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Aspectual distinctions in the narratives of bilingual children

<https://doi.org/10.1515/iral-2017-0111>

Abstract: This study investigates the production of perfective and imperfective aspect in Greek by Greek-German and Greek-English bilingual children. Participants produced retellings of narratives (ENNI, Schneider et al. 2006), which were then coded for the use of grammatical aspect, perfective and imperfective, as well as for lexical and grammatical aspect combinations. Ninety children, 8 to 12 years old, participated in the study: thirty Greek-German bilinguals, thirty Greek-English bilinguals and thirty Greek monolinguals. Although German and English differ in the linguistic expression of aspect in that German lacks morphological aspect, while English marks the +/–progressive distinction, our results reveal that the two bilingual groups did not differ in their preference for perfective aspect. Perfective aspect was also preferred by the Greek monolingual children. Nevertheless, monolingual and Greek-German bilingual children produced fewer perfective verbs compared to the Greek-English children. Finally, all three groups preferred to use perfective aspect with accomplishment/achievement predicates, whereas a difference between the three groups is found in the use of imperfective aspect with stative, activity and semelfactive predicates. This provides partial support to theories which argue for lexical aspect guiding morphological aspect marking in developing grammars.

Keywords: aspect, narratives, bilingualism

1 Introduction

Second Language Acquisition (SLA) research has investigated the acquisition of aspect focusing on how the aspectual semantics of verb predicates, i. e. lexical aspect, appears to regulate the choice of morphological aspect or tense marking in L2 learners. Learners are more likely to use past tense marking with inherently telic predicates, i. e. those which denote a natural endpoint such as ‘die’ or

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‘paint a picture’ than with atelic ones. For instance, the English progressive verbal suffix *-ing* is usually attached to activities which encode durativity or dynamicity, such as ‘swim’ or ‘play’ (e.g. Bardovi-Harlig and Reynolds 1995; Bardovi-Harlig 2005; Ayoun and Salaberry 2008), providing further support for the interaction between lexical aspect and tense or aspect marking. These findings are usually framed within the Aspect Hypothesis (Andersen and Shirai 1994), which prioritizes aspectual meaning on verbs and predicates over grammatical aspect and tense markers in L2 acquisition. Continuing this line of inquiry, the first goal of the present study is to investigate the mapping between lexical and grammatical aspect in Greek-German and Greek-English bilingual children and contribute to the relevant literature on L1 and L2 acquisition. To date, only a few studies have investigated the acquisition of grammatical aspect and the interaction between lexical and grammatical aspect in bilingual children with Greek as one of their languages (e.g. Kaltsa and Tsimpli 2012; for Greek-Albanian children; Dosi et al. 2016; for Greek-English children). Our hypothesis is that bilingual children’s production of aspectual forms will be affected by lexical aspect as suggested by relevant research for bilingual children up to the age of 8 (see for instance Hodgson 2005; Gupol et al. 2012).

Grammatical/morphological aspect is a property which shows crosslinguistic variation in two ways: whether a language encodes grammatical aspect and, if so, which aspectual categories mark the oppositions attested, e.g. *+/-perfective* or *+/-progressive*. German is a language which does not encode aspect morphologically but conveys aspectual distinctions through lexical means (Grebe and Gripper 1973; Götze and Hess-Lüttich 2002). English is a language with grammatical aspect encoding a binary opposition of *[+/-progressive]* (see (3) below) while Greek encodes *[+/-perfective]* (see (1)-(2) below) but not progressive. Other languages (e.g. Albanian or Spanish) morphologically encode both perfective and progressive features (Salaberry 1999). The second aim of this paper is to examine possible crosslinguistic influence on aspectual use in bilingual children’s grammars. Our hypothesis is that Greek-English children should be more accurate in the use of aspectual morphology in Greek compared to Greek-German children on the grounds that English but not German encodes morphological aspect albeit differently from Greek.

Our study also aims to examine the use of aspect in narrative production, thus contributing to the methodological discussion regarding different types of tasks used to examine acquisition of aspect in the first or second language. To the best of our knowledge, there are no studies on aspect in bilingual children with Greek as one of the two languages using narratives as an assessment tool.

In this way, we can compare the findings of previous research on the mapping of grammatical and lexical aspect by Greek bilingual children with those provided by narrative data.

2 Background

Tense and aspect are categories which characterize the event expressed by the predicate. Tense anchors the event in time while aspect allows us to view the internal temporal structure of the event (Chung and Timberlake 1985). Aspect is associated with lexical and grammatical information. The former is often referred to as *Aktionsart* and is typically determined by the lexical semantics of the verb. Lexical aspectual distinctions differentiate telic from atelic verbs. According to Vendler's (1957) aspectual classes, states and activities are atelic while achievements and accomplishments are telic (also see Dowty 1979). Nevertheless, telicity can shift as a result of aspectual coercion, whereby the aspectual class of a verb can change into a different one as a result of syntactic or clausal properties. For example, although *build* is an activity, *build a house* is an accomplishment. This shift affects telicity which is thus shown not only to be lexically but also syntactically defined.

In language development, morphological aspect has attracted a lot of attention both in first and second language acquisition (see for instance, Montrul and Slabakova 2003). According to several studies (Weist et al. 1991; Kazanina and Phillips 2003) on the acquisitional patterns of grammatical aspect, monolingual children initially produce perfective more frequently than imperfective forms (Bronckart and Sinclair 1973 for French; Antinucci and Miller 1976; for Italian; Christofidou and Stephany 2003; for Greek). In Greek L1 acquisition, perfective and imperfective verb forms are attested from the earliest stages of language production and most of the times in appropriate contexts (Katis 1984; Tsimpli 1996). In many instances where perfective forms are produced in ungrammatical contexts, the intended interpretation is that of futurity or modality and in few cases that of perfective past (Tsimpli 1996; cf. Varlokosta et al. 2008). The earlier acquisition of perfective aspect compared to the imperfective, has been attested in studies of L2 learners too (Shirai and Andersen 1995; Bardovi-Harlig 2000; Papadopoulou 2005). Which of the aspectual features encoded by imperfective marking appear to be more problematic, hence delayed in the use of imperfective, is still a matter of debate. For instance, features expressing continuity, progressivity and habituality have been isolated in several studies. Evidence from studies in L2 learners points to the conclusion that habituality is acquired

before progressivity in some languages (Wiberg 1996; for Italian; Kihlstedt 2002; for French) but not in all languages (Papadopoulou 2005 for Greek) where the opposite pattern is found.

The Aspect Hypothesis makes specific predictions regarding the precedence of the verb's semantics (Andersen and Shirai 1994, 1996). Specifically, it predicts that the perfective will first appear with achievement predicates, then with accomplishments and finally with states and activities. On the other hand, mastery of the imperfective is expected to follow the perfective and will first appear with states, then with activities and finally with accomplishments and achievements (Shirai and Andersen 1995; Liskin-Gasparro 2000; Salaberry 1999, 2002). Moreover, it is expected that telic verbs, namely accomplishments and achievements, will be mostly preferred with perfective aspect, whereas atelic verbs, activities, states and semelfactives, will be more compatible with imperfective aspect. To date, various studies in different languages (Bloom et al. 1980; for English; Aksu-Koç 1988; for Turkish; Bronckart and Sinclair 1973; for French; Tsimpli 1996; Christofidou and Stephany 2003; for Greek) have provided support for the Aspect Hypothesis although other child language studies dispute it on the grounds of evidence from comprehension (Wagner 1999; Delidaki and Varlokosta 2003; for Greek; Kazanina and Phillips 2003; for Russian).

Although the debate about the Aspect First Hypothesis concerns primarily very young monolingual children, studies on the comprehension of aspectual distinctions and telicity have been carried out with older children as well, both at preschool and school age. Some difficulties in the comprehension of aspect in certain contexts have been identified. For instance, van Hout's (2005, 2008) studies showed that children as old as five tend to associate imperfective telic predicates to complete events. Similar results are reported by Konstantzou et al. (2012) who investigated 4 and 5 year-old Greek-speaking children who were found to use perfective aspect for completed situations correctly, but showed problems with imperfective aspect used for incomplete events. Furthermore, experimental work on the development of aspect in monolingual Greek children from 5 to 9 years old (Kaltsa 2012; Kotroni 2014) has shown better performance in the comprehension of perfective activity/accomplishment verbs denoting completed events while a subcategory of activities, namely motion predicates, showed earlier acquisition of imperfectives.

As already mentioned above, several L2 studies prioritize Aspect over Tense in development (Robinson 1995; Bardovi-Harlig 1995; Bardovi-Harlig and Bergstrom 1996), showing a tendency for L2 speakers to produce perfective in the past more often with achievements than with accomplishments, activities or states. However, contradictory results have also been reported. For example, Rohde's (1996) study of aspect production in German-speaking child L2 learners

of English found that progressive aspect was more frequently used with achievements than with activities at the age of six.

It thus appears that there is a discrepancy between spontaneous and elicited production data, as well as between comprehension and production studies of aspect in many languages, indicating a possible methodological effect. The current study provides a set of data from elicited narrative retellings produced by simultaneous and early bilingual children, speaking Greek as one of their languages. Narrative discourse requires good management of past and present events, sequencing and/or embedding them depending on their complete or ongoing status in the story (Schramm 1998). Accordingly, narratives can be an appropriate tool to investigate the production of aspectual forms and their preferred use with verbs of different aspectual classes. Many studies have already used narratives as a way of addressing the Aspect Hypothesis (Bardovi-Harlig and Bergstrom 1996 for written narratives (film retell), Bardovi-Harlig (1998) for written and oral narratives (film retell), Salaberry 1998, for written narratives (film retell) etc.). Using narratives as an assessment tool in studying tense and aspect phenomena has some advantages compared to elicitation tasks. As claimed by Bardovi-Harlig (2000), the use of elicitation tasks alone does not allow us to have a clear picture, since “the pursuit of generalizability of research results requires large samples and unambiguous cases which often subtly steer research design away from unguided learner production to more controlled tasks” (2000: 191–192). In other words, she suggests that narratives are a task least influenced by experimental design. More advantages are found in the mode of retelling, since content is already provided to the learners and less talkative learners are offered a certain amount of information to report (Bardovi-Harlig 1995). Finally, retell tasks may encourage some learners to produce longer samples than they would otherwise (Bardovi-Harlig 1998). Another reason why narratives constitute an appropriate tool for the investigation of tense-aspect morphology is the fact that two different hypotheses can be tested. Specifically, the Aspect Hypothesis which argues that the distribution of interlanguage verbal morphology is determined by lexical aspectual classes, and the Discourse Hypothesis which is arguably determined by narrative structure (Bardovi-Harlig 1998) as well.

3 Aspect in Greek, English and German

Greek is a language with grammatical aspect. Past and non-past verb forms in Greek exhibit morphological aspectual distinctions of perfective and

imperfective (Holton et al. 1997; Tsangalidis 1999; Moser 1994). Perfectivity allows the speaker to make the endpoint of the event visible while imperfective aspect allows the speaker to focus on the duration of the event rather than its initial or final points (Smith 1991). Imperfective verb forms can be interpreted either as progressive/continuous or as habitual. Illustrative examples are provided in (1) and (2) below:

- (1) *Evapse* *ton tixo*.
 painted-PERF.3S the- ACC wall
 ‘(S)he painted the wall.’
- (2) *Evafe* *ton tixo*.
 painted-IMP.3S the- ACC wall
 ‘(S)he was painting the wall /She used to paint the wall.’

As in many other languages, the perfective in Greek is considered the default aspectual form for the past tenses (Comrie 1976; Xydopoulos 1996).

In English, morphological aspect is encoded as +/–progressive with the distinction best described in the past as in the examples in (3a & b) below:

- (3) a. John ate apples.
 b. John was eating apples.
 c. John used to eat apples.

Thus, habituality is usually expressed with –progressive marking (3a) while ongoing events with progressive aspect. Habituality in the past can also be unambiguously expressed periphrastically, i.e. *used to* + Verb complex as in example (3c). German lacks morphological aspect altogether, with aspectual distinctions being lexically expressed.¹

4 Aspect in Greek in bilingual children’s grammars

There are few studies investigating the comprehension or production of aspectual forms in bilingual children’s data with Greek as the target language.

¹ For instance, one way of expressing progressive meaning in German is by using adverbs such as *gerade* (= just) and *schon* (= already), or by periphrastic forms like *dabei sein zu* + infinitive (= while infinitive –ing) and *am* plus infinitive *sein* (infinitive –ing).

Kaltsa and Tsimpli (2012) examined production and comprehension of aspect and telicity in activity/accomplishment and in motion verbs with a locative (atelic) or directional (telic) reading by bilingual Albanian-Greek children. In this study, the comprehension task consists of short video stimuli, in which for each verb two videos were constructed, one presenting a telic/complete event and the other an atelic/ongoing one. In the production task, the participants watched one video each time with either the telic or atelic condition, and then a test question followed. The participants were then asked to describe the event. The results show that appropriate use of aspectual marking of (a)telicity in activity predicates appears earlier than in motion verbs, and that bilingual children rely primarily on the $+/-$ motion differences in coding morphological aspect. Dosi et al. (2016) investigated the comprehension of perfective and imperfective aspect in Greek-English bilingual children. In this study, a forced choice oral task was used in which the children had to select between the perfective and imperfective aspect of a particular verb. Specifically, this task consisted of short stories which tested perfective, [+continuous] imperfective and [+habitual] imperfective as experimental conditions. Their findings revealed problems with imperfective aspect, especially when it denoted habituality. Also, bilingual children's performance in Dosi et al's (2016) study suggested no link between lexical and grammatical aspect.

5 Method

5.1 Participants

Three groups of children participated in the study: thirty Greek-German bilingual children (mean age: 10;3 years; $SD=1.3$; age range: 8;0–11;9), thirty Greek-English bilingual children (mean age 10;5 years; $SD=1.2$; age range 8;7–12;0) and thirty age-matched Greek monolingual children (mean age 10;3 years; $SD=0.9$; age range 8;0–12;0).² The three groups did not differ in chronological age [$F(2,89)=1.533$, $p=0.255$]. In the Greek-German group, half of the participants were recruited from an immersion bilingual setting in Greece, with

² This study is part of a larger project (Thales FP7 Project “Bilingual Acquisition and Bilingual Education: The Development of Linguistic and Cognitive Abilities in Different Types of Bilingualism”) which also examined literacy and cognition in bilingual children, hence older (8–12 year olds) children were the target age group.

German as the main medium of instruction. The remaining half were recruited from a 'weak maintenance' type of bilingual setting in Germany where the minority language was offered after school hours. The participants in the Greek-English group were recruited from an immersion bilingual setting in Greece, with English as the main medium of instruction (20 hours) and Greek offered as a language class for 5 hours per week. The Greek monolingual children were recruited from mainstream schools situated in northern central Greece.

Demographic and input questionnaires were used to gather background information on the bilingual participants' language and literacy history and practices (Mattheoudakis et al. 2014). Questions on the following three topics were included: (a) home language history, (b) current language use, and (c) early literacy practices. Home language history refers to the child's exposure to each language from birth up to the age of schooling (i. e. the age of 6). Current language use refers to the child's language preferences for daily activities, oral interaction with family members and friends. Early literacy practices refer to activities such as shared-book reading in preschool age and the frequency of language choice for this activity.

With respect to home language history, the questionnaire data show that the Greek-German group used Greek more frequently compared to the Greek-English group [$t(30) = 2.914$, $p = 0.006$]. Similarly for the topic of current language use, the Greek-German children were found to use Greek more frequently in their everyday life compared to the Greek-English children [$t(30) = 2.652$, $p = 0.008$]. On the other hand, the two groups were not found to differ with respect to early literacy practices, since both groups were exposed to Greek more frequently than German or English.

With respect to age of onset of exposure to both languages (i. e. the topic of home language history), the majority of our participants were either simultaneous (Greek-German: 68% and Greek-English: 72%) or early sequential bilinguals (Greek-German: 32% and Greek-English: 28%), with exposure to the second language between the ages of 3 and 4 (De Houwer 1995).

Finally, socioeconomic status (SES) was measured through the number of years of the mother's education (Hoff et al. 2002). Specifically, SES was measured on a 5-point Likert-type scale, with 5 representing the highest educational level attained. Results indicated that there was a significant group effect [$F(2,89) = 15.221$, $p < 0.001$] attributed to the Greek-English group's mothers' education being significantly higher than the Greek-German's and the monolinguals' ($p < 0.001$, for both cases). On the other hand, no significant SES differences ($p > 0.723$) were detected for the comparison between the Greek-German and the monolingual children (see Table 1).

Table 1: Participants’ biodata (means and SDs).

Group	Age M (SD)	SES M (SD)
Greek-German (N = 30)	10.3 (1.3)	3.5 (1.57)
Greek-English (N = 30)	10.5 (1.2)	4.5 (0.33)
Monolinguals (N = 30)	10.3 (0.9)	3.1 (1.62)

5.2 Screening tasks

The screening tasks used in the study provide the profile of our bilingual participants. Specifically, the *Expressive Vocabulary Test in Greek* addressed the question of the alleged correlation between the children’s vocabulary scores and their choices of perfective and imperfective forms. The *non-verbal intelligence task* was used in order to ensure that our three groups are comparable.

5.2.1 Expressive vocabulary tests in Greek

A standardized (for monolingual Greek children) Greek expressive vocabulary test was used to assess children’s proficiency in the language (Vogindroukas et al. 2009; adaptation from Renfrew 1995). The task consists of 50 black-and-white pictures depicting commonplace objects which the child was asked to name. The procedure is the following: Testing was terminated when the child either finished all naming trials or failed to respond correctly in five consecutive trials.

A one-way ANOVA with group as the between-group variable revealed a significant group effect [$F(2,89) = 7.230$, $p = 0.001$]. Post hoc tests (Bonferroni) showed that the monolingual children scored significantly higher (45.1) than Greek-German (37.2) and Greek-English (35.2) children ($p = 0.004$ and $p = 0.002$, respectively). There was no significant difference between the Greek-German and the Greek-English group (see Table 2).

5.2.2 Non-verbal intelligence

To measure children’s nonverbal abilities, the Raven’s Coloured Progressive Matrices (Raven’s et al. 2008) was used. The children were asked to complete

Table 2: Groups’ mean raw scores (and *SDs*) on expressive vocabulary in Greek and non-verbal intelligence.

Group	Expressive Vocabulary in Greek (Maximum score: 50) M (<i>SD</i>)	Non-verbal intelligence (Maximum score: 36) M (<i>SD</i>)
Greek-German (<i>N</i> = 30)	37.2 (3.9)	31.2 (2.1)
Greek- English (<i>N</i> = 30)	35.2 (4.9)	33.2 (2.8)
Monolinguals (<i>N</i> = 30)	45.1 (2.9)	30.4 (2.3)

three levels of twelve test items each, consisting of visuo-spatial conceptual matching exercises, increasing in difficulty. Each correct answer was scored as 1 point and there were no points for wrong responses. The maximum score was 36 points.

In the Raven’s task we did not detect a significant group effect [$F(2,89) = 1.411$, $p = 0.615$] showing that all groups were similar.

5.3 Narrative oral retelling task

Children’s narratives were elicited by retelling the two stories of the ENNI tool (Schneider et al. 2006). *A3* and *B3* stories include four characters and consist of 13 pictures. We decided to use the retelling mode since it has been argued that through retelling we are able to see how children can reproduce a story’s grammatical structures and how they can sustain the level of vocabulary as they heard it (Tager-Flusberg and Sullivan 1994).

5.3.1 Transcription and coding

Children’s retellings were audiotaped and transcribed. Then we randomly selected 25% of the narrative samples, which were re-transcribed by another person for reliability purposes. Transcripts were then compared on a word-by-word basis and the percentage agreement mean was calculated by dividing the total number of words in agreement by the total number of words included in the original transcripts. The percentage agreement mean reached 97.2%.

Coding targeted the use of perfective and imperfective but only in the past. Past events are more easily perceived as completed hence raising the possibility of a bias towards perfective aspect. However, due to the relatively small number of verbs used in the present (7% of the total number of verbs), we decided to exclude present tense verbs altogether. Proportions of verbs belonging to the aspectual classes of achievements (*vrika* “found”) and accomplishments (*piga* “went”) were grouped together in a single class (achievements/accomplishments). Similarly, semelfactives (*eviksa* “coughed”), activities (*akousa* “heard”) and states (*agapisa* “loved”) were grouped together in a second aspectual class (semelfactives/activities/states). The measures concerning the use of perfective/imperfective in the past as well as the use of lexical and grammatical aspect combinations of each child’s narrative transcript were scored manually, by dividing the number of verb forms for each of the following four categories by the total number of perfective and imperfective verbs in the narrative. Specifically, for (1) perfective, i. e. number of perfective verb forms divided by the total number of verbs; (2) imperfective, i. e., number of imperfective verb forms divided by the total number of verbs; (3) achievements/accomplishments, i. e. number of perfective verb forms divided by the total number of verbs; and, (4) semelfactives/activities/states, i. e. number of perfective verb forms divided by the total number of verbs (see Table 3).

5.3.2 Procedure

The children were shown three coloured envelopes on the computer screen. Then, the child listened to the story with headphones while being shown two pictures at a time. At the end of the story, the children were asked to retell the story to an uninformed person who had not been listening to the story or looking at the pictures.

The testing took place in a quiet room at the children’s schools and was carried out by trained researchers who were fluent in Greek. There were two sessions with approximately one week apart from each other. Each testing session lasted approximately 60 minutes, including play breaks. Children were rewarded for their participation with small gifts (e. g. stickers, pencils, etc.) or snacks. The tasks were administered in a fixed order that aimed to optimally vary the task demands from one task to the next and minimize fatigue. Specifically the tasks were ordered as follows: narrative retelling, Greek Expressive Vocabulary, non-verbal intelligence, and questionnaire. The child questionnaires were carried out with the help of researchers, who interviewed the bilingual children in either language as preferred by the individual child.

Table 3: Groups' mean raw scores (and %) with regard to the two aspectual classes.

	Greek-German			Greek-English			Monolinguals		
	Perfective	Imperfective	Total number of verbs	Perfective	Imperfective	Total number of verbs	Perfective	Imperfective	Total number of verbs
Achievements/ accomplishments	130 (80.3%)	32 (19.7%)	162	143 (78.1%)	40 (21.8%)	183	126 (76.3%)	39 (23.6%)	165
Semelfactives/ activities/states	49 (41.5%)	69 (58.4%)	118	90 (69.7%)	39 (30.2%)	129	51 (40%)	80 (60%)	131

6 Results

Figure 1 presents the mean percentage scores (%) for each group and aspectual forms. There is a clear preference for perfective across groups. Nevertheless, the three groups differ from each other in the strength of their preference for perfective [$F(2,89) = 4.930$, $p = 0.009$] and [$F(2,89) = 5.112$, $p = 0.011$] for imperfective verbs. Bonferroni's post hoc tests show that Greek-German and monolingual children produced fewer perfective verbs (63.9% and 60% respectively) compared to Greek-English children's production (74.6%) ($p = 0.012$ and $p = 0.006$, respectively). The opposite pattern was found in the use of imperfective, with Greek-German and monolingual children producing higher percentages of imperfective (36.1% and 40%, respectively) than Greek-English children (25.4%) ($p = 0.009$ and $p = 0.013$, respectively).

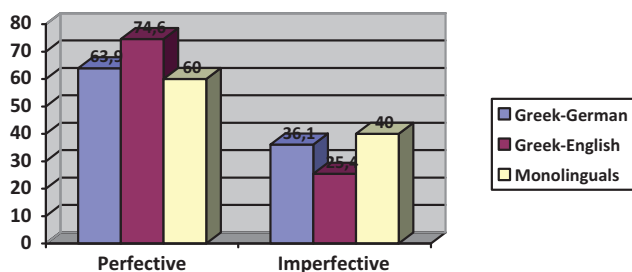


Figure 1: Participants' percentage scores on perfective and imperfective.

To further explain the participants' performance in the use of imperfective, we ran linear stepwise regression analysis only for bilingual children. Hence, we set as independent variables *Age*, *Greek Expressive Vocabulary* and *Home Language History in Greek* ($r(60) = 0.219$, $p = 0.035$ and $r(60) = 0.382$, $p = 0.003$, $r(60) = 0.587$, $p < 0.001$, respectively). The results show that the main predictor was *Home Language History* ($R^2 = 0.601$, $F(1,60) = 5.294$, $p = 0.031$; $\beta = 0.553$). Accordingly, we carried out an ANCOVA with *Home Language History* as a covariate. A main effect of *Home Language History in Greek* was found [$F(1,60) = 13.279$, $p = 0.001$, $\eta^2 = 0.220$]; after controlling for this variable, the results showed that the Greek-English and the Greek-German children perform similarly in the imperfective, indicating that the degree of Greek input at home in preschool age was the critical factor affecting the difference between the two groups in the use of imperfective verb forms.

In order to examine the role of lexical aspect in the use of morphological aspect as suggested by the Aspect Hypothesis, we categorized verbs according to

aspectual class. Our main questions were whether perfective was mostly used with achievement/accomplishment predicates and whether imperfective was mainly used with semelfactive/activity/state predicates. As shown in Table 3, the data aligned with our expectations in that all groups tended to match achievement/accomplishment with perfective aspect. One-way ANOVAs did not reveal any significant differences among the three groups, either in the use of perfective [$F(2,89) = 1.528$, $p = 0.334$] or in the use of imperfective [$F(2,89) = 1.112$, $p = 0.223$].

However, when considering semelfactive/activity/state verbs, all of which were expected to be mostly used with imperfective, the two bilingual groups exhibit different performance, and the Greek-English group does not align with the majority of findings of previous research. Specifically, a one way-ANOVA [$F(2,89) = 3.212$, $p = 0.001$] revealed that Greek-German and Greek monolingual children tend to use more imperfectives with semelfactive/activity/state predicates compared to Greek-English children ($p < 0.001$, in both cases).

In our effort to further explain participants' performance in the aspectual class of semelfactive/activity/state, we ran linear stepwise regression analysis only for bilingual children. In this case, the independent variables were *Age*, *Greek Expressive Vocabulary* and *Home Language History in Greek* ($r(60) = 0.119$, $p = 0.040$ and $r(60) = 0.182$, $p = 0.038$, $r(60) = 0.382$, $p < 0.001$, respectively). The results show that the main predictor was only *Home Language History* ($R^2 = 0.301$, $F(1,60) = 3.113$, $p = 0.002$; $\beta = 0.332$). An ANCOVA with the same variable was carried out and revealed a main effect of *Home Language History in Greek* [$F(1,60) = 12.889$, $p = 0.001$, $\eta^2 = 0.310$]. When controlling for this variable, the Greek-English children were still found to use more perfective forms compared to Greek-German children [$F(1,59) = 2.825$, $p = 0.032$].

7 Discussion

The present study examined the use of perfective and imperfective aspect in Greek by Greek-German and Greek-English bilingual children focusing on (a) the link between lexical and grammatical aspect and (b) crosslinguistic influence.

Using a narrative retell task, a clear preference in the use of perfective forms was found for all children (see also Cuza et al. 2013; Slabakova and Montrul 2007 for L2 adult data). The predictions of the Aspect Hypothesis were only partially confirmed in the categories of accomplishments and achievements, possibly due to the overuse of perfective aspect. Given that the narratives were mostly expressed in the past, and that the default aspectual form for past events

is the perfective (Xydopoulos 1996), the preponderance of perfectives is unsurprising. Furthermore, narrative production triggered through pictures is more compatible with perfective, as the stories can be easily interpreted by children as completed (Slabakova and Montrul 2007). The Aspect hypothesis however was not confirmed when considering the use of imperfective forms: Greek-English children had problems with the use of imperfective aspect in the category of semelfactive/activity/state predicates.

With respect to the question of crosslinguistic influence, the differences between the production of imperfectives by Greek-German as opposed to Greek-English children offers supporting evidence, albeit in the unexpected direction. Specifically, the fact that Greek-German children were more similar to the monolingual Greek children in the frequency of use of imperfective verbs might be taken to imply that crosslinguistic influence is facilitatory when the ‘other’ language lacks morphological aspect (see Cuza et al. 2013 for similar findings). In this respect, the higher overuse of perfectives by Greek-English bilingual children could be an indication of an unresolved conflict between the aspectual systems of the two languages. An alternative explanation for the bilingual groups’ differences may have to do with differences in the amount of Greek input that the two groups had. As shown by the questionnaire data and the regression analyses which included the variables of Age, Greek Expressive Vocabulary and Home Language History in Greek, the most significant predictor of the differences between the two bilingual groups was the Home Language History in Greek. In particular, the Greek-German children had more Greek input from their parents up to the age of 6 than the Greek-English children. As numerous studies so far have revealed, input quantity can have a direct effect on performance in this language (see also Unsworth 2016; Hoff and Core 2013; Paradis et al. 2011).

Notice however that although the role of input in the form of Home Language History in Greek was significant, language proficiency showed no interaction with the use of (im)perfective forms in Greek, in contrast to previous studies. Specifically, Wilberg (1996) examined Italian-Swedish bilingual children and adolescents (8–17 years old) using narratives and found that they produced the *passato prossimo* in Italian with both telic and atelic predicates. However, this tendency diminishes as the language proficiency increases (see also Salaberry 2002; Ayoun 2005; etc. for similar findings). In particular, given that the two bilingual groups did not differ from each other in their expressive vocabulary scores in Greek, the differences exhibited in their respective use of perfective and imperfective forms cannot be attributed to proficiency (cf. Slabakova and Montrul 2007). This is more so, since the Greek-German children performed more similarly to the Greek monolinguals than the Greek-English bilinguals. Nevertheless, the frequency of imperfectives was

positively correlated with Greek vocabulary scores. We would thus like to suggest that the default status of perfective in the context of narrative retelling is orthogonal to language proficiency. On the other hand, imperfective aspect is more complex in its use if only because it can denote either habituality or progressivity depending on the discourse context. Imperfective uses are thus more likely to be sensitive to input and proficiency levels than perfective forms.

To summarize, the present study has contributed to the question of the lexical-grammatical aspect guiding or facilitating aspect acquisition. The data presented here show that this mapping may not play a critical role in the choice of morphological aspect forms in bilingual children's production. Instead, what seems to be guiding the overuse of perfectives is the default status of perfectivity for the description of past events in the context of narrative discourse. The role of crosslinguistic influence in the use of imperfectives as indicated by the similarity of the Greek-German bilingual production to the monolingual children's use of this form, seems to indicate that the absence of aspectual morphology in one language facilitates its acquisition in the other. However, given that exposure to Greek was higher for the Greek-German bilinguals this may be a contributing factor to their better use of the 'marked', imperfective form compared to the other bilingual group.

Acknowledgments: Thales FP7 Project "Bilingual Acquisition and Bilingual Education: The Development of Linguistic and Cognitive Abilities in Different Types of Bilingualism" (BALED—Award No MIS377313, Principal Investigator: Prof. Ianthi Tsimpli). This research has been co-financed by the European Union (European Social Fund—ESF) and Greek national funds through the Operational Program "Education and Lifelong Learning" of the National Strategic Reference Framework (NSRF)—Research Funding Program: Thales. Investing in knowledge society through the European Social Fund.

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