interpretation can be shared, leading to similar outcomes in the two languages. In this sense, our analysis taps directly into the conceptual representation of a referent’s prominence, which underlies a similar use of referring expressions across the two languages. Our analysis focuses on the production and comprehension of overspecified forms, given their frequency in bilingual reference production (as observed in our review

of previous studies). In order to pin down the effects of this sharing independently of cross-linguistic effects, on the one hand, and language-exposure effects, on the other hand, we will consider a language-combination involving two null-subject languages (Greek and Italian) and a relatively balanced bilingual group (as will be shown in Section 5.1), respectively.

4. The present study: research questions

- 16 The aim of this paper is twofold: i) to investigate whether bilingual children share patterns of reference use (i.e., the use of overspecified expressions) across their two languages. In other words, we aim to understand whether a unique conceptual representation of a referent's prominence underlies the two languages; ii) to show whether the sharing of reference strategies is visible across modalities (production and comprehension).

5. Method

5.1. Participants

- 17 The participants in this study were 31 Greek-Italian bilingual children (mean age: 9;1 / $SD = 0.94$ / age range: 7;8-11;1), who were recruited from an Italian immersion school in Athens (Greece). In this school, the main language of instruction is Italian, with a total amount of 24 hours of instruction per week. Greek is taught as an additional language for 5 hours per week.

- 18 In order to assess language dominance among the bilingual participants (either in Greek or in Italian), demographic and parental questionnaires were administered as a tool for collecting information regarding age of onset, language history and literacy practices. The questions included in the questionnaires referred to the following four categories: (a) *home language history*, which accounts for exposure to each language from birth up to the age of schooling; (b) *current language use*, which deals with the languages currently spoken with family members and friends during after-school activities. This module of the questionnaire taps also into the personal assessment of proficiency in one or the other language; (c) *early literacy practices*, which is related to educational activities and practices taking place in the child's pre-literate years, such as book-reading by parents; (d) *current literacy practices*, which concerns literacy practices outside school, such as reading and writing e-mails, reading books or playing video-games (cf. Andreou, 2015; Mattheoudakis et al., 2016; Torregrossa et al., submitted; for more details on such tools see Unsworth, 2015 and 2016). Following Tsimpli's (2014) categorisation of bilinguals as simultaneous (exposure to both languages before the age of 3) or sequential (exposure to the second language after the age of 3) the data from our questionnaires revealed that 14 out of 31 children (45.2%) were simultaneous bilinguals and 17 out of 31 (54.8%) were sequential bilinguals.

- 19 Following Andreou (2015) for the analysis of the questionnaire data, points were attributed for input in each language. Points were accumulated based on the number of people interacting with the child at different stages of development. For example, for *home language*, one or the other language was given 1 point, depending on whether a certain family member interacted with the child (father, mother, siblings, grandparents, etc.) in Greek or Italian, respectively. If a person interacted with the child in both languages, the point was divided between the two languages (0.5 points each). Finally, we derived a score for Greek and Italian, respectively, as the sum of all points given to each language. This score was normalised (in percentage) for the total number of persons interacting with the child (in one language or another). Then, the percentage score associated to Greek was subtracted from the percentage score associated to Italian, in order to establish if, in the corresponding module of the questionnaire, the child was dominant in one or the other language. Hence, negative values indicate dominance in Greek and positive values dominance in Italian. As can be observed in Table 1, the bilingual children in our group appeared to be balanced, being slightly more dominant in Greek in home language history, early literacy practices and current language use and slightly more dominant in Italian in current literacy use. These results reflect the abovementioned observation that Greek is the majority language in society (Athens as the area of residence) and Italian the majority language at school. Furthermore, it should be observed that for all four modules, the difference scores are not very high, which provides further evidence for the observation that the bilinguals in this group are relatively balanced.

Group	Age M (SD)	Home language history M (SD)	Current language use M (SD)	Early literacy practices M (SD)	Current literacy practices M (SD)
Greek-Italian bilinguals (N = 31)	9.1 (0.94)	-0.21 (0.42)	-0.10 (0.55)	-0.12 (0.63)	0.13 (0.34)

Table 1 – Mean percentage scores (and standard deviations)
associated with different modules of the background questionnaires
(home language history, current language use, early literacy practices, current literacy use)

5.2. Screening tasks

- 20 In order to assess participants' lexical and syntactic proficiency in both languages, we relied on the *Renfrew Expressive Vocabulary Test* (Renfrew, 1995) and two comparable versions of a sentence repetition task (Andreou et al., in press), respectively.

5.2.1. Expressive Vocabulary Tests

- 21 The two expressive vocabulary tasks (one for Greek and one for Italian) are adaptations of the Renfrew task (1995). In particular, each task consisted of 50 black-and-white pictures representing objects that the child was asked to name. In the event of no

immediate successful answer, a semantic cue was first provided (using the same cues for all participants), in order to disambiguate the picture and avoid missing answers due to misperception of the figure. If the child did not give any answer, we gave a phonemic cue, providing the first syllable of the target word. We assigned 1 point to all answers given with either no cue or a semantic cue, 0.5 to all answers following a phonemic cue and, finally, 0 points for incorrect or missing answers.

5.2.2. *Sentence Repetition Task (SRT)*

22 There are several versions of SRTs (e.g., Cost Action IS0804; SASIT [School-Age Sentence Imitation Test] – Marinis et al., 2011; WISC [Wechsler Intelligence Scale for Children]; etc.). They usually consist of a series of sentences (usually independent of one another), that the child has to listen to and reproduce (see Marinis & Armon-Lotem, 2015 for further details). Each sentence targets a specific grammatical structure. In the SRT that we developed in our test battery we added a discourse dimension: the different sentences were connected to one another to create a short story. In other words, by repeating the sentence, the child contributed to the advancement of the story plot. We followed this new approach for two reasons. First, discourse context may facilitate the repetition of the sentence by bilingual children, in line with some literature showing that bilingual children's syntactic proficiency may benefit from discourse coherence (Van den Bosch et al., 2018). Furthermore, discourse-based SRTs enable syntactic proficiency to be assessed in a discourse setting, making these tasks more reliable tools for assessing mastery of syntax-discourse interface phenomena than traditional SRTs. Since the appropriate use (and interpretation) of referring expressions involves mastery of the syntax-discourse interface (as has been shown in Section 3), we expect a discourse-based SRT to be a good predictor of children's accuracy in the use of referring expressions (see Section 5.3). In particular, by correlating the performance in the SRT with the use of overspecified referring expressions, we will be able to understand whether overspecification is an effect of unsuccessful acquisition of structures at the interface between syntax and discourse. We created two comparable versions of SRTs (one for Greek and one for Italian), each consisting of 25 sentences targeting 28 types of structures (with some types being targeted more than once – see Andreou et al., in press, for a more detailed description). The choice of target structures is based on Marinis and Armon-Lotem (2015) and includes: i) subject-verb-object (SVO) sentences with negation and one auxiliary/modal; ii) bi-clausal sentences (coordinated, finite and non-finite complement clauses and adverbial clauses); iii) structures generated by movement (long-actional passives, clitic left-dislocations, object *wh*-questions); iv) structures involving movement and embedding (subject and object relatives). Crucially for our purposes, most of the sentences in the task contain pronouns (null subjects, clitics, etc.). Greek and Italian exhibit (at least superficially) very similar syntactic structures, which favours task comparability across the two languages.

23 The procedure was as follows: The children were told that they were going to hear a fairy tale about a beaver and an alien. To see all the pictures of the fairy tale,

they were asked to repeat the sentences that they heard through the headphones. Each time that they repeated the sentence (regardless of whether the sentence was correct or not), they were shown the corresponding picture on the computer screen. Thus, the story plot advanced as the child repeated the sentences.

- 24 For the purposes of this paper, we considered – for each child and language – a total score corresponding to the target structures that the child was able to reproduce correctly. In particular, we scored the task as follows: children were awarded 1 point, if they were able to repeat the target structure (irrespective of the grammaticality/accuracy of the whole sentence) and 0 points otherwise. Given the great comparability across the two tasks, the difference between the score obtained in Italian and the score obtained in Greek respectively, could be taken as a proxy for dominance in terms of syntactic proficiency (Treffers-Daller, 2019).

5.3. Narrative oral retelling task

- 25 The production of referring expressions was elicited using the Edmonton Narrative Norms Instrument (ENNI) as designed by Schneider et al. (2006). The ENNI includes six picture-stories divided into three groups of increasing complexity. For our task, we used the most complex ones (A3 and B3), consisting of 13 pictures and including a series of events involving two major characters and two minor ones.

- 26 The children were seated at a computer screen and presented with three envelopes appearing on the first slide of a PowerPoint presentation. After the selection, the children were required to look at the story-pictures two by two, while listening to the model story through the headphones. After the end of the story, the participants were asked to retell the story that they had heard to the experimenter, who pretended to be unfamiliar with the content of the story (i.e., he had neither listened to the story nor seen the pictures, cf. Torregrossa et al., submitted, for more details). Each participant was given two short stories, one for each language, counterbalancing the order (see Appendix). Crucially, the prime stories did not contain instances of overspecification: in other words, our model story was created in order not to bias the child with respect to a specific pattern of reference use. In particular, we avoided the inclusion of overspecified or underspecified referring expressions.

5.3.1. Transcription and coding

- 27 The stories were audio-recorded and then transcribed by a Greek and an Italian native speaker, respectively (i.e., the first and second author of this paper). The final corpus consisted of 62 narratives (31 in Greek and 31 in Italian). As mentioned in Section 3, we define overspecification as the use of a DP to refer to a character with a high degree of prominence (i.e., in contexts where the use of a null subject or clitic would be more appropriate). Our analysis of overspecification goes beyond traditional analyses that categorise referring expressions based on the mapping between types of referring expressions and discourse functions (reference introduction, reintroduction and maintenance) – cf., e.g., Serratrice (2007). According to these

analyses, overspecification consists in the production of DPs in contexts of reference maintenance. Rather, we decided to focus on combinations of linguistic features that lend (or demote) prominence, including the grammatical role (subject vs. object) of a referent's previous mention (i.e., antecedent) and the number of characters intervening between a referent's current mention and its previous mention. Based on these features, Torregrossa et al. (submitted) identified several cases of overspecified, redundant uses of referring expressions, considering all contexts in which a DP could be replaced by a null subject or a clitic without generating ambiguity. For example, a null subject can felicitously replace a DP that is in subject position and refers back to a subject antecedent without any intervening referent. Overspecification may also occur if the DP is in object position. In this case there are two options regarding the antecedent, which can be either in subject or object position. In both cases, the character in subject position (in the same sentence as the one in which the overspecified DP occurs) intervenes between the two mentions of the character at stake (see Torregrossa et al., submitted for more details on this analysis¹). In this paper, we consider only the former cases (i.e., referring expressions in subject position with subject antecedents and no animate characters between the referring expression and its antecedent). The constituent “o kamilopardalis” [the giraffe boy] in the second clause in [8] as well as the constituent “o lagos” [the rabbit boy] in the second clause in [9] exemplify this pattern, since their antecedent is in subject position and there is either one inanimate character (i.e., the little airplane in [8]) or no character at all (in [9]) between the two mentions of the referent. [10] and [11] illustrate the same pattern with Italian data.

- [8] O kamilopardalis pire to aeroplanaki, alla o kamilopardalis to erikse katalathos stin pisina.
The giraffe boy.NOM.MASC.SG. took the aeroplane, but the giraffe boy.NOM.MASC.SG. threw it accidentally in the swimming pool.
- [9] O lagos lipithike poli ke o lagos ide ksafnika ti mitera tou na perpata sto dasos.
The rabbit.NOM.MASC.SG. got really sad and the rabbit.NOM.MASC.SG. saw suddenly his mother walking in the woods.
- [10] Poi la cagnolina si è arrabbiata e la cagnolina urlava.
Then the little dog.NOM.FEM.SG. got angry and the little dog.NOM.FEM.SG. screamed.
- [11] L'elefantina poi era gelosa e l'elefantina decise di rubarglielo.
Then the elephant girl.NOM.FEM.SG. was jealous and the elephant girl.NOM.FEM.SG. decided to steal it.

1. We decided to include only animate characters since some corpus studies on reference production in bilingualism/second language acquisition have shown that animacy plays a significant role in determining the type of referring expression which is used in discourse (Lozano, 2016; Martín-Villena & Lozano, 2020).

28 We decided to limit our analysis to the cases exemplified in [8]–[11], in order to ensure comparability between the production and the comprehension task (as described in Section 5.4), given that in the design of the stimuli used in the comprehension task, overspecification is operationalised as described above.

5.4. Overspecification Detection Online Task (ODOT)

29 The ODOT was developed to measure children’s sensitivity to overspecification during discourse processing. The task consists of a short video-recorded silent story presenting a continuous series of actions as performed by one character (see the female doctor or the fireman in Table 2 below). Each sequence in the video was accompanied by written stimuli. In the first sequence, the character was introduced with a short sentence (see examples [12] and [13] for Greek and Italian, respectively).

[12] Greek: Edo vlepoume enan pirosvesti.
Here we see a fireman.

[13] Italian: Ecco una dottoressa.
Here’s a doctor.FEM.

30 The following sequences were presented together with two sentences (one at the top and one at the bottom of the computer screen) describing the corresponding scene. These sentences were minimal pairs, since in one, reference to the main (and only) story character was established by means of a null subject, while in the other, a DP (instead of a null subject) was used (cf. Table 2). All sentences were connected to each other to form a narrative, which was marked by using connectors such as “first” (in the first sequence), “then” (in the following ones) and “at last/finally” (in the final sentence) – see Table 2. The position of the sentences containing a null subject (vs. a DP) – either at the top or the bottom of the screen – was counterbalanced throughout the task. In total, we used 10 sentences. We created one version for Greek (with a fireman as the main character) and one for Italian (with a female doctor as the main character). The two versions were comparable, since the duration of the sequences was the same within and across languages and the number of sentences was identical in the two versions. Furthermore, the sentences in the two languages had the same syntactic structure and were matched for number of syllables. The mean length (estimated by number of syllables) of the Greek sentences with DPs was 19.1 and of sentences with null pronouns 14.1. In Italian, sentences with DPs were in average 18.5 syllables long and the ones with null subjects 13.5 syllables. Across the two conditions (with and without DPs), the tasks in the two languages did not differ from each other in terms of number of syllables (one-way ANOVA [analysis of variance] for sentences with DPs: $F(1.19) = 1.023$, $p = 0.234$; and for sentences with null subjects: $F(1.19) = 1.100$, $p = 0.135$).

Number of sentences	Greek stimuli	Italian stimuli
1	<i>Prota, o pirovestis dokimazi ta klidia me diaforetikí dinami.</i> First, the fireman tries the keys with different force.	<i>Per prima cosa, la dottoressa spegne la videocamera nascosta.</i> First, the doctor turns off the hidden camera.
2	<i>Meta, o pirovestis sproxni to kollimeno xerouli.</i> Then, the fireman pushes the stuck door handle.	<i>Poi, la dottoressa prova diverse chiavi con molta forza.</i> Then, the doctor tries different keys with a lot of force.
3	<i>Meta, o pirovestis klotsai tin porta xoris epitixia.</i> Then, the fireman kicks the door without success.	<i>Poi, la dottoressa cerca i codici segreti nello scaffale.</i> Then, the doctor looks for the secret codes on the shelf.
4	<i>Meta, o pirovestis travai ta koutia sto plai.</i> Then, the fireman pulls the boxes aside.	<i>Poi, la dottoressa schiaccia i tasti sul pannello di controllo.</i> Then, the doctor presses the buttons on the control panel.
5	<i>Meta, o pirovestis enoni ta kalodia.</i> Then, the fireman connects the cables.	<i>Poi, la dottoressa connette i cavi.</i> Then, the doctor connects the cables.
6	<i>Meta, o pirovestis klini tin krimeni kamera.</i> Then, the fireman turns off the hidden camera.	<i>Poi, la dottoressa sposta le scatole.</i> Then, the doctor moves the boxes.
7	<i>Meta, o pirovestis psaxni sta rafia jia tous mistikous kodikous.</i> Then, the fireman searches the selves for the secret codes.	<i>Poi, la dottoressa calcia la porta senza successo.</i> Then, the doctor kicks the door without success.
8	<i>Meta, o pirovestis fonazi tous mistikous kodikous ston anixnefti fonis.</i> Then, the fireman shouts the secret codes at the voice recognition device.	<i>Poi, la dottoressa forza la maniglia inceppata.</i> Then, the doctor forces the stuck door handle.
9	<i>Meta, o pirovestis patai ta koubia ston pinaka elegxou.</i> Then, the fireman pushes the buttons on the control panel.	<i>Poi, la dottoressa grida i codici segreti nel riconoscitore vocale.</i> Then, the doctor shouts the secret codes at the voice recognition device.
10	<i>Telika, o pirovestis anigi tin porta tou domatiou.</i> Finally, the fireman opens the door of the room.	<i>Infine, la dottoressa apre la porta della stanza.</i> Finally, the doctor opens the door of the room.

Table 2 – Greek and Italian stimuli for the ODOT.
The table reports only the stimuli containing the DPs

31 Children were asked to read the two sentences and choose which “subtitle” described the given scene best, by pressing either the top or bottom arrow key of the keyboard, based on the position of the preferred sentence. To read the sentences and give an answer, children had 13 s. (in both tasks) at their disposal. If no answer was provided, two more sentences were given (referring to a new sequence in the main characters’ actions). Each child performed the ODOT in both languages in two separate sessions, counterbalancing the order of administration.

32 In other words, the task was designed as a timed judgement task tapping into children’s sensitivity to overspecification in a narrative sequence. We decided to keep the task as simple as possible, by referring to only one character, in order to avoid possible confounds, due to the presence of a competitor referent (Section 3). Ideally, children should choose DPs following the first sentence (containing the introduction of the referent) and then proceed with the use of null subjects until the final sentence, given that the task exemplifies a typical reference-maintenance context (cf. the conditions of use of DPs in Section 1). However, when keeping track of a unique referent across several clauses, speakers may feel the need to reactivate reference to the main character by using a DP (instead of a null subject) – cf. Arnold (2010) and Van Vliet (2008) for a similar consideration. Our analysis will show whether and how speakers differ from one another and across their two languages with respect to this idealised picture.

6. Results

33 The analysis of the profiling tasks revealed that the children were relatively balanced across their two languages (cf. the *desideratum* at the end of Section 3), which is in line with the results emerging from the analysis of the background questionnaires (Section 5.1). In the *Expressive Vocabulary Task*, the mean score of correct responses was 33.7 ($SD = 5.4$) in Italian and 36.3 ($SD = 8.9$) in Greek. A one-way ANOVA revealed that the performance in lexical proficiency did not differ across the two languages ($F(1.61) = 1.951, p = 0.168$). The same pattern emerged from the analysis of the *Sentence Repetition Task*, in which the mean score of correct responses was 24.45 in Italian ($SD = 2.4$) and 25.70 in Greek ($SD = 2.96$). Again, the performance did not differ across the two languages ($F(1.61) = 3.774, p = 0.057$).

34 Table 3 reports the mean number of referring expressions (DPs, null pronouns, overt pronouns and clitics) (and their standard deviation), the mean number of DPs (and their standard deviation) as well as the mean number of overspecified DPs (and their standard deviation) produced by each child in the two languages. Overall, the children produced 457 DPs in Greek (out of 1,259 referring expressions) and 440 DPs in Italian (out of 1,112 referring expressions). In Greek, 25 of these DPs were overspecified, while in Italian only 11.

Language	Referring expressions	DPs	Overspecified DPs
Greek	40.6 (12.1)	14.7 (5.0)	0.80 (0.74)
Italian	35.8 (11.3)	14.1 (3.6)	0.35 (0.55)

Table 3 – Mean number and standard deviations of number of referring expressions (DPs, null pronouns, overt pronouns and clitics), DPs and overspecified DPs produced in the bilingual children's narratives across their two languages

35 Children produced a higher number of overspecified forms in Greek than in Italian narratives, as revealed by a one-way ANOVA ($F(1,61) = 8.072, p = 0.006$). When looking at individual variation in the production of overspecified referring expressions across the two languages (i.e., “sharing”), the amount of overspecified DPs produced in Greek correlates with the amount of overspecified DPs produced in Italian ($r = 0.44, p = 0.01$). This correlation has to be taken with caution, since it is based on small numbers. However, it reflects the fact that 18 of the children showed the same behaviour across their two languages, either producing no overspecified DP or 1 or 2 DPs in both languages. The rest of the children (13 in total) produced overspecified DPs only in one language (2 children only in Italian and 11 only in Greek).

36 In order to understand to what extent the bilinguals' profile (in terms of lexical and syntactic abilities) is responsible for the production of overspecified DPs across the two languages, we ran correlations between the scores obtained in the different screening tasks and the number of overspecified DPs produced by each child in Italian and Greek, respectively. We found no significant correlation, as shown in Table 4. The absence of significant correlations suggests that any possible variation in the production of overspecified DPs is not motivated by language proficiency variables, again in compliance with our *desideratum* introduced at the end of Section 3.

Measurements of dominance	Overspecification in Greek	Overspecification in Italian
Greek vocabulary	$r = -0.174$ $p = 0.349$	
Italian vocabulary		$r = 0.315$ $p = 0.085$
Greek SRT	$r = -0.150$ $p = 0.420$	
Italian SRT		$r = -0.033$ $p = 0.859$

Table 4 – Bivariate correlations between the number of occurrences of overspecified forms in Greek and Italian and the scores obtained in the screening tasks

37 Table 5 presents the results related to bilinguals' preference for DPs in the timed judgement task ODOT in Greek and Italian, respectively. In particular, the mean number of DPs that were chosen as well as the standard deviation are reported. The extent to which overspecified DPs were accepted did not differ across the two languages, as revealed by a one-way ANOVA ($F(1.61) = 0.28$, $p = 0.60$). Again, the number of DPs chosen in Greek correlates with the number of DPs chosen in Italian ($r = 0.65$, $p < 0.001$). In other words, children that tend to choose the overspecified option in Greek tend to do the same in Italian. Furthermore, some children make exactly the same choices in the same stretches of discourse across both languages. For instance, CH03 chose DPs in the first two sentences, null subjects in the following two sentences, and then a DP in the fifth sentence, in both languages.

Group	Greek ODOT	Italian ODOT
Greek-Italian ($N = 31$)	6.29 (2.62)	5.90 (3.11)

Table 5 – Mean number (and standard deviations) of DPs chosen by the children in the timed judgement task ODOT in Greek and Italian, respectively.

The maximum score of each version was 10 sentences,
which corresponded to the total number of sentences in each task

38 Again, we ran correlations between the scores obtained in the different screening tasks and the number of DPs selected in the timed judgement task in the two languages.

Measurements of dominance	ODOT Greek	ODOT Italian
Greek vocabulary	$r = -0.322$ $p = 0.077$	
Italian vocabulary		$r = 0.300$ $p = 0.101$
Greek SRT	$r = -0.354$ $p = 0.051$	
Italian SRT		$r = -0.194$ $p = 0.295$

Table 6 – Bivariate correlations between the acceptability of overspecified DPs in Greek and Italian (expressed in terms of number of DPs that were selected by the children), and the scores obtained in the screening tasks

39 We found no significant correlation between the scores related to the screening tasks and the extent to which DPs were accepted in the ODOT, which holds for both languages. Only in Greek, we observed a tendency to accept more DPs under lower degrees of syntactic proficiency (as measured by means of the SRT). In general, variation in the sensitivity to overspecification during on-line processing was not motivated by language proficiency variables, in compliance with the *desideratum* introduced at the end of Section 3.

40 A final correlational analysis aimed to show whether the tendency to produce overspecified DPs in narrations correlates with the tendency to accept overspecified DPs in the timed judgement task. Table 7 shows that there is no correlation between the two tasks, which holds for both languages: the bilingual children who overspecify in production are not necessarily the ones who accept more DPs in comprehension.

	Overspecification in Greek (narratives)	Overspecification in Italian (narratives)
ODOT Greek	$r = 0.262$ $p = 0.155$	
ODOT Italian		$r = 0.111$ $p = 0.553$

Table 7 – Bivariate correlations between the production and the comprehension task in both languages

7. Discussion

41 Across the literature, several studies have observed the use of overspecified referring expressions by bilingual children and adults, mainly focusing on the production of overt pronouns and DPs in null subject languages, in contexts where the use of a null subject would be more appropriate. In all these studies, overspecification has provided a useful testing ground for understanding which mechanisms underlie bilingual language production. For example, cross-linguistic effects are visible in the overproduction of overt pronouns in null subject languages by bilinguals speaking a combination of a null-subject and a non-null-subject language (e.g., Serratrice et al., 2004 and references in Section 3). An additional factor that the literature has taken into account is the quantity and quality of language exposure, which motivates differences in the use of overspecified, redundant DPs, independently of the type of language combination: the tendency to use overspecified expressions is more visible under lower degrees of language exposure (e.g., Torregrossa et al., submitted). All these studies share the common approach of observing overspecification in only one language, e.g., the language which is expected to be the target of cross-linguistic influence (Müller & Hulk, 2001) or the non-dominant language in terms of language

exposure (Ryan, 2015). By analysing the use of overspecified referring expressions, researchers have gained new insights into how speaker-internal (age of onset, cross-linguistic influence, cognitive factors) and speaker-external variables account for variation in bilingual acquisition outcomes (Torregrossa et al., submitted).

42 None of the abovementioned studies has explicitly investigated whether certain patterns of reference production and comprehension (e.g., overspecification) can be observed in both languages (i.e., shared). Here, the relationship between each language with an underlying cognitive system (rather than the interaction of the two language systems with each other) becomes the focus of inquiry: the underlying cognitive system is responsible for the representation of a referent's prominence, based on discourse and cognitive factors (as listed in Section 1). The two languages are responsible for mapping this representation onto the use of referring expressions, based on the inventory of forms which is available in each of them. As argued in Section 1, if the same pattern of use of referring expressions is observable in both languages, this can be interpreted as an effect of individual variation concerning how speakers/hearers "conceptualise" a referent's prominence. In this sense, the analysis of the sharing of patterns of reference use aims to account for those overspecified uses of referring expressions that cannot be ascribed to cross-linguistic influence or language exposure.

43 The group of Greek-Italian bilinguals considered in this study was particularly suitable to investigate how patterns of reference use can be shared across the two languages. As shown in Section 2, the referential systems of Greek and Italian exhibit similar distributions of null subjects, overt pronouns and DPs, which allowed us to control for possible cross-linguistic effects of one language on the other. Furthermore, the analysis of the background questionnaires and the children's lexical and syntactic proficiency (through the Expressive Vocabulary Test and the SRT, respectively) revealed that the group of participants was relatively balanced across the two languages. By this means, we made sure that overspecification in language production and comprehension was not due to reduced proficiency or dominance in one language or the other. The analysis showed that differences in proficiency scores account neither for the observed variation in the production of overspecified DPs nor for the acceptability rates of repeated DPs in comprehension.

44 Once cross-linguistic and language exposure effects were controlled for, we were able to isolate the effects related to the sharing of patterns of reference use (and overspecification, in particular) across the two languages. The results show that the production of overspecified DPs in Italian correlates with the production of overspecified DPs in Greek. As mentioned in Section 6, this correlation has to be taken with caution, given the small number of overspecified DPs occurring in our corpus (which is also related to the strict criteria that we used to define overspecification, see Section 5.3.1). The pattern shown by the comprehension experiment is much clearer: the analysis of the timed judgement task reveals that the acceptability rates of overspecified DPs in Italian strongly correlate with the

acceptability rates of the same forms in Greek. Overall, we can conclude that evidence related to the sharing of patterns of referential use across the two languages comes from both reference production and comprehension.

45 It should be pointed out that in the production task, Italian narratives exhibit fewer overspecified DPs than the Greek ones (Table 3). This may have two different explanations. On the one hand, it has been noted that Italian is the main medium of instruction at school for the children at issue in this contribution. Literacy may have a “stabilising effect” in reference use, evening out individual variability which may lead to the production of overspecified referring expressions (Bongartz & Torregrossa, 2017). In other words, children learn explicitly to avoid the production of overspecified, redundant forms. On the other hand, as suggested by one anonymous reviewer, Greek speakers may be more prone to accept overspecification than Italian speakers: in Greek, null subjects and DPs may overlap in their function to a greater extent than in Italian. In order to test the latter hypothesis, we should investigate whether Italian and Greek monolingual children show the same tendency towards overspecification as the bilingual children considered here. However, this kind of investigation would go beyond the main research question guiding our contribution, i.e., whether patterns of use of referring expressions can be shared across the two languages, independently of cross-linguistic effects from one language to the other. In this sense, our observation that some children never use overspecified referring expressions, some do so only in one language, and others in both languages cannot be easily explained by a cross-linguistic account (Section 6).

46 Finally, our results show that the scores in the narratives and the results of the judgement task (in both languages) do not correlate with each other: the children do not seem to exhibit the same behaviour in reference production and comprehension. The literature reports several examples of asymmetries between production and comprehension in the acquisition of reference (e.g., the comprehension of object pronouns lagging behind their correct production, cf. De Villiers et al., 2006), which is due to the fact that different cognitive principles and mechanisms underlie these two processes (Hendriks, 2016). In our study, the observed asymmetry between production and comprehension could be motivated (among other factors) by the nature of the task. On the one hand, narrative production taps more into speakers’ spontaneous, automatic use of referring expressions in discourse. Production tasks are generally more vulnerable than other types of tasks to cognitive factors, such as attention, working memory and processing speed (Torregrossa et al., 2019 and references in Section 3). On the contrary, the judgement task used in this article assesses children’s sensitivity to overspecification, thus including a strong metalinguistic component (see also Davies & Katsos, 2009). It is well known that bilinguals are able to share metalinguistic skills across their two languages (Francis, 2011). Therefore, metalinguistic skills as well as bilinguals’ ability to share them across their two languages may play a central role in accounting for the variation in sensitivity to overspecification emerging from the analysis of the comprehension task.

47

From a methodological point of view, we aimed to show that in bilingualism, certain acquisition outcomes go beyond cross-linguistic, language exposure or proficiency effects, but are related to individual patterns of development (as in the case of monolingual language acquisition). Looking at children's behaviour in both languages may help identify these individual patterns.

References

- ANDREOU, M. 2015. *The Effects of Bilingualism in Verbal and Non-Verbal Cognition: The Micro- and Macro- Structure of Narratives in the Weak and the Dominant Language of the Bilingual Child*. Unpublished PhD thesis. Aristotle University of Thessaloniki.
- ANDREOU, M., KNOPP, E., BONGARTZ, C. & TSIMPLI, I.M. 2015. Character Reference in Greek-German Bilingual Children's Narratives. In L. ROBERTS, K. McMANUS, N. VANEK & D. TRENKIC (eds.), *EUROSLA Yearbook*. Amsterdam – Philadelphia: J. Benjamins. Vol. 15: 1-40.
- ANDREOU, M., TORREGROSSA, J. & BONGARTZ, C. in press. The Use of Null Subjects by Greek-Italian Bilingual Children: Identifying Cross-Linguistic Effects. In G. FOTIADOU & I.M. TSIMPLI (eds.), *Individual Differences in Anaphora Resolution: Language and Cognitive Effects*. Amsterdam – Philadelphia: J. Benjamins.
- ARIEL, M. 1990. *Accessing Noun-Phrase Antecedents*. Londres – New York: Routledge.
- ARNOLD, J.E. 2010. How Speakers Refer: The Role of Accessibility. *Language and Linguistics Compass* 4 (4): 187-203.
- ARNOLD, J.E. & GRIFFIN, Z.M. 2007. The Effect of Additional Characters on Choice of Referring Expression: Everyone Counts. *Journal of Memory and Language* 56 (4): 521-536.
- BELLETTI, A., BENNATI, E. & SORACE, A. 2007. Theoretical and Developmental Issues in the Syntax of Subjects: Evidence from Near-Native Italian. *Natural Language & Linguistic Theory* 25 (4): 657-689.
- BONGARTZ, C.M. & TORREGROSSA, J. 2017. The Effects of Balanced Biliteracy on Greek-German Bilingual Children's Secondary Discourse Ability. *International Journal of Bilingual Education and Bilingualism*: 1-16.
- BROADWAY, J.M. & ENGLE, R.W. 2010. Validating Running Memory Span: Measurement of Working Memory Capacity and Links with Fluid Intelligence. *Behavior Research Methods* 42: 563-570.
- CARMINATI, M.N. 2002. *The Processing of Italian Subject Pronouns*. PhD thesis. University of Massachusetts at Amherst.
- COOK, V.J. 2003. The Changing L1 in the L2 User's Mind. In V.J. COOK (ed.), *Effects of the Second Language on the First*. Clevedon – Buffalo – Toronto: Multilingual Matters: 1-18.
- DAVIES, C. & KATSOS, N. 2009. Are Interlocutors as Sensitive to Over-Informativeness as They Are to Under-Informativeness? In K. VAN DEEMTER, A. GATT, R.P.G. VAN GOMPEL & E. KRAHMER (eds.), *Proceedings of the Workshop on the Production of Referring Expressions: Bridging the Gap between Computational and Empirical Approaches to Reference – PRE-COGSCI 2009*. Amsterdam: Cognitive Science Society: 1-8. Available online: https://pre2009.uvt.nl/pdf/davies_katsos_7_8.pdf.

- DE CAT, C. 2015. The Cognitive Underpinnings of Referential Abilities. In L. SERRATRICE & S.E.M. ALLEN (eds.), *The Acquisition of Reference*. Amsterdam – Philadelphia: J. Benjamins: 263-283.
- DE VILLIERS, J.G., CAHILLANE, J. & ALTREUTER, E. 2006. What Can Production Reveal about Principle B? In K.U. DEEN, J. NOMURA, B. SCHULZ & B.D. SCHWARTZ (eds.), *Proceedings of the Inaugural Conference on Generative Approaches to Language Acquisition – North America (GALANA)*. Storrs: University of Connecticut. Vol. 1: 89-100.
- ELLIS, N.C. 2005. At the Interface: Dynamic Interactions of Explicit and Implicit Language Knowledge. *Studies in Second Language Acquisition* 27 (2): 305-352.
- FRANCIS, N. 2011. *Bilingual Competence and Bilingual Proficiency in Child Development*. Cambridge: The MIT Press.
- GEORGOPOULOS, A. 2017. Anaphora Resolution in the Interlanguage of Greek and English Learners of Spanish: A Corpus Study. *Studies in Greek Linguistics* 37: 239-252. Available online: http://ins.web.auth.gr/images/MEG_PLIRI/MEG_37_239_252.pdf.
- HENDRIKS, P. 2016. Cognitive Modeling of Individual Variation in Reference Production and Comprehension. *Frontiers in Psychology* 7 (506): 1-17. Available online: <https://www.frontiersin.org/articles/10.3389/fpsyg.2016.00506/full>.
- HENDRIKS, P., KOSTER, C. & HOEKS, J.C.J. 2014. Referential Choice across the Lifespan: Why Children and Elderly Adults Produce Ambiguous Pronouns. *Language, Cognition and Neuroscience* 29 (4): 391-407.
- JUDY, T. & ROTHMAN, J. 2010. From a Superset to a Subset Grammar and the Semantic Compensation Hypothesis: Subject Pronouns and Anaphora Resolution in L2 English. In K. FRANICH, K.M. ISERMAN & L.L. KEIL (eds.), *Proceedings of the 34th Annual Boston University Conference on Language Development – BUCLD 34*. Somerville: Cascadilla Press: 197-208.
- LECLERCQ, P. & LENART, E. 2013. Discourse Cohesion and Accessibility of Referents in Oral Narratives: A Comparison of L1 and L2 Acquisition of French and English. *Discours* 12: 1-31. Available online: <https://journals.openedition.org/discours/8801>.
- LOZANO, C. 2016. Pragmatic Principles in Anaphora Resolution at the Syntax-Discourse Interface: Advanced English Learners of Spanish in the CEDEL2 Corpus. In M. ALONSO-RAMOS (ed.), *Spanish Learner Corpus Research: Current Trends and Future Perspectives*. Amsterdam – Philadelphia: J. Benjamins: 236-265.
- MARINIS, T. & ARMON-LOTEM, S. 2015. Sentence Repetition. In S. ARMON-LOTEM, J. DE JONG & N. MEIR (eds.), *Assessing Multilingual Children: Disentangling Bilingualism from Language Impairment*. Bristol: Multilingual Matters: 95-122.
- MARINIS, T., CHIAT, S., ARMON-LOTEM, S., PIPER, J. & ROY, P. 2011. School-Age Sentence Imitation Test-English 32 (SASIT-E32). Unpublished test.
- MARTÍN-VILLENA, F. & LOZANO, C. 2020. Anaphora Resolution in Topic Continuity: Evidence from L1 English-L2 Spanish Data in the CEDEL Corpus. In J. RYAN & P. CROSTHWAITE (eds.), *Referring in a Second Language: Studies on Reference to Person in a Multilingual World*. New York: Routledge: 119-141.
- MATTHEOUDAKIS, M., CHATZIDAKI, A., MALIGKOUDI, C. & AGATHOPOULOU, E. 2016. Family and School Language Input: Their Role in Bilingual Children's Vocabulary Development. *The Journal of Applied Linguistics – Annual Publication of the Greek Applied Linguistics Association* 31: 49-69.

- MÜLLER, N. & HULK, A. 2001. Crosslinguistic Influence in Bilingual Language Acquisition: Italian and French as Recipient Languages. *Bilingualism: Language and Cognition* 4 (1): 1-21.
- RENFREW, C. 1995. *Word Finding Vocabulary Test*. London: Speechmark Publishing [4th ed.].
- ROSA, E.C. & ARNOLD, J.E. 2011. The Role of Attention in Choice of Referring Expression. In K. VAN DEEMTER, A. GATT, R.P.G. VAN GOMPEL & E. KRAHMER (eds.), *Proceedings of the Workshop on the Production of Referring Expressions: Bridging the Gap between Computational, Empirical and Theoretical Approaches to Reference – PRE-COGSCI 2011*. Boston: Cognitive Science Society: 1-6. Available online: https://pre2011.uvt.nl/pdf/rosa_arnold_2011.pdf.
- RYAN, J. 2015. Overexplicit Referent Tracking in L2 English: Strategy, Avoidance, or Myth? *Language Learning* 65 (4): 824-859.
- SCHNEIDER, P., HAYWARD, D. & DUBÉ, R.V. 2006. Storytelling from Pictures Using the Edmonton Narrative Norms Instrument. *Canadian Journal of Speech-Language Pathology and Audiology* 30 (4): 224-238.
- SERRATRICE, L. 2007. Referential Cohesion in the Narratives of Bilingual English-Italian Children and Monolingual Peers. *Journal of Pragmatics* 39 (6): 1058-1087.
- SERRATRICE, L., SORACE, A. & PAOLI, S. 2004. Crosslinguistic Influence at the Syntax-Pragmatics Interface: Subjects and Objects in English-Italian Bilingual and Monolingual Acquisition. *Bilingualism: Language and Cognition* 7 (3): 183-205.
- TORREGROSSA, J. 2017. The Role of Executive Functions in the Acquisition of Reference: The Production of Demonstrative Pronouns by German Monolingual Children. In J. CHOI, H. DEMIRDACHE, O. LUNGU & L. VOELTZEL (eds.), *Language Acquisition at the Interfaces: Proceedings of GALA 2015*. Newcastle upon Tyne: Cambridge Scholars Publishing: 316-330.
- TORREGROSSA, J., ANDREOU, M. & BONGARTZ, C. forthcoming. Variation in Production and Interpretation of Null Subjects: A View from Greek and Italian. *Glossa*.
- TORREGROSSA, J., ANDREOU, M., BONGARTZ, C. & TSIMPLI, I.M. submitted. Bilingualism Acquisition of Reference. The Role of Language Experience, Executive Functions and Cross-Linguistic Effects. *Bilingualism, Language and Cognition*.
- TORREGROSSA, J. & BONGARTZ, C. 2018. Teasing Apart the Effects of Dominance, Transfer and Processing in Reference Production by German-Italian Bilingual Adolescents. *Languages* 3 (3): 1-25.
- TORREGROSSA, J., BONGARTZ, C. & TSIMPLI, I.M. 2015. Testing Accessibility: A Cross-Linguistic Comparison of the Syntax of Referring Expressions. *Linguistic Society of America: Annual Meeting Extended Abstracts* 6: 1-4. Available online: <http://journals.linguisticsociety.org/proceedings/index.php/ExtendedAbs/article/download/3046/2791>.
- TORREGROSSA, J., BONGARTZ, C. & TSIMPLI, I.M. 2019. Bilingual Reference Production. A Cognitive-Computational Account. *Linguistic Approaches to Bilingualism* 9 (4-5): 569-599.
- TREFFERS-DALLER, J. 2019. What Defines Language Dominance in Bilinguals? *Annual Review of Linguistics* 5: 375-393.
- TSIMPLI, I.M. 2014. Early, Late or Very Late? Timing Acquisition and Bilingualism. *Linguistic Approaches to Bilingualism* 4 (3): 283-313.

- TSIMPLI, I.M., SORACE, A., HEYCOCK, C. & FILIACI, F. 2004. First Language Attrition and Syntactic Subjects: A Study of Greek and Italian Near-Native Speakers of English. *International Journal of Bilingualism* 8 (3): 257-277.
- UNSWORTH, S. 2015. Amount of Exposure as a Proxy for Dominance in Bilingual Language Acquisition. In C. SILVA-CORVALÁN & J. TREFFERS-DALLER (eds.), *Language Dominance in Bilinguals: Issues of Measurement and Operationalization*. Cambridge: Cambridge University Press: 156-173.
- UNSWORTH, S. 2016. Quantity and Quality of Language Input in Bilingual Language Development. In E. NICOLADIS & S. MONTANARI (eds.), *Bilingualism across the Lifespan: Factors Moderating Language Proficiency*. Washington – Berlin: American Psychological Association – De Gruyter: 103-122.
- VAN DEN BOSCH, L.J., SEGERS, E. & VERHOEVEN, L. 2018. Online Processing of Causal Relations in Beginning First and Second Language Readers. *Learning and Individual Differences* 61: 59-67.
- VAN VLIET, S.M.K. 2008. *Proper Nouns and Pronouns. The Production of Referential Expressions in Narrative Discourse*. LOT 175. Amsterdam: Netherlands Graduate School of Linguistics.

Appendix

A3 story

Greek: Μια μέρα μια παιχνιδιάρικη καμηλοπάρδαλη αγοράκι, ο καμηλοπάρδαλης και μία χαρούμενη ελεφαντίνα, που είναι φίλοι συναντήθηκαν στην πισίνα κοντά στο σπίτι τους. Η ελεφαντίνα είδε ότι ο φίλος της κρατούσε στο χέρι του ένα αεροπλανάκι. Έπαιζε με αυτό, καθώς η φίλη του τον κοίταζε εντυπωσιασμένη. Η ελεφαντίνα κάποια στιγμή ζήλεψε, γιατί ήθελε να παίξει με αυτό. Έτσι, αποφάσισε να του το αρπάξει. Ο καμηλοπάρδαλης φώναξε: Ωχ! όχι, γιατί μου πήρες το παιχνίδι μου? Ενώ η ελεφαντίνα συνέχιζε να παίζει, το αεροπλάνο της έπεσε κατά λάθος μέσα στο νερό. Ο καμηλοπάρδαλης στενοχωρήθηκε, γιατί σκεφτόταν ότι το παιχνίδι του χάλασε. Θύμωσε τόσο πολύ, που άρχισε να φωνάζει δυνατά στη φίλη του. Αυτή τον κοιτούσε τρομαγμένη. Εκείνη την ώρα εμφανίστηκε ένας άλλος ελέφαντας, που πρόσεξε τι συνέβη και θέλησε να τους βοηθήσει. Η ελεφαντίνα πλησίασε βιαστικά προς το μέρος του. Την ίδια ώρα του ζήτησε να βρουν έναν τρόπο για να βγάλουν το αεροπλανάκι από το νερό, ενώ ο καμηλοπάρδαλης κοιτούσε με αγωνία το παιχνίδι του που βυθιζόταν. Οι δύο φίλοι κοιτούσαν τον ελέφαντα που έσκυβε, ενώ προσπαθούσε να τραβήξει μάταια το αεροπλανάκι από το νερό χωρίς επιτυχία. Τους εξήγησε ότι το αεροπλανάκι είναι πολύ μακριά και δεν μπορεί να το φτάσει. Στο μεταξύ ο καμηλοπάρδαλης έβαλε τα κλάματα, ενώ η ελεφαντίνα σκέφτονταν ότι τον έκανε στενοχωρημένο. Ξαφνικά μία έξυπνη κυρία ελεφαντίνα, που βρίσκονταν εκεί κοντά σκέφτηκε να τους βοηθήσει. Έτσι τους πλησίασε κρατώντας ένα δίχτυ στο χέρι της. Άρχισε να τραβάει το αεροπλανάκι, καθώς οι υπόλοιποι παρακολουθούσαν χαρούμενοι. Μόλις η κυρία ελεφαντίνα το πήρε, το έδωσε στον καμηλοπάρδαλη γεμίζοντάς τον με χαρά. Οι δύο φίλοι ήταν πάλι χαρούμενοι. Ο καμηλοπάρδαλης είχε το παιχνίδι του πίσω και η ελεφαντίνα είδε το φίλο της ξανά χαρούμενο.

Italian: Un giorno una giocherellona giraffa maschio, Giraffo, e un'allegria elefantessa, Elefantina, che erano amici, si incontrarono alla piscina vicino alla loro casa. Elefantina vide che il suo amico teneva fra le sue mani un piccolo aereo giocattolo. Giocava con quel gioco, mentre la sua amica lo guardava con invidia. Ad un certo punto Elefantina divenne gelosa, perché voleva giocare con quello. Allora decise di rubarglielo. La giraffa maschio urlò: "oh no! Perché hai portato via il mio gioco?". Mentre Elefantina continuava a giocare, accidentalmente l'aereo giocattolo le cadde in acqua. Giraffo si rattristò perché pensava che il suo giocattolo si fosse distrutto. Era così arrabbiato che iniziò ad urlare contro la sua amica. Lei lo guardò con paura. A quel punto apparve un altro elefante, che aveva visto cosa era accaduto e voleva aiutarli. Elefantina si diresse velocemente verso di lui. Nello stesso momento gli chiese di trovare un modo per recuperare l'aereo giocattolo dall'acqua, mentre Giraffo guardava ansiosamente il suo giocattolo che stava affondando. I due amici stavano osservando l'elefante che si sporgeva dalla piscina, mentre tentava di recuperare l'aereo dall'acqua, senza successo. Spiegò loro che l'aereo era troppo distante e che non riusciva a raggiungerlo. Nel mentre, Giraffo iniziò a piangere ed Elefantina realizzò di averlo rattristato. Giraffo iniziò a piangere mentre Elefantina aveva realizzato di

averlo rattristato. Allora un'intelligente signora elefantessa che era lì vicino decise di aiutarli. Si avvicinò a loro tenendo fra le sue mani una rete. Iniziò a tirare l'aereo giocattolo fuori dall'acqua, mentre gli altri guardavano felici. Appena la signora elefantessa lo prese, lo diede a Giraffo, riempiendolo così di gioia. I due amici erano di nuovo felici. Giraffo aveva riavuto il suo giocattolo ed Elefantina vedeva il suo amico felice.

English translation: One day a playful giraffe boy, Giraffo, and a cheerful elephant girl, Elefantina, who were friends, met at the swimming pool close to their home. Elefantina saw that her friend was holding a small toy airplane. His friend was watching him with admiration, as he was playing with it. At some point Elefantina got jealous, because she also wanted to play with the toy. She suddenly decided to take it away from him. The giraffe boy cried: "Oh no! Why did you take my toy?". While Elefantina continued to play, the toy airplane accidentally fell in the water. Giraffo was sad because he thought that the toy was ruined. He was so angry that he started shouting at his friend. She looked at him in fear. At that moment another elephant appeared, who had noticed what had happened and wanted to help them. Elefantina went quickly towards him. She asked him to find a way to get the toy plane out of the water, while Giraffo anxiously watched his toy sink. The two friends watched the elephant leaning over, while trying to pull the plane from the water unsuccessfully. He explained that the plane was far away and that he could not reach it. In the meantime, Giraffo started crying and Elefantina realised that she had made her friend sad. Then a clever, lady elephant, who was nearby, decided to help them. So she came towards them holding a net in her hand. She started to fish the toy airplane out of the water, while the others were happily watching. As soon as the lady elephant got it, she gave it to Giraffo, filling him with joy. The two friends were happy again. Giraffo had his toy back and Elefantina saw her friend happy.

B3 story

Greek: Μια μέρα μία παιχνιδιάρη σκυλίτσα και ένας χαρούμενος λαγός, που είναι φίλοι, σκέφτηκαν να πάνε μία βόλτα στο δάσος. Ο λαγός πρόσεξε ότι η φίλη του τραβούσε ένα καρότσι με ένα όμορφο μπαλόνι πάνω του. Μόλις το είδε αποφάσισε να πιάσει το μπαλόνι για να παίξει με τη φίλη του. Η σκυλίτσα όμως του είπε ότι πρώτα θα έπρεπε να το λύσουν. Ο λαγός ξεκίνησε να το λύνει, ενώ η φίλη του περίμενε ανυπόμονα να ξεκινήσουν το παιχνίδι. Κατά λάθος όμως το μπαλόνι έφυγε μέσα από τα χέρια του λαγού. Η σκυλίτσα πήδηξε ψηλά για να το φτάσει, φωνάζοντας: Ωχ όχι! Το αγαπημένο μου μπαλόνι ανεβαίνει στον ουρανό. Η σκυλίτσα θύμωσε τόσο πολύ, που άρχισε να φωνάζει δυνατά στον φίλο της. Αυτός την κοιτούσε τρομαγμένος. Ξαφνικά ο λαγός παρατήρησε έναν γερο-λαγό, που πουλούσε ένα σωρό μπαλόνια. Σκέφτηκε ότι ο μόνος τρόπος για να γίνει η φίλη του χαρούμενη είναι να της πάρει ένα καινούριο μπαλόνι. Όσο πιο γρήγορα μπορούσε, έφτασε στον γερο-λαγό και του ζήτησε το πιο όμορφο μπαλόνι που είχε, για να το δώσει στη λυπημένη φίλη του. Ο γερο-λαγός του ζητούσε λεφτά για το μπαλόνι. Έτσι, ο λαγός γύρισε τις τσέπες του ανάποδα, αλλά δεν βρήκε λεφτά. Στεναχωρήθηκε, γιατί δε θα μπορούσε να χαρίσει

το μπαλόνι στη φίλη του. Η σκυλίτσα που παρατηρούσε από ώρα και έβλεπε τι συνέβαινε τους πλησίασε. Οι δυο φίλοι τον κοιτούσαν λυπημένοι αλλά ακόμα και όταν του το ζήτησαν ευγενικά, αυτός δεν τους έδινε το μπαλόνι. Για καλή τους τύχη ο λαγός είδε τη μητέρα του να περπατάει στο δάσος και έτρεξε να την προλάβει. Της εξήγησε τι συνέβη και της ζήτησε να τους βοηθήσει. Η ευγενική μητέρα του δέχθηκε αμέσως. Έδωσε λεφτά στον γερο-λαγό και πήρε δύο μπαλόνια αντί για ένα, κάνοντας τους δύο φίλους πολύ ευτυχισμένους. Ο καθένας είχε το μπαλόνι του και όλοι ήταν έτοιμοι να ξεκινήσουν το παιχνίδι.

Italian: Un giorno una cagnolina giocherellona, Doghina e un coniglio molto felice, Rabbito, che erano amici, decisero di fare una passeggiata nei boschi. Il coniglio notò che la sua amica stava tirando un carretto con un bellissimo palloncino dentro. Appena lo vide, decise di prendere il palloncino per giocare con il suo amico. Doghina gli disse che prima dovevano slegarlo. Rabbito iniziò a slegarlo, mentre la sua amica aspettava impaziente di iniziare il gioco. Tuttavia, il palloncino scivolò accidentalmente dalle mani di Rabbito. Doghina saltò in alto per prenderlo, gridando: “Oh no! Il mio palloncino preferito sta volando via”. Doghina era così furiosa che iniziò ad urlare contro il suo amico. Lui la guardò impaurito. Solo allora, il coniglio vide un vecchio coniglio che vendeva un mucchio di palloncini. Pensò che l'unico modo per rendere la sua amica felice era prenderle un nuovo palloncino. Più veloce che poté andò dal vecchio coniglio e gli chiese il più bel palloncino che avesse per regalarlo alla sua triste amica. Il vecchio coniglio voleva del denaro per il palloncino. Allora il coniglio rovistò fra le sue tasche, ma non trovò del denaro. Era triste perché non poteva dare il palloncino alla sua amica. Doghina, che stava osservando da qualche tempo e aveva visto cosa era accaduto, li raggiunse. I due amici lo guardavano tristemente ma anche se lo stavano implorando molto educatamente, lui non avrebbe dato loro il palloncino. Fortunatamente, il coniglio vide sua madre camminare per i boschi e si affrettò per raggiungerla. Le raccontò cosa era accaduto e le chiese di aiutarli. La sua gentile madre accettò immediatamente. Diede il denaro al vecchio coniglio e comprò due palloncini invece che uno, rendendo così entrambi gli amici molto felici. Ognuno di loro aveva il proprio palloncino (simple) e allora tutti furono pronti (coo) per iniziare il gioco.

English translation: One day a playful dog, Dogina, and a very happy hare, Rabbito, who were friends, decided to take a walk in the woods. The hare noticed that his friend was pulling a wagon with a beautiful balloon on it. As soon as he saw it, he decided to take the balloon so they could play with it. Dogina told him that they had to untie the balloon first. Rabbito began to untie it, while his friend was waiting impatiently to start the game. However, the balloon accidentally slipped through Rabbito's hands. Dogina jumped high to grab it, shouting: “Oh no! My favourite balloon is flying away!”. Dogina was so upset that she started to scream at her friend. He looked at her terrified. Just then, the hare saw an old rabbit who was selling a bunch of balloons. He thought that the only way to make his friend happy was to get her a new balloon. As fast as he could he went to the old rabbit and asked him for the most beautiful balloon he had in order to give it to his sad friend. The

old rabbit asked for money for the balloon. So the hare turned his pockets inside out, but found no money. He was sad, because he could not give the balloon to his friend. Dogina, who was watching for some time and saw what was happening, went over to them. The two friends were looking at him sadly but even when they asked the old rabbit very politely, he wouldn't give them the balloon. Luckily, the hare saw his mother walking in the woods and hurried to catch her. He explained what had happened and asked her to help them. His kind mother immediately agreed. She gave money to the old rabbit and bought two balloons instead of one, making both friends very happy. Each of them had their own balloon and everyone was ready then to start the game.