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Sentence Repetition Task as a measure of language dominance

Several methodologies have been proposed to assess bilinguals' dominance (lexical proficiency, language experience, mean length of utterance – see Treffers-Daller 2019). However, as far as we know, no existing study relies on Sentence Repetition Tasks (SRTs). SRTs are usually considered as useful tools for assessing bilingual children's language abilities (e.g., Marinis & Armon-Lotem 2015; Thordardottir & Brandecker, 2013). The main challenge of using a SRT as a measure of dominance for bilinguals is to rely on comparable grammatical structures across the two languages (Treffers-Daller, 2019). The aim of this paper is to create comparable versions of SRTs and validate SRTs (intended as differential scores between the scores obtained in the two languages) as a method to assess dominance, by investigating their correlations with more traditional methods for the assessment of dominance, i.e., lexical proficiency and measures of language experience.

The data are drawn from 38 (8-12 yrs) Greek-Italian bilingual children, who live in Greece and attend an Italian immersion school. In order to assess dominance, we used an expressive vocabulary task in each language (both versions being adaptations of Renfrew, 1995), considering the differential score between the two languages. Background questionnaires were also administered concerning participants' past and current language and literacy practices. We identified four main modules (home language history, early literacy, current literacy and current language use). For each module, we assigned each language a score, which was the sum of the scores from the individual answers and then we subtracted one language total (Greek) from the other (Italian). Furthermore, we calculated a cumulative index of language exposure, which was the sum of the partial scores obtained in the different modules (*Bilingual Index Score*, BIS). Finally, we administered two SRTs, one for Greek and one for Italian. In each language, the two versions target exactly the same types of structures, which is allowed by the fact that Italian and Greek pattern the same with respect to several syntactic phenomena (see Table 1). Across the two tasks, all sentences are matched for number of words and syllables. For the choice of the structures we relied on the guidelines provided by the Bilingualism-SLI COST Action IS0804 (Marinis & Armon-Lotem 2015), including structures that vary with respect to the presence (vs. absence) of embedding or movement. The target sentences were presented as connected to each other to form a story about an alien and a beaver. For the analysis here, we only considered if the child was able to reproduce the target structure (independently of changes in other parts of the sentence), giving either 0 or 1 point(s). The maximum score for each SRT was 31. Moreover, within the SRT, we identified two different types of structures: *early-acquired structures* (max=13) and *late-acquired structures* (max=10) (see Table 1), based on Tsimpli (2014). This way, we will test if the performance related to different structures is sensitive to different components of the questionnaire analysis (past and current language use).

The results reveal that the differential scores in the SRT correlate with both difference in vocabulary ($r = .633^{**}$, $p = .000$) and BIS ($r = .462^{**}$, $p = .004$) – Fig. 1 and 2. A hierarchical multiple regression analysis shows that home language history is the most significant predictor for children's performance on *early-acquired structures* ($r = .459^{**}$, $p = .004$) (Fig3), while current language use was the only factor affecting children's *late-acquired structures* ($r = .355^{*}$, $p = .031$) (Fig4).

This study validates SRT as a measure of dominance, since differential scores in SRT correlate with commonly used measures for the assessment of dominance (vocabulary and language experience). Furthermore, SRT-related measures appear to be sensitive to measures of language experience in different contexts across time, as shown by the correlation between early-acquired and late-acquired structures with home language history and current language use, respectively. Other measures of dominance (such as vocabulary) do not always allow for this fine-grained analysis.

Table 1: Italian and Greek Sentence Repetition Task: sentence types.

Late-acquired structures	Adverbial clauses	<i>L'alieno e' tanto triste perché non e' riuscito a guidarla.</i> <i>O eksogiinos ine stenoxorimenos giati de bori na to odigisi.</i> [The alien is so sad because he could not drive it].
	Clitic left dislocations	<i>Il castoro, l'alieno lo vuole portare con se' sul suo pianeta.</i> <i>Ton kastora ton ithele o eksogiinos na ton pari ston planiti tou.</i> [The beaver <small>ACC.MASC.SG.</small> the alien wants to take him with him on his planet]
	Referring expressions	<i>Il castoro chiede all'alieno. E lui risponde in modo serio:</i> <i>O kastoras rotise ton eksogiino. Ke aftos apantise sovara:</i> The beaver asked the alien. And he responded seriously:
	Object relatives	<i>I castoro trova i pezzi che l'alieno sta cercando</i> <i>O kastoras vrike ta komatia ta opia epsaxe o eksogiinos</i> [The beaver finds the pieces that the alien is looking for]
	Object wh-questions	<i>Chi stanno cercando gli alieni sul nostro pianeta e perche'?</i> <i>Pion psaxnoun oi eksogiini ston planiti mas kai giati?</i> [Who are the aliens looking for on our planet and why?]
	Long actional passives	<i>La navicella puo' essere guidata di nuovo dall'alieno.</i> <i>To diastimoplio itan etimo na odigithi apo ton eksogiino.</i> [The spacecraft can be guided again by the alien]
Early-acquired structures	Complement clauses	<i>L'alieno gli dice che la navicella ha smesso di funzionare.</i> <i>O eksogiinos tou ipe oti to diastimoplio stamatisè na doulevi.</i> [The alien tells him that the spacecraft has stopped to work]
	Subject relatives	<i>C'era una volta un alieno che andava sulla Terra con la sua navicella.</i> <i>Mia mera itan enas eksogiinos pou taksideve sti gi me to diastimoplio tou.</i> There was once an alien that was travelling to Earth with his spaceship.

Figure 1

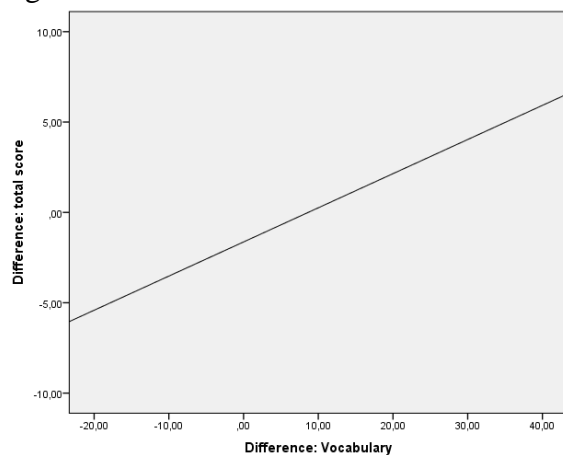


Figure 2

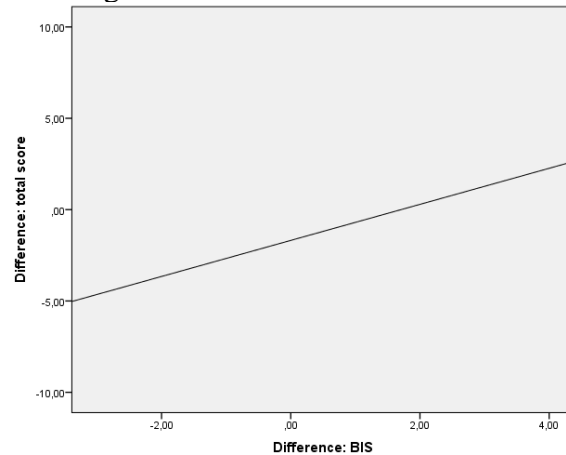


Figure 3

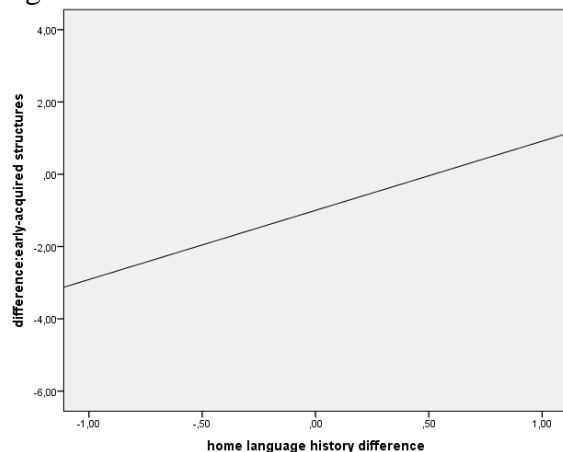
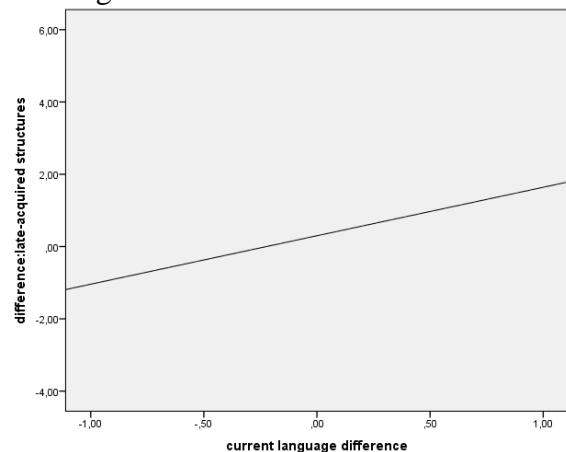


Figure 4



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The role of L1 in adult L2 acquisition of Italian *anche* and German *auch*

In the present study we discuss data from adult L2 acquisition of additive focus particles of the *also* kind across German and Italian with the general aim to shed light on the mechanisms that govern the L2 acquisition of elements that have an import on the interface between syntax and pragmatics. German *auch* and Italian *anche* can both modify the meaning of a sentence by taking scope over a constituent (its domain of application, DoA) in order to add it to a presupposed set of items (e.g. the set of people who ordered wine in 1; see König, 1991). However, in German and Italian the task is carried out through different syntactic and prosodic means, which represent an ideal field for cross-linguistic comparison. We analyze data from two populations: native Italian speaker who learn German as L2 (**L2GER**) in contrast to data from native German speakers who learn Italian as L2 (**L2ITA**, data first presented in Author, 2017), plus two control groups of monolingual native speakers of German and Italian. We will show that there is an asymmetry in the acquisition of L2GER and L2ITA, which points towards the idea that a fixed syntactic position is easier to learn than a variable one, although the former is less transparent than the latter with respect to the domain of application.

In our study, we analyze three conditions that depend on the grammatical function of the constituent the additive focus particle scopes over: scope on Subject-DP (1); scope on Object-DP (2) and scope on the predicate (3). Italian *anche* takes scope to its right (b sentences) and is usually adjacent to its domain of application (i.e. *anche* precedes the constituent it scopes over); on the contrary, German *auch* can take scope both to its left (1a) and to its right (2a and 3a), and adjacency between the focus particle and its domain of application is not mandatory (see 1a). Prosody is therefore responsible for scope ambiguity resolution: the domain of application is characterized by pitch accent (2a and 2c), unless this is followed by the focus particle, in that case the pitch accent is carried by *auch* (see 1a, cfr. Nederstigt, 2006). Participants are tested in their L2 target language; they are presented a sentence context which biases the interpretation towards either one of the three experimental conditions (1-3) and are then requested to select among three follow-up sentences (grammatical, marked and ungrammatical) which varies according to the position of *anche/auch*. Their performance is compared to that of two groups of German/Italian native speakers. **L2GER** learners (L1 Italian) perform well in all conditions (range of grammatical follow-up sentences selected: 86%-89%), i.e. they can identify the correct position of the additive focus particle in the middle field right after the tensed auxiliary, from where the particle can take scope on different constituents, both to its right and to its left. This means that they can inhibit the movement of the focus particle, which is prototypical in their L1. **L2IT** learners (L1 German) perform well on the subject condition (66% of grammatical follow-up selected), while they select the target grammatical follow-up sentence in 30% of items in object condition and 45% in the predicate condition, thus showing high variability. An individual analysis revealed that the variability between marked and ungrammatical answers is the result of consistent individual strategies: L2IT consistently select the sentences with the focus additive particle either preceding or following the tensed auxiliary, thus transferring into their L2 Italian the properties of their L1 German *auch*.

This asymmetry between the two populations is rather surprising in the light of the fact that Italian *anche* wears its semantics on its sleeves, since it immediately precedes its DoA, while German *auch* does not. This might take us to assume that the procedure used by Italian is in a sense “simpler” to acquire than the one of German *auch*, contrary to facts. Our conclusion will be that the fixed position of German *auch* is easier to acquire for L2 speakers than the variable position of Italian *anche*, although the position of *auch* does not immediately matches its scope. This fact points towards the direction that in the acquisition of the L2 speakers do not expect a perfect match between syntactic distribution and scope.

Examples

- (1) a. [_{DoA}Meine Mutter] hat AUCH Wein bestellt
 b. Anche [_{DoA}mia mamma] ha ordinato vino
 ‘My mother ordered wine, too (as other people did)’
- (2) a. Meine Mutter hat auch [_{DoA}WEIN] bestellt
 b. Mia mamma ha ordinato anche [_{DoA}vino]
 ‘My mother ordered also wine (besides the water)’
- (3) a. Meine Mutter hat auch [_{DoA}Wein BESTELLT]
 b. Mia mamma ha anche [_{DoA}ordinato vino]
 ‘My mother also ordered wine (besides eating caviar)’

Tables

Table1. Group result per condition (scope on Subject/Object/Predicate) and position of *anche* in the sentence (grammatical, grammatical but marked and ungrammatical) in %

	Controls (Italian native speakers) (N=6)			L2IT learners (L1 German) (N=12)		
	Subject	Object	Predicate	Subject	Object	Predicate
Grammatical	100	84	85	66	30	45
Marked	-	16	15	17	42	25
Ungrammatical	-	-	-	17	29	30

Table2. Group result per condition (scope on Subject/Object/Predicate) and position of *auch* in the sentence (grammatical, grammatical but marked and ungrammatical) in %

	Controls (German native speakers) (N=10)			L2GER learners (L1 Italian) (N=20)		
	Subject	Object	Predicate	Subject	Object	Predicate
Grammatical	49	99	100	56	86	90
Marked	51	1	-	33	1	-
Ungrammatical	-	-	-	11	13	10

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Minimal pairs as triggers for clitics acquisition in hearing-impaired children

The problem. Profoundly deaf children, even when readily implanted or prothesized (around 3 years old), often present residual problems in the acquisition of phonetically weak and morphosyntactic complex functional particles: this is the case of accusative, dative and partitive clitics in Italian, for instance, as reported in many studies (Schaeffer 2000, Volpato & Vernice 2004, Chesi 2006, Volpato 2008, Guasti et al. 2014 a.o.). Even though these particles are critical both in normal children (Bortolini et al. 2006) and in other pathological children populations (Jakubowicz et al. 1998, Hamann et al. 2003, Tuller et al. 2011) deaf children both start mastering them later than hearing children and keep producing typical non-standard forms longer (e.g. nominal phrases repetition, wrong clitic morphology and agreement, clitic omission).

Key question: are minimal pairs accessible triggers facilitating language acquisition? In this work we attempt a systematic evaluation of the usage of minimal pairs to favor natural language acquisition. The method under analysis is the Logogenia method (Radelli 1998): under this approach, working activities are totally based on written interactions during which the operators prompt the children with pairs of linguistic expressions minimally different for just one specific morphosyntactic aspect (inducing semantic/pragmatic substantial differences) under study. Such a minimal pair methodology is used to form commands (e.g. “colorala!” *color*+*cl_{obj_fem}* vs “coloralo!” *color*+*cl_{obj_mas}*) and grammaticality judgments (e.g. “l’ho colorato il naso” (I) *cl_{obj_mas}* *have colored the nose* vs “gli ho colorato il naso” (I) *cl_{dat_mas}* *have colored the nose*); the relevant oppositions might be modifications of the morphosyntactic form (as in the examples before), substitutions (Gianni ha/è una penna, *G. has/is a pen*) and absence/presence of a relevant functional item (Lo zio (di) Gianni, *the uncle (of) G.*). No explicit grammatical rule/discussion is provided to the children during each working session; only a yes/no feedback on his/her performance is delivered by the operator.

Materials and methods. A corpus consisting of the written production of 3 profoundly deaf children (age M=8,7 SD=1,5; all implanted/prothesized since age 3) has been collected during 85 interactive sessions (roughly corresponding to 85 hours of exercises and free written productions; 12077 tokens are produced by the children). The corpus has been transcribed in CHAT format (MacWhinney 2000) and analyzed quantitatively and qualitatively. Both vocabulary enrichment (e.g. Verbal Diversity, Richards 1987, MLU and D coefficients all calculated using CLAN) and accuracy improvement trends in clitic performance in production and comprehension are evaluated using linear mixed models (growth curve analysis, Mirman 2014). Clitic contexts are manually isolated and scored in accordance with the feedback provided by the operators. Each clitic context evaluated is considered individually for a total of 1410 distinct contexts. Five temporal windows (including the initial evaluation and 4 other groups of sessions including 8 consecutive sessions each) have been considered to have a relevant amount of observations per time.

Crucial results. Overall, the growth curve analysis (Mirman 2014) indicates a clear improvement in coefficient D across subjects ($X^2(1)=5.33$ $p=0.021$; with an estimated improvement of +0.97 points per session, $SE=0.27$). Overall the performance is significantly improved in most tasks for most subjects (see table 1 for details). Worth to be reported are the global comprehension and production amelioration revealed for object clitics, Figure 1 (improvements in clitic object comprehension: $X^2(1)=3.64$ $p=0.056$, estimate of +0.064 per group of sessions, $SE=0.025$; clitic object production: $X^2(1)=5.50$ $p=0.019$, estimate of +0.084 per group of sessions $SE=0.024$) and dative clitics, Figure 2 (dative clitic comprehension: $X^2(1)=4.59$ $p=0.032$, estimate of +0.078 per group of sessions, $SE=0.023$; dative clitic production: $X^2(1)=10.33$ $p=0.001$, estimate of 0.12 per group of sessions, $SE=0.030$). While A1 and A3 are clearly the driving forces of the model A2 only marginally shows an improvement in some of the tasks evaluated (Table 1).

Discussion. The present study clearly suggests that after roughly two years of training with the minimal pairs approach, targeting various morphosyntactic aspects (not always related to the clitic usage), the performance of the three kinds of clitics analyzed is systematically improved both in comprehension and (especially) in production for most subjects in most tasks. The only subject showing marginal improvement was the one starting with a higher degree of mastery, somehow suggesting his exceptional competence in this domain.

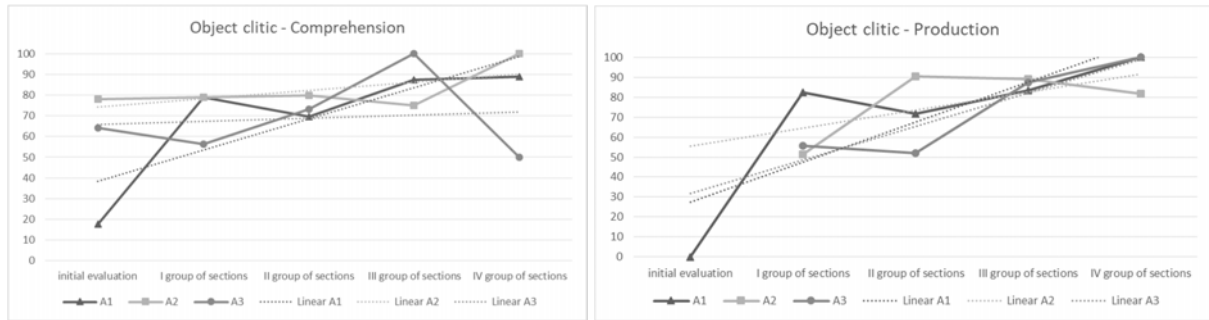


Figure 1. Object clitic comprehension and production in subjects A1, A2 and A3.

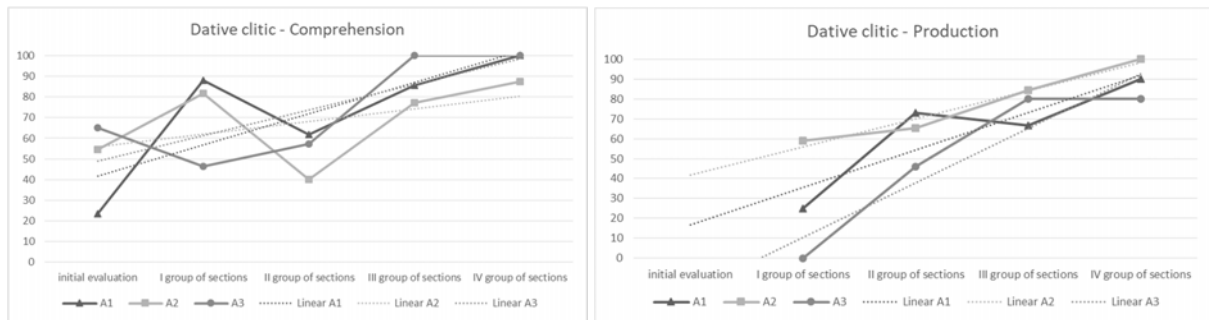


Figure 2. Dative clitic comprehension and production in subjects A1, A2 and A3.

Comprehension	A1				A2				A3			
	χ^2	<i>p</i>	estimate	SE	χ^2	<i>p</i>	estimate	SE	χ^2	<i>p</i>	estimate	SE
Base model												
+ time	10.42	0.001	+0.12	0.024	0.56	0.45	+0.02	0.025	4.44	0.06	+0.05	0.028

Production	A1				A2				A3			
	χ^2	<i>p</i>	estimate	SE	χ^2	<i>p</i>	estimate	SE	χ^2	<i>p</i>	estimate	SE
Base model												
+ time	14.91	< 0.001	+0.16	0.032	2.75	0.09	+0.08	0.029	4.23	0.04	+1.9	0.078

Tables 1. Overall comprehension and production, growth curves analysis (base model includes random slope for subject and the initial evaluation as intercept)

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Verb semantics influences distributivity judgments of both adults and children

Sentences with plural expressions are compatible with more than one interpretation according to semantic theories^[1]. Consider (1). This sentence could have two readings: Are the subjects acting collectively as a group (Figure 1a), or distributively as individuals (Figure 1b)

(1) The boys are carrying a hay bale.

Adult and child interpretations of such sentences differ greatly. Adults generally reject distributive readings when no distributive marker ('each') is present, as in (1), preferring collective situations^{[2][3][4]}. Dotlacil^[5] argues that the adult collective preference arises via an implicature. (1) gets interpreted collectively, because if the speaker intended distributivity, they should have used 'each' (2).

(2) Each boy is carrying a hay bale.

'Each' is assumed to be a distributive marker, but children don't seem to realize this until age 8^[2], accepting 'each' also in collective contexts. Moreover, children also accept (1) in distributive contexts^[2], presumably because they are unable to calculate the implicature, i.e. they cannot use the absence of 'each' to reason that the speaker intended collectivity. Crucially, this implicature relies on the distributive force of 'each', which should be justified by the incompatibility of 'each' with collective readings. However, previous findings^{[2][6]} suggest that adults accept 'each' in what might look like collective situations at surprisingly high rates.

We argue that verb semantics plays a significant role in the just mentioned findings. We consider two types of verbs. With **dependent verbs**, the agents rely on each other to complete the action that affects the object (Figure 1a). With **independent verbs**, a joint action consists of multiple independent actions affecting the object (Figure 2a). This means that predicates with independent verbs are not truly collective even when describing a joint action. We therefore predict that dependent

collective predicates are less acceptable with a distributive marker like 'each' than predicates with independent verbs that describe a joint action. The distinction in verb type might explain the previously found high acceptances of 'each' in what was treated as collective contexts.

Method 102 Dutch children and 51 Dutch adults (Table 1) were tested in a 2x2x2 truth-value judgment task in a narrative context, with the factors SENTENCE (*The/De* vs. *Each/Elke*), PICTURE (*Collective, Distributive*) and VERB TYPE (*Dependent: hold, carry, lift and pull*, and, *Independent: wash, pet, brush and comb*). Verb type was a between-subjects factor.

Results and Discussion Table 2 presents descriptive statistics. Collected data were analyzed using mixed effect modelling. As expected, conditions '*The-Collective*' and '*Each-Distributive*' were universally accepted. The crucial condition '*Each-Collective*' is highlighted. For this condition verb types differed significantly for both adults ($p < 0.01$, $\beta = 3.138$) and children (10: $p < 0.001$, $\beta = 4.943$ and 11: $p < 0.01$, $\beta = 2.545$). As predicted, participants accepted this condition more with independent verbs than with dependent verbs. Verb type did not affect any other conditions. Condition '*The-Distributive*', where the proposed implicature takes place, is especially interesting. If the rejection of this condition is indeed based on the distributive character of 'each', we would expect a difference in verb type similar to '*Each-Collective*'. However, we did not find such a difference.

Conclusion Verb type indeed influences the acceptability of collective situations with 'each'. However, the results of condition '*The-Distributive*' raise the question whether the adult collective preference for unmarked sentences like (1) is caused by an implicature at all. The implicature is either (i) not present or (ii) weakened by the presence of other (pragmatic) factors, e.g. context or language.¹



Figure 1a. Dependent Collective



Figure 1b. Dependent Distributive



Figure 2a. Independent Collective



Figure 2b. Independent Distributive

Table 1. Distribution of Dutch children and adults (plus English adults¹ of the follow-up study).

	10 Year Olds	11 Year Olds	Dutch Adults	English Adults
Independent Verbs	18 (mean age 10;6)	28 (mean age 11;7)	26 (mean age 23)	24 (mean age 36)
Dependent Verbs	30 (mean age 10;7)	26 (mean age 11;3)	25 (mean age 33)	30 (mean age 38)

Table 2. Proportion of yes responses (plus SE) for each condition by verb-type and participant group.

Condition	Verb-Type	10 Year Olds	11 Year Olds	Dutch Adults	English Adults
Each - Collective	Independent	0.60 (0.05)	0.40 (0.04)	0.51 (0.04)	0.71 (0.04)
	Dependent	0.03 (0.01)	0.15 (0.03)	0.21 (0.03)	0.31 (0.03)
The - Distributive	Independent	0.83 (0.04)	0.62 (0.04)	0.54 (0.04)	0.61 (0.04)
	Dependent	0.66 (0.04)	0.61 (0.04)	0.57 (0.04)	0.61 (0.04)
Each - Distributive	Independent	1	0.99 (0.01)	0.99 (0.01)	1
	Dependent	0.99 (0.01)	0.99 (0.01)	0.99 (0.01)	0.99 (0.01)
The - Collective	Independent	0.97 (0.02)	0.98 (0.01)	0.99 (0.01)	1
	Dependent	1	1	0.99 (0.01)	1

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¹ Note that a follow-up study with native English speaking adults showed similar results (Table 2). This shows that it is not just a property of Dutch ‘elke’.

Dynamic changes in the development of L2 inflectional morphology

Abstract for a poster presentation

Since the advent of psycholinguistic research, there has been a major debate about a speaker's ability to produce novel morphologically inflected forms. Two opposing accounts of morphological productivity have been proposed: (i) one attributing the productivity to the application of rules (e.g. Prasada & Pinker, 1993) and (ii) one attributing it to analogy based on stored exemplars (e.g. Bybee & Slobin, 1982). With its relatively clear distinction between regular and irregular patterns of inflection, English past-tense morphology provides a particularly suitable framework to decide between these two approaches. Consequently, two models have been proposed: the single-route model (e.g. Bybee & Moder, 1983), which posits that both regular and irregular past-tense forms are generated by analogy across stored exemplars (e.g. heal/healed - steal/*stealed, see (ii)), and the dual-route model (e.g. Prasada & Pinker, 1993), which posits that regular forms are generated via the application of a default rule (–ed) and irregulars are stored as units (see (i)).

This study builds on previous work by Albright and Hayes (2003) and Blything et al. (2018) and uses an elicited production paradigm to investigate which of the two models best accounts for L2 learners' morphological productivity. In the testing phase, 88 English L2 learners with Czech as L1 at A1 – C1 proficiency levels and 9 native speakers heard sentences with someone performing a novel action described with a nonword (e.g. *The baby likes to bize. Look, there he is bizing. Everyday he bizes.*). Past-tense forms were then elicited by prompting the participant to describe what the agent "did yesterday." A control group of English native speakers was also included. Produced forms were recorded and analysed with a binomial linear mixed-effects model in the R environment. The dependent variable used was the production of either regular or irregular past forms; the independent variables then included (a) the level, (b) the isle of reliability, (c) the similarity to existing regulars, and (d) the similarity to existing irregulars (see the description of the MGL model used for the generation of the similarity in Albright and Hayes (2003) or Blything et al. (2018)).

The results showed that different language levels perform differently, and the produced past-form was predicted by the similarity to regulars. For native speakers, the likelihood of a verb being produced in regular past-tense form was positively associated with its phonological similarity to existing regular verbs (in line with the single-route model and the findings of Albright and Hayes (2003) and Blything et al. (2018)). However, L2 learners showed lesser dependence on the verbal similarity to regulars. Further post-hoc group test showed that the A1-, A2-, and B1-level participants did not rely on the nonword's similarity to existing regulars or irregulars to produce the inflected form. In contrast, a main effect of similarity-to-regulars and similarity-to-irregulars was observed with the B2-level and C1-level participants, respectively.

The results indicate that the second-language acquisition of the English past tense is characterized by a progressive development from the dual-route mechanism (A1, A2, and B1 levels) to a single-route analogical mechanism (B2 and C1 levels). The A1, A2, and B1 levels seem to rely on the application of rules when producing novel morphologically inflected forms, while the more proficient B2 and C1 levels seem to rely on the analogy based on stored exemplars of existing regulars or irregulars – a situation which has been previously established in the production of native speakers (see Albright and Hayes (2003) or Blything et al. (2018)). The second-language speakers thus show dynamic changes in the development of inflectional morphology that come closer to native speakers with the higher proficiency of B2 and C1 levels.

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Acquisition of gender agreement by Russian–Cypriot Greek simultaneous bilinguals

The present study investigates the acquisition of gender agreement in Russian and Greek by Russian–CG bilingual children. Both Russian and Greek have tripartite gender distinction: masculine, feminine and neuter (Corbett, 1991). Gender in L1 Russian and L1 Greek is acquired early, by the age of 3. Gender assignment and agreement is transparent and can be predicted using morphological cues and prototypical noun suffixes (Gvozdev, 1961; Rodina, 2007; Rodina and Westergaard, 2017; Ralli, 2002; Anastasiadi-Symeonidi and Cheila-Markopoulou, 2003; Mastropavlou, 2006).

22 simultaneous bilingual children (Russian–Cypriot Greek), 9 boys and 13 girls, born in Cyprus (father CG and mother Russian) participated in the study. Their age ranges from 6 to 14;6 (Mean 10.75; SD 2.05), and they attend primary and secondary Cypriot Greek school, where the language of instruction is Greek. Their dominant society language is Cypriot Greek, while their home (weak/minority) language is Russian. They have limited exposure to Russian, only at home, and low level of schooling in Russian, only 1-2 hours of Russian lessons per week (Saturday schools). 14 CG monolingual, age-matched children were used as controls.

Picture naming production task (naming of coloured pictures of objects) elicited gender agreement in adjective + noun combinations (Russian) and determiner + adjective + noun combinations (Greek). There were 9 conditions: 3 gender match (FEM. in Russian, FEM. in Greek; MASC. in Russian, MASC. in Greek; NEUT. in Russian, NEUT. in Greek) and 6 gender mismatch (FEM. in Russian and NEUT. in Greek; MASC. in Russian and NEUT. in Greek; FEM. in Russian and MASC. in Greek; MASC. in Russian and FEM. in Greek; NEUT. in Russian and MASC. in Greek; NEUT. in Russian and FEM. in Greek), 8 test items in each condition.

The participants were also tested on a large battery of tests: the Developmental Verbal IQ Test, adapted to Cypriot Greek from Stavrakaki and Tsimpli's (2000) Standard Modern Greek original (Theodorou, 2013), the Russian Proficiency Test for Multilingual Children (Gagarina et al., 2010), and several tasks assessing executive functions (digit span test, word span test, fluency test, Raven's matrices).

Regarding the Russian test, the most vulnerable conditions were mismatch conditions (Russian vs. Greek): FEM. vs. MASC.; MASC. vs. FEM.; NEUT. vs. MASC. and NEUT. vs. FEM. The participants had mainly substitution errors due to transfer from Greek. In the Greek test, the participants had substitution errors in the gender mismatch conditions (Russian vs. Greek): FEM. vs. MASC.; NEUT. vs. MASC. and NEUT. vs. FEM. The deviant production is due to transfer from Russian in Greek and Greek into Russian. The participants had also no production and some code-switching errors from Russian and English.

The results of the study and statistical analysis showed that language dominance and use, the quantity and quality of input, frequency and consistency of exposure, language proficiency, schooling and cognitive abilities affect the acquisition of gender assignment and gender agreement in Russian and CG.

Condition 1: Gender mismatch: FEM. in Russian and NEUT. in Greek								
	target	non-target	no production	substitution	MASC. instead of FEM.	NEUT. instead of FEM.	English	Russian
Russian	160/86.95%	24/13.05%	9/4.89%	15/8.16%	14/7.60%	1/0.56%	0/0%	0/0%
CG	135/76.70%	41/23.30%	31/17.61%	10/5.69%	0/0%	6/3.40%	1/0.56%	3/1.70%
Condition 2: Gender mismatch: MASC. in Russian and NEUT. in Greek								
	target	non-target	no production	substitution	FEM. instead of MASC.	NEUT. instead of MASC.	English	Russian
Russian	171/92.93%	13/7.07%	4/2.17%	9/4.90%	6/3.26%	1/0.54%	2/1.08%	0/0%
CG	174/98.86%	2/1.14%	0/0%	2/1.14%	0/0%	0/0%	0/0%	2/1.14%
Condition 3: Gender match: NEUT. in Russian and NEUT. in Greek								
	target	non-target	no production	substitution	FEM. instead of NEUT.	MASC. instead of NEUT.	English	Russian
Russian	154/83.69%	30/16.31%	7/3.80%	23/12.51%	8/4.34%	15/8.17%	0/0%	0/0%
CG	135/76.70%	41/23.30%	26/14.77%	15/8.53%	10/5.68%	4/2.27%	0/0%	1/0.56%
Condition 4: Gender mismatch: FEM. in Russian and MASC. in Greek								
	target	non-target	no production	substitution	NEUT. instead of FEM.	MASC. instead of FEM.	English	Russian
Russian	140/76.08%	44/23.92%	14/7.60%	30/16.32%	2/1.08%	28/15.21%	0/0%	0/0%
CG	106/60.22%	70/39.78%	47/26.70%	23/13.08%	19/10.79%	2/1.13%	2/1.13%	0/0%
Condition 5: Gender match: FEM. in Russian and FEM. in Greek								
	target	non-target	no production	substitution	NEUT. instead of FEM.	MASC. instead of FEM.	English	Russian
Russian	152/82.60%	32/17.40%	14/7.60%	18/9.80%	0/0%	18/9.80%	0/0%	0/0%
CG	153/86.93%	23/13.07%	12/6.81%	11/6.26%	8/4.54%	1/0.56%	0/0%	2/1.13%
Condition 6: Gender match: MASC. in Russian and MASC. in Greek								
	target	non-target	no production	substitution	NEUT. instead of MASC.	FEM. instead of MASC.	English	Russian
Russian	171/92.93%	13/7.07%	11/5.97%	2/1.08%	0/0%	2/1.08%	0/0%	0/0%
CG	121/68.75%	55/31.25%	30/17.04%	25/14.21%	13/7.38%	12/6.83%	0/0%	0/0%
Condition 7: Gender mismatch: MASC. in Russian and FEM. in Greek								
	target	non-target	no production	substitution	NEUT. instead of MASC.	FEM. instead of MASC.	English	Russian
Russian	145/78.80%	38/21.20%	10/5.43%	28/15.77%	5/2.71%	23/13.06%	0/0%	0/0%
CG	151/85.79%	25/14.21%	9/5.11%	16/9.10%	7/3.97%	7/3.97%	0/0%	2/1.13%
Condition 8: Gender mismatch: NEUT. in Russian and MASC. in Greek								
	target	non-target	no production	substitution	MASC. instead of NEUT.	FEM. instead of NEUT.	English	Russian
Russian	137/74.45%	47/25.55%	15/8.15%	32/17.40%	20/10.86%	12/6.52%	0/0%	0/0%
CG	122/69.31%	54/30.69%	24/13.63%	30/17.06%	0/0%	29/16.47%	0/0%	1/0.59%
Condition 9: Gender mismatch: NEUT. in Russian and FEM. in Greek								
	target	non-target	no production	substitution	MASC. instead of NEUT.	FEM. instead of NEUT.	English	Russian
Russian	113/61.41%	71/38.59%	30/16.30%	41/22.28%	25/13.58%	16/8.70%	0/0%	0/0%
CG	96/54.54%	80/45.46%	50/28.40%	30/17.06%	6/3.40%	23/13.06%	0/0%	1/0.56%

Narrative skills in Russian–Greek Cypriot bilingual children

Narrative tasks tap into the cognitive, linguistic and social skills of the speaker/narrator. In this study the effect of bilingualism on macro-structural narrative abilities is investigated. Macrostructure deals with higher-order hierarchical organisation, episodic structure and story grammar components (Gagarina et al., 2016), reflecting a universally acquired ability (Illuz-Cohen and Walters, 2012). The aim of this study is to evaluate narrative skills of Russian–Cypriot Greek bilingual children in both of their languages.

22 simultaneous bilingual children participated in the study, 9 boys and 13 girls, born in Cyprus (father Greek-Cypriot and mother Russian). They ranged in chronological age from 6 to 14;6 years and attend primary/secondary school, where the language of instruction is Standard Modern Greek. The dominant society language is Cypriot Greek, while the home (weak/minority) language is Russian. The children had limited exposure to Russian, mostly at home only, and a low level of schooling in Russian, with only 1–2 hours of Russian lessons per week (Saturday school).

The multilingual assessment instrument for narratives (LITMUS-MAIN; Gagarina et al., 2012, 2015) was used to assess narrative comprehension and production. Participants were also tested on a battery of cognitive-linguistic measures: the Cypriot adaptation of the Diagnostic Verbal IQ Test (Theodorou, 2013), the Russian Proficiency Test for Multilingual Children (Gagarina et al., 2010), a digit span test, a word span test, a fluency test, and Raven's Coloured Progressive Matrices.

The analysis of the narrative productions (see table 1) showed that, based on macro-structure measures (story structure, story complexity, internal state terms, comprehension), the bilingual children overall had higher scores in retelling than in telling mode and in Cypriot Greek than in Russian. Better performance in Russian was only found for story structure and story complexity (in telling mode). Also, the overall number of internal state terms in Russian narrative production was higher than in Cypriot Greek (in telling mode).

Unsurprisingly, narrative abilities improve with age. Statistical analysis showed that age, schooling and cognitive abilities affect bilingual narrative skills. Overall, the results are in line with previous studies as narrative generation (telling) is considered to be more difficult than retelling due to prior presented script and scaffolding effects (Gagarina et al., 2016). Cypriot Greek is the majority language for these children, who are less experienced with the Russian language. This can explain their better performance in that language.

Language dominance and use, the quantity and quality of input, frequency and consistency of exposure as well as the task effect should be taken into consideration when assessing linguistic and discourse abilities of bilingual children. Due to the increasing number of multilingual children in Cyprus, it is important to assess their linguistic and cognitive development and to distinguish early between typically developing and possibly language-impaired children. The study of language acquisition norms for typical language development, language delay, and impairment can help prevent misdiagnosis of bilingual children.

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Variables				Telling				Retelling			
Age	L	Mean age (months)	N	SS	SC	ISTs	CQ	SS	SC	ISTs	CQ
6-year-olds	CG	70	1	8	6	3	9	9	3	4	10
	Russian			9	7	3	7	7	1	5	8
7-year-olds	CG	91	1	7	4	0	8	11	3	3	8
	Russian			4	0	1	3	7	1	5	7
8-year-olds	CG	100	2	9.5	6.5	2.5	6.5	11	6.5	6.5	8.5
	Russian			6	2.5	3.5	5	7.5	1.5	3	7.5
9-year-olds	CG	113	3	9.3	4	4.6	8.3	8.6	3.6	5.3	8
	Russian			8	3.3	4.3	8.3	7	4.6	6.3	8.3
10-year-olds	CG	126.6	5	7.75	2.6	3.8	8.6	10.5	4.6	5.6	8.2
	Russian			8.6	3.8	4	7.2	8.4	3.2	5.6	8.4
11-year-olds	CG	137.2	4	9.5	4	2.7	8.75	9.5	3	5	10
	Russian			9	2.5	3.7	9	8.75	3.7	4.2	9.5
12-year-olds	CG	154	2	8.5	2.5	4	9	11	4.5	5.5	10
	Russian			11	7	3.5	8.5	7.5	2.5	4.5	9
13-year-olds	CG	161	3	9	3	4	8.6	10	4	5.6	10
	Russian			10.3	4.3	5	8	8.6	4.6	7	10
14-year-olds	CG	175	1	11	6	5	10	14	11	7	10
	Russian			9	4	8	5	9	5	5	10

L=language, SS=story structure, SC=story complexity, ISTs=internal state terms, CQ=comprehension questions

Table 1: Age: Narrative abilities measures of bilingual children

Discrepancies between L2 learners' perception of definiteness and its linguistic definition: A case study of L1-Korean learners of English

English articles are taught as a binary system based upon “nominal countability” and “definiteness.” Despite the detailed prescriptive grammar rules, it has been consistently reported that their correct usage is extremely difficult to master even for advanced learners of English. Given that article use cannot be avoided irrespective of the genre and that English articles continue to plague compositions of even highly advanced learners, it is essential to understand specifically what causes L2 learners to misuse them. To this end, this study examined L2 learners' article use employing a one-group pre–post-test design. A homogenous group of 84 upper-intermediate to pre-advanced–level L1-Korean college students undertook the same forced-choice elicitation task before and after receiving focused instruction on correct English article use. The pre-test asked the participants to choose the correct article for each item, and the post-test additionally required them to provide written explanations for their choices. Data analyses indicated that the participants exhibit fluctuation between specificity and definiteness—a pattern discerned in L2-English article use among article-less L1 groups. They frequently prioritize specificity over definiteness, which leads to overuse of *the* for almost all specific indefinites. Analyzing participants' reasons for article choices indicated that most of them are ignorant of using a noun in [+specific, –definite] contexts. Not surprisingly, the correct answer rates for such nouns averaged at 40.5% on the pre-test and 42.0% on the post-test, scoring by far the lowest of all context types (defined by varying specificity–definiteness value combinations). In addition, correct article use for specific indefinites was found to be least affected by instruction when compared with nouns used as [–specific, –definite] or [±specific, +definite]. The definite article was also overused for cataphoric references regardless of discourse context, suggesting that L2 learners attempt to construe semantic context (i.e., ±definite) on the basis of syntactic structure (i.e., post-modification). For nonspecific definites, they estimate a “nonspecificity hierarchy,” which frequently results in infelicitous use of *a(n)*. Further, participants' correct use of *a(n)* for singular count indefinites often stemmed from simply assuming the number of a target noun to be *single*, rather than considering its *multiple* existence—and thus indefinite nature. The findings underline the necessity to (1) provide L2 learners with input regarding which of the two settings of the Article Choice Parameter (Ionin, Ko, & Wexler, 2004)—a parameterized principle of universal grammar comprising the specificity setting and the definiteness setting—is appropriate in English article use and (2) indicate that English articles are prototypical realizations of encoding definiteness, which requires “mutual” identifiability of a unique referent.

keywords

English article system, definiteness, specificity, mutual identifiability

Donkey pronouns from weak to strong: Evidence from child Mandarin

Donkey pronouns and plural definites reveal similar behaviors in exhibiting the \forall/\exists dichotomy with respect to: (1) the monotonicity of the quantifier in the sentence; (2) the context in which the sentence is produced; and (3) the lexical semantics of the predicate within which donkey pronouns or plural definites are embedded. The parallels between the two elements point towards a unified analysis. For example, in the case of plural definites, Magri (2014) and Bar-Lev (2018) propose to get rid of the \forall/\exists -ambiguity and then analyze predication over plural definites as having a default \exists -semantics and the \forall -reading arises from a strengthening mechanism that turns \exists to \forall (see Caponigro et al., 2010; Tieu et al., 2017 for evidence from children's interpretation of plural definites). Extending Magri/Bar-Lev's insight to the analysis of donkey pronouns, we propose that the \exists -reading is the default semantics of donkey pronouns and the \forall -reading is actually derived from free choice strengthening, as illustrated in (1). This proposal is based on the findings from Mandarin-speaking children's comprehension of donkey pronouns, which we report below.

Two experiments were conducted to investigate how Mandarin-speaking children (and adults) interpret donkey pronouns in both upward entailing (UE) (Exp.1) and downward entailing (DE) (Exp.2) linguistic environments. Exp.1 tested 23 five-year-olds (range 5;4-5;11, mean 5;7) and 17 adults, using a modified Truth Value Judgment task (Crain & Thornton, 1998), where one experimenter acted out stories using toy props and one played the role of a puppet. The puppet was blindfolded and could not see what really happened in the story. We asked the puppet to make a guess about what would happen in the story at the beginning of each story, using test structures as in (2) and (3) (UE). The participants' task was to judge whether the puppet had made a correct guess. Each participant heard four stories for conditional donkey sentences like (2) and four stories for relative-clause donkey sentences like (3). The experimental protocols for the two types of donkey sentences were the same. An example story corresponding to (3) is given in Fig.1, where not all the goats who had picked up a candy gave it back to Wolffy. Exp.2 tested 25 five-year-olds (range 5;0-5;11, mean 5;6) and 25 adults, using a similar task. Participants heard 8 relative-clause donkey sentences containing the negative quantifier *meiyou-renhe* 'not-any' as in (4) (DE) in similar contexts as in Exp.1 (see Fig.1). The test sentences were presented in Mandarin in both experiments.

The prediction is that if the \exists -reading is the default semantics of donkey pronouns, then children should be expected to accept the test sentences in Exp.1; by contrast, they should reject the test sentences in Exp.2. The findings were presented in Figs 2&3, showing that in UE context, 5-year-olds favored the \exists -reading of donkey pronouns (indicated by their high acceptance rate of the test sentences) whereas adults consistently accepted the \forall -reading (indicated by their low acceptance rate); in DE context, however, both children and adults preferred the \exists -reading (indicated by the low acceptance rate of both groups). The findings are consistent with prior research on English-speaking children (Conway & Crain, 1995), and confirm our proposal that perhaps the \exists -reading is the default semantics of donkey pronouns and the \forall -reading is actually derived from free choice strengthening. Children's difficulty in interpreting donkey pronouns universally in UE context might be due to the absence of the strengthening mechanism for free choice computation, whereas the strengthening mechanism is not required in DE context since the \exists -reading is the stronger alternative. The findings also lend support to the unified analysis of donkey pronouns and plural definites.

- (1) a. [Every man who owns a donkey]₂ [λ_2 [[the donkey(s) he owns]₁ $\exists - \text{DIST}_D$ [λ_1 [_{VP} t_2 beats t_1]]]]. (\exists as default)
 b. EXH_R [[Every man who owns a donkey]₂ [λ_2 [[the donkey(s) he owns]₁ $\exists - \text{DIST}_D$ [λ_1 [_{VP} t_2 beats t_1]]]]. (**exhaustification/strengthening**)
 $= 1$ iff $\forall x \forall y$ [[$x \in \llbracket \text{man} \rrbracket$ $\wedge y \leq_{\text{Atom}} \llbracket \text{the donkey(s)} \rrbracket$ $\wedge y \in D$ $\wedge x$ own y] $\rightarrow x$ beats y]
 (2) If a farmer owns a dog, he took it to the park. (**Conditional**)
 (3) Every goat who has picked up a candy gave it back to Wolffy. (**Relative-clause**)
 (4) Not any goat who has picked up a candy gave it back to Wolffy.



Figure 1. Final scene of the example story

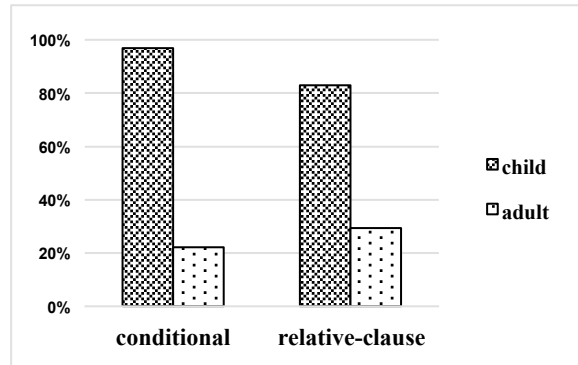


Figure 2. Acceptance rate of the puppet's statement in the two conditions for Mandarin-speaking children and adults in UE context

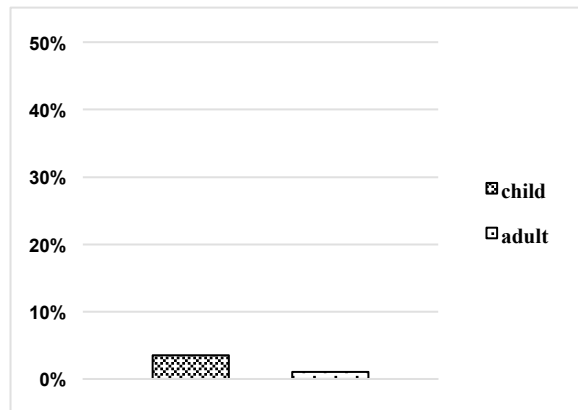


Figure 3. Acceptance rate of the test sentence for both Mandarin-speaking children and adults in DE context

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Age and linguistic complexity in child second language acquisition

The goal of this study was to determine the impact of internal (age/memory) and external (length of exposure, LoE henceforth) factors in predicting comprehension of sentence structures, ranging in complexity, in child second language acquisition (cL2).

CL2 allows the measurement of age effects at different stages of maturation while accounting for factors known to strongly impact language acquisition, such as LoE. In early childhood, developmental phases are linked with constraints on cognitive properties such as attention, memory and analytical reasoning, which affect processing and interpretation of complex sentence structures, such as those containing embedded clauses and/or non-canonical forms [1].

Recent research [2] [3] investigating age effects on acquisition of complex structures have found an advantage for older L2 children. However, limitations of tasks include: a complex picture selection design which may have increased burden on processing [2], and elicitation, which can favour more naturally extroverted children [3]. Additionally, both studies focused on 1 type of complex structure only—passives, and 2-clause structures, respectively.

The present study measured comprehension of 4 sentence structures ranging in complexity: active voice and subject relative clauses (canonical order); and passive voice and object relative clauses (non-canonical order).

The experimental design comprised a simple and interactive colouring task to reduce processing costs and age bias [4]. Children saw a picture on a touchscreen PC (Fig1), followed by a test sentence (1-4) and then coloured in the picture based on the sentence.

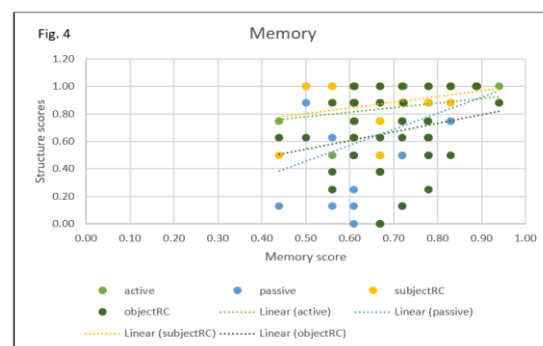
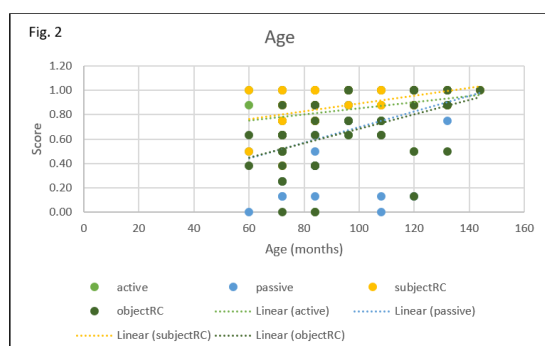
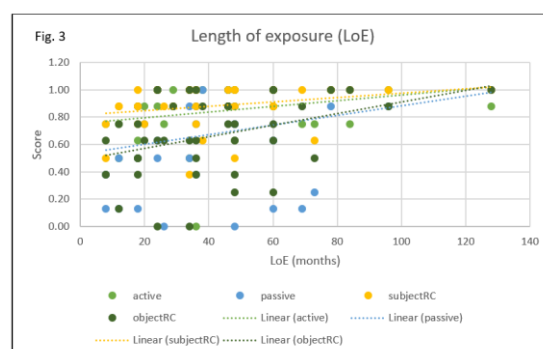
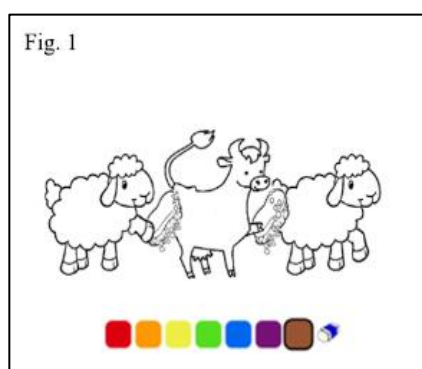
A randomised 8 x 8 sentence design for each set of structures (active/passive; subject/object relative clauses) was used, alternated by fillers (5). Factors were age, LoE, and memory (between subjects), and structures (passive voice and relative clause, within subjects) and complexity (non-complex and complex, within subjects).

41 cL2 Arabic-speakers acquiring L2 English and ranging in age from 5 to 12 years old, participated in the study alongside 38 age-matched monolingual controls.

A regression analysis using participant averages for each variable revealed a positive association for all factors (age, LoE and memory) on the comprehension of the non-canonical forms (passive voice and object relative clauses) (Figs. 2-4), with age (Fig. 2) and memory (Fig. 4) more robust predictors than LoE (Fig. 3). Comprehension of canonical forms (active voice and subject relative clauses) did not show a positive correlation for any factors.

Results suggest that processing and interpretation of complex linguistic structures involving non-canonical forms, require the more advanced cognitive ability and higher memory capacity associated with older children.

- (1) Ok, so in this picture there's a sheep, a cow, and another sheep. Let's choose a colour now. The cow washed the <colour> sheep.
- (2) Ok, so in this picture there's a sheep, a cow, and another sheep. Let's choose a colour now. The cow was washed by the <colour> sheep.
- (3) Ok, so in this picture there's a sheep, a cow, and another sheep. Let's choose a colour now. Something here is <colour>. Oh look, it's the sheep that washed the cow.
- (4) Ok, so in this picture there's a sheep, a cow, and another sheep. Let's choose a colour now. Something here is <colour>. Oh look, it's the sheep that the cow washed.
- (5) Ok, so in this picture there's a donkey, a dolphin, and a kangaroo. Let's choose a colour now. Something here is <colour>. Oh look, it drove a bus.



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Negation in comparatives is not expletive

Introduction In many languages a negative marker (optionally) appears in the standard phrase of the inequality comparative without an apparent change in meaning hence it is called ‘expletive negation’. In Italian, expletive negation appears in subjunctive inequality comparatives but not in indicative ones. Expletive negation in comparatives has been analysed as real negation (Seuren 1984, Delfitto 2018), semantically vacuous/expletive (Van der Wouden 1994), the same element as negation but in the scope of a non-veridical operator (Espinal 1992, 2000, 2007), a non-negative operator (Belletti 2001), an (additional) inequality marker (Price 1990), a scope marker of focus (Donati 2000) and an element emphasising the inequality relation (Yoon 2011). Most of these theories, can be extended to and be tested by language acquisition data. More specifically, theories of expletive negation as a realisation of the negative marker predict that comparatives with an overt realisation of the negative operator (as opposed to being covert) will be preferred by children. On the other hand, if negation in comparatives is indeed expletive is expected to be acquired late and be dispreferred over items without negation. On the other hand, Price’s (1990) theory where the *raison d’être* of expletive negation is to distinguish inequality comparatives from equality ones predicts that negation is redundant in Italian as there is already a different standard marker.

Methodology We tested the predictions of the abovementioned theories using a forced choice judgement task along the experimental setting of Foppolo et al. (2012, Experiment 5). After a short animation, two puppets uttered one sentence each, one with negation and one without (1). The factors manipulated in the experiment were: group (child vs. adult), mood (indicative vs. subjunctive, within subjects) and negation (with or without negation, within subjects). There were two blocks of sentences (one for each mood), which consisted of six target items, two grammaticality judgement controls and two forced choice control items. In the beginning of each task there was a training item. To counterbalance order effects, there were two versions of the test, in which items were randomly assigned two different orders with the only caveat that a truth value control item was the first item in each version. After discarding data from children who gave false answers to more than two control items or did not complete the task, data from 29 children, aged 4;6;10 to 7;9;25 ($M=6.33$, $SD=1.19$) as well as 28 adults were processed.

Results Results are summarised in table 1 and illustrated in Fig. 3. Data were fit with mixed effects logistic regression using the `glmer()` function of the `lme4` package (Bates et al. 2015) of the R analysis program (R core development team). In the main model Mood and Group were fit as fixed factors, and Subject and Item as random factors. Random slopes were fit for both fixed effects and their interaction. The model revealed a significant effect of Group ($p<0.000$)- children chose utterances with negation significantly more than adults and Mood ($p<0.000$) - participants were more likely to choose negation in subjunctive items than in indicative ones and a significant interaction between Group and Mood ($p<0.001$): the difference between moods is significantly bigger in adult responses than child responses.

Discussion & Conclusion Theories that assume negation in comparatives to be semantically vacuous/expletive are not borne out: children used negation significantly more than adults. On the other hand the experimental results are compatible with the prediction of Seuren’s (1984) theory and corroborate the proposal that the comparative construction involves a negative logical operator and comparative negation is the overt exponent of it.

Table 1 Results summary. Answers with negation coded as 1

Group	Mood	N	Sum	M	SE	SD
Adults	Indicative	168	6	.04	.014	.186
	Subjunctive	166	34	.20	.031	.405
Children	Indicative	174	62	.36	.036	.480
	Subjunctive	174	81	.47	.038	.500

(1) Context: The polar bear and the seal came across some broken ice. They were hungry so they decided to fish. The polar bear caught six fish and the seal three.

l' orso polare ha pescato più pesci di quanti (non) ne abbia
 the bear polar has fished more fish than how- NEG them.CL has.SBJ
 many

pescati la foca

fished the seal

(2) Truth value judgement control.

a. The giraffe painted more hearts than the penguin.

b. The penguin painted more hearts than the giraffe.

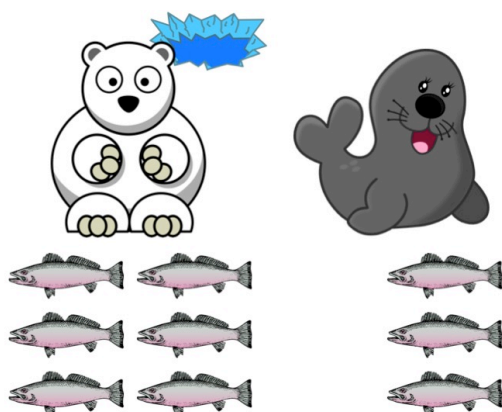


Figure 1 Picture for item (1)

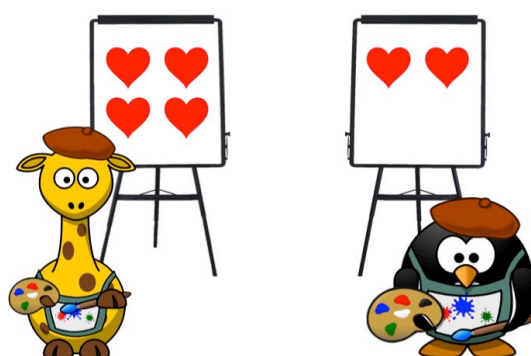


Figure 2 Picture for item (2)

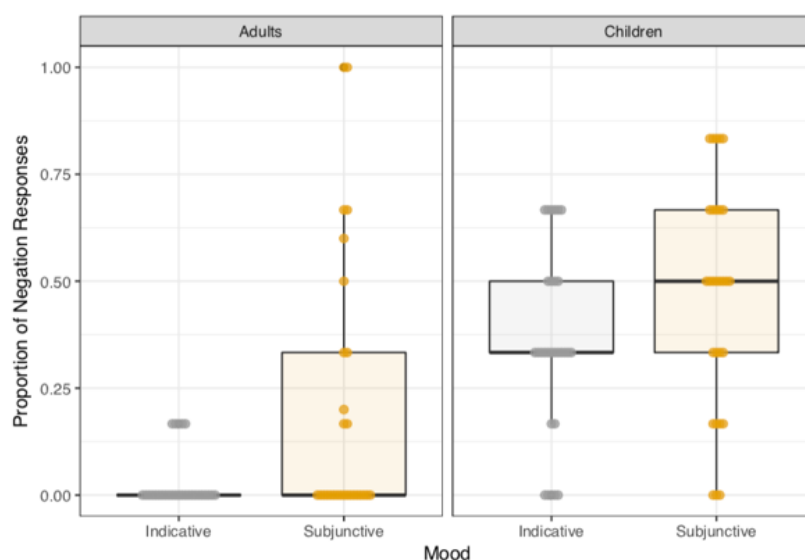


Figure 3 Distribution of Adult (n = 28) and Child (n = 29) Participants based on the Proportion of Responses Containing Negation per Participant in Indicative and Subjunctive Condition.

Phonological Awareness in Emirati Arabic speaking children attending first grade

Phonological Awareness is the ability to perceive and manipulate the sounds of language (e.g., Goswami & Bryant, 1990; Holm et al., 2008). It emerges from acquired implicit phonological and lexical knowledge (Rvachew et al., 2017) and is a strong predictor of reading and literacy skills in children (e.g., Holm et al., 2008; Melby-Lervåg et al., 2012). The current study is an investigation of factors potentially affecting phonological awareness in Emirati Arabic speaking children attending first grade, based on their performance on three experimental conditions: Rhyme Matching, Onset Consonant Matching, and Segmentation of Initial Consonant. The following hypotheses were formulated: (1) children average accuracy will vary according to the experimental conditions, (2) since Arabic is a consonant based language, children's performance on the Rhyme Matching condition will be impeded compared to both consonant conditions, and (3) explicit instructions in the Onset Consonant Matching condition will yield to greater success than implicit instructions in the Segmentation of Initial Consonant condition.

Participants were 43 Emirati Arabic speaking children (10 F, 33 M) attending first grade with a mean age of 6 years 7 months ($SD=.35$; range=6;2-7;5). The phonological awareness task is an adaptation of the French Test de Conscience Phonologique Préscolaire (Brosseau-Lapr   & Rvachew, 2008) that was modeled on the phonological awareness test developed by Bird et al. (1995), developed for Emirati Arabic. The stimuli were selected from the Emirati Arabic Language Acquisition Corpus (Ntelitheos & Idrissi, 2017). The task was created as part of the Language Acquisition Test for Arabic (LATFA) project, evaluating oral skills in Emirati Arabic speaking children (Marquis, 2016-2018). The task, presented on an iPad, includes three conditions: Rhyme Matching, Onset Consonant Matching and Segmentation of Initial Consonant. The child is presented with a character and its name, and told that it "likes things that sound like her/his name" or that the character "likes things that start with the same sound as her/his name". For each trial, the child is presented with four pictured items, the target and three distractors (see Figure 1). In total, there were 12 trials for each condition, 3 trials per target, and four practice trials. Instructions were pre-recorded by a native Emirati Arabic female speaker to ensure consistency. Participants were asked to listen to each script, look at the given images and record their answers by touching the image of their choice. A trained research assistant noted all the participant's choices in a form and encouraged the child for her/his effort. Responses were then compiled for analyses.

A multivariate analysis of variance (MANOVA) was performed on children's target responses with task as the within-subject factor. A significant effect of Phonological condition was found [$F(2, 41)=77.316$, $p<.0001$, partial $\eta^2=.79$]. Post-hoc pairwise comparisons yielded significant differences between all conditions, all two-tailed and all $ps<.001$. Children were significantly better at Onset Consonant Matching [$M=9.79$, $SE=.38$] than Rhyme Matching [$M=4.16$, $SE=.247$], [$t(42)=12.57$] and Segmentation of Initial Consonant [$M=8.02$, $SE=.415$], [$t(42)=4.54$] and better at Segmentation of Initial Consonant than Rhyme Matching [$t(42)=8.425$]. These results confirm all our predictions.

The current study shows that Emirati Arabic children are able to perceive and manipulate the sounds of Arabic, while demonstrating weaknesses with rhymes/vowels. These results could be used in the future to improve reading and literacy skills in children, especially in English, the lingua franca of the United Arab Emirates, and help targeting attention to vowels that play a greater role in English than they do in Arabic. The current results could also be used in speech-language therapy to assess phonological awareness in Emirati Arabic children with language disorders.

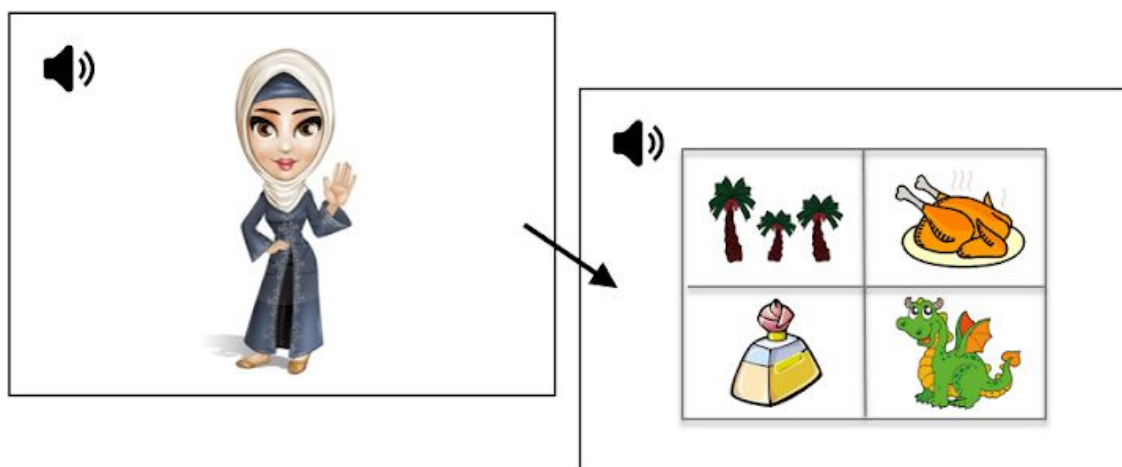


Figure 1.

Example of a trial.

Screen 1 (left): هذي لولو. لولو تحب الأشياء الي تتشابه اسمها. شو من هاي الأشياء لولو تحب؟ *This is Lulu. Lulu likes things that sound like her name. Which of these things is the one that Lulu likes?*

Screen 2 (right): 1. أب [ʔubuu] ‘father’ (target), and distractors: 2. مطر [mætʕar] ‘rain’, 3. دنيا [dənya] ‘world’ & 4. منزل [mənaz] ‘cradle’.

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Synopsis: Amidst Grice's (1989) framework of "maxims" of inferential communication, *scalar implicature* has drawn attention from researchers in L1 acquisition such as Noveck (2000), Papafragou & Musolino (2001), as well as attention in L2 acquisition in studies by Slabakova (2009) and Snape & Hosoi (forthcoming). These studies have scrutinized the question as to how interlocutors handle scalar implicature and whether it is a challenge to second language learners. The present paper asks a different question: Can L2 users handle implicature cancellation to the same degree as implicature generation? The results of our experiment suggest that cancelling implicatures is more difficult than generating them, at least for L2 learners. The results are in accordance with Levinson's (2000) view of implicature defeasibility.

Theoretical Background: Levinson (2000:49ff.) outlines a particular pragmatic environment where a potential scalar implicature may be cancelled. To illustrate we consider (1)-(3) from Levinson. When (1) is uttered, the hearer by default infers that (2) holds. This inference is evaporated when (1) is embedded inside the exchange given in (3). According to Levinson, what happens in (3) is that recognition of the specific goal of the conversation, i.e. knowing whether A can borrow 10 dollars and enter the cinema, may lead the hearer to stop generating the inference otherwise generated by default. Simply, whether the implicature (2) holds or not is not relevant to the goal of the conversation. When the utterance is a weaker statement than the "goal" proposition that B has 10 dollars, as in (4), the implicature is not cancelled. This is explained by Levinson's Relevance-based characterization of the phenomenon. Whether the implicature (the speaker has no more than 9 dollars) holds or not is certainly relevant to the goal of knowing whether A can enter the cinema in (3). According to Levinson, scalar implicatures are generated by default and therefore, in order to block the default process to take place, the relevant specific goal needs to be recognized in a given conversation.

Hypothesis and Prediction: If, as Levinson argues, scalar implicature generation is a default process and the type of implicature cancellation under discussion involves goal recognition as an extra process, then it is predicted that there are speakers who can generate an implicature but cannot cancel it. We conducted an experiment to test this hypothesis with L2 learners of English.

Methodology: Thirty-three Japanese university students with intermediate to advanced English ability engaged in a truth value judgement task. The story and subsequent puppet interaction involved two factors. The first was context (Relevant vs. Irrelevant). The second was quantifier type (*some* vs. *most*). (5) and (6) provide sample trials using the quantifier *some*. In '**Relevant**' conditions, the goal of the conversation is knowing whether he sells all of the cakes. With this goal, whether the potential implicature *He didn't sell all the cakes* holds or not is the issue. In '**Irrelevant**' conditions, the truthfulness of the inference *He didn't sell all the cakes* is not relevant to the goal. This time, the goal is knowing whether he sold some cakes or not. The puppet's original utterance itself entails that the goal presented by the situation is achieved. Under Levinson's characterization of the phenomenon, it is predicted that competent speakers reject the statement in the Relevant conditions due to the implicature being generated, and accept it in the Irrelevant conditions due to the inference being evaporated. The design includes the quantifier type factor to see if the difference affects participant's ability to cancel an implicature (cf. Papafragou & Musolino, 2001).

Results and Conclusion: L2 users correctly rejected the test sentence in 88.7% of the time in the Relevant/*Some* condition and 79.0% of the time in the Relevant/*Most* condition. They correctly accepted the test sentence 64.5% of the time in the Irrelevant/*Some* condition and 77.4% in the Irrelevant/*Most* condition. An ANOVA analysis revealed that no main effect of *context* ($F(1,30) = 2.64, p > 0.1$) or *quantifier* ($F(1,30) = 0.13, p > 0.1$) was found, but a reliable interaction between the two factors ($F(1,30) = 4.78, p < .05$) (see (7)) was observed. These results suggest that for the *some*-statements, generating implicatures was easier for the subjects than cancelling them, supporting the experimental hypothesis. One question remains, though. The asymmetry between the two contexts observed with *some* did not hold for *most* in the above experiment. For ill-understood reasons, the subjects appeared to perform "better" with implicature cancellation for the *most*-statements. However, this should not be taken at face value because they had more trouble with implicature generation for *most*. (This does not hold for native speakers. We have only tested 12 speakers, but they gave correct responses 100% of the time in the Relevant conditions, while they did so 70-75% of the time in the Irrelevant conditions regardless of which quantifier is used.)

- (1) I have 10 dollars.
- (2) Implicature: The speaker has no more than 10 dollars.
- (3) *The exchange occurring at the entrance to a cinema. A ticket costs 10 dollars.*
 A: It's going to cost us ten dollars to get in and I didn't bring a cent.
 B: Don't worry. I have 10 dollars.
- (4) B: I have 9 dollars.
- (5) *'Relevant' condition*

Story: The manager says to the baker "If you sell **all** of the cakes I will give you a new chef hat." He is selling the cakes until ALL have been sold. The manager is giving him the hat as promised.

Experimenter: "What happened in the story?"

Puppet: "He sold **some** of the cakes."

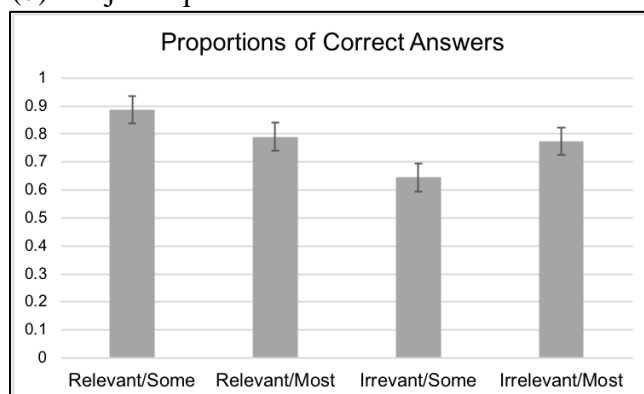
Experimenter: "Does the puppet answer well?"



- (6) *'Irrelevant' condition*

Story: The manager says to the baker "If you sell **some** of the cakes I will give you a new chef hat." He is selling the cakes until ALL have been sold. The manager is giving him the hat as promised. [The remainder of the trial goes the same as in (5).]

- (7) Subjects' performance on critical trials



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French preschoolers cleft differently from adults: Evidence from interrogative and relative paradigms

The status of (*wh*) *est-ce que* ‘(interrogative pronoun/adverb) is it that’ represents a long-standing matter of research in the acquisition of L1 French. The debate hinges upon the grammatical analysis preschoolers carry out or not of the sequence. First, analyzing *est-ce que* implies that children can manage subject clitic inversion (SCLI) and syntactically complex interrogative structures (Plunkett, 2000). Second, the analysis predicts that the verb, clitic and conjunction can be modified within the sequence (e.g., tense, SCLI, *que/qui* ‘that/who’ alternation; Prévost, 2009). Finally, the analysis suggests that children project left-peripheral positions (Zuckerman & Hulk, 2001; see Rizzi, 1997 and Belletti, 2015 a.o. for a range of possible projections). On the contrary, if *est-ce que* is not analyzed, the sequence is a chunk in child grammar (Strik, 2008), and no internal variability is expected.

The aim of the study is to contribute to the debate by testing the variability of the strings *c(e)+est+qu(e)* ‘it is that’ and *est+c(e)+qu(e)* ‘is it that’ in a corpus of seminaturalistic interrogative sentences (N=2,527) from 17 native speakers of French in a kindergarten class. Variability was investigated by comparing the following sequences: (i) no SCLI: *c’est wh-qu(e/i)* and *wh- c’est qu(e/i)*, (ii) SCLI: *wh-est-ce qu(e/i)* and *est-ce qu(e)*. The variables are *wh*-word, *wh*-position, SCLI, *que/qui* alternation, and intra/inter-child utterances. Table 1 reports the distribution of the *wh*-sequences of interest according to the *wh*-word (N=177).

Results for (i) are: 1) Children use both strings, which at first glance points to variability in the placement of the *wh*-word after or before the presentational *c’est* ‘it is’ form (N=66 and 56, respectively). However, the overall distribution is not random, since children resort to these two clefted sequences with two *wh*-words only (i.e., *quand* ‘when’ and *qui* ‘who’). The distribution of *quand* is particularly clear-cut: **interrogative *quand* is always clefted**, without or with fronting, as in (1a-b), and each child (5/17 children) uses only one of the two possible interrogative structures, which points to no intra-child variability. Interrogative *quand* strings do not vary either when it comes to SCLI (no *quand est-ce que* sequences). 2) The only locus of variation is the *wh*-word with *qui* ‘who’. The distribution of **interrogative *qui*** is less clear-cut in the dataset (14/17 children). Indeed, despite the fact that **10/14 children use only one of the two clefted structures** (N=53 and 54, respectively), as in (2a-b), 7/10 children also use the bare form *qui* (N=80), as in (2c), and 17/17 children produce the homophonous relative pronoun (N=618), as in (2d). There are no *qui est-ce qui* sequences. 3) 4/17 children use *quand* and *qui*, however, **only one child uses the two *wh*-words in the same type of sequence** (i.e., MAT: *c’est qui qu* and *c’est quand qu*). The other intra-child data are in complementary distribution (e.g., *c’est qui qu* and *quand c’est qu*). The *quand* sequences hence display no variability at all.

Results for (ii) seem to express the same limited variability. Among others, ***wh-est-ce qu* is always *qu’est-ce qu*** ‘what is it that’ (N=55, 15/17 children), as in (3a), and 4/15 children never switch to its adult, grammatical counterpart *ce que* ‘what that’ when the interrogative clause is embedded, as in (3b). *Est-ce qu* (N=45; 9/17 children) emerges with or after *qu’est-ce qu* (7/9 children).

In conclusion, it appears that *c’est wh- qu*, *wh- c’est qu* and *wh- est-ce qu* display very limited variability according to the variables of interest. One **crucial point** seems to be the **complementary distribution between bare and clefted forms when the bare item would otherwise be ambiguous**, as in (1a-b) vs (1c); see also (4a) vs (4b). **The discussion will hinge upon the function clefts hold in child grammar compared to adult grammar**, e.g., Do children resort to clefts in line with the Principle of Unifunctionality, which provides one-to-one mapping between forms and meanings (Karmiloff-Smith, 1979; Slobin, 1985), or because they lack the entire range of syntactic, left-peripheral projections? Do child clefts express Focus the same way adult clefts do?

Table 1: Distribution of *c'est qu* and *est-ce qu* sequences according to *wh*-word:

	<i>quand</i> 'when'	<i>qui</i> 'who'	<i>quoi/</i> <i>que</i> 'what'	<i>où</i> 'where'	<i>pourquoi</i> 'why'	<i>comment</i> 'how'	<i>à qui</i> 'to whom'	<i>à quoi</i> 'to what'	<i>(le)quel</i> 'which (one)'	Total
<i>c'est wh- qu*</i>	12	53	0	1	0	0	0	0	0	66
<i>wh - c'est qu*</i>	2	54	0	0	0	0	0	0	0	56
<i>wh - est-ce qu*</i>	0	0	55	0	0	0	0	0	0	55
Total	14	107	55	1	0	0	0	0	0	177

- (1) Interrogative (a-b) and declarative (c) *quand* 'when':
 - a. [*c'est quand que*] *tu nous donnes les livres ?* (MAT, 4;3.16)
'it is when that you give us the books'
 - b. *ah mais [quand c'est qu'] on va dans une autre école ?* (MAS, 3;6.9)
'er but when it is that we go to another school'
 - c. [*quand*] *on a fini de faire le dodo on va aller dans la cour* (MAT, 4;3.16)
'when we have finished sleeping we will go in the playground'
- (2) Interrogative (a-c) and relative (d) *qui* 'who':
 - a. [*c'est qui qu'] a fait ça ?* (LUS, 2;10.05) 'it is who who did that'
 - b. [*qui c'est qui*] *était là ?* (DYL, 3;8.27) 'who it is who was there'
 - c. [*qui*] *veut jouer ?* (VIK, 3;5.8) 'who wants to play'
 - d. *les cochons [qui] jouent à cache-cache.* (MAT, 3;11.18)
'the pigs who play hide-and-seek'
- (3) *qu'est-ce que* 'what is it that' in matrix (a) and embedded (b) interrogatives:
 - a. [*qu'est-ce qu'] i(l) fait Nounours ?* (LOU, 3;6.23) 'what is it that he does Nounours'
 - b. **on sait pas [qu'est-ce que] c'est.* (ELE, 4;6.11) 'one doesn't know what is it that it is'
- (4) Interrogative (a) and relative (b) *où* 'where':
 - a. [*où*] *il (y) a des dragons noirs ?* (MAS, 3;9.18) 'where there are black dragons'
 - b. *et moi j'étais dans l(e) manège des pirates [où est-ce qu'] il (y) avait des grosses cascades.* (MAS, 3;8.18)
'and I was on the pirates' roundabout where there were big waterfalls'

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The pronoun interpretation problem in bilinguals: evidence from Dutch/German speaking children

Introduction It is well-known that Dutch-speaking children, like English-speaking children, make mistakes in the interpretation of pronouns until age 7 (Pronoun Interpretation Problem or PIP, Baauw et al., 2011; originally called Delay of Principle B Effect, Chien & Wexler, 1990), whereas German-speaking children already interpret pronouns correctly from age 4 (Ruigendijk et al., 2010). This cross-linguistic difference is not yet fully understood.

Explanations are sought in differences in the pronominal systems of the languages.

Research question and hypotheses We address the question: what happens if a bilingual child acquires a language with (Dutch) and one without (German) the PIP? There are in principle four logical possible outcomes: Dutch influences German: a PIP in both languages; German influences Dutch: no PIP in either language; bidirectional influence: smaller PIP in Dutch, increased PIP in German; no influence: a PIP in Dutch, no PIP in German. The aim of this study is to further our understanding of the PIP and its cross-linguistic differences.

Method We tested 21 Dutch-German bilingual children, age 3;8–6;11 ($M = 5;7$, 10 girls) that were recruited from the areas of Groningen (NL) and Oldenburg (DE) with a picture selection task (Ruigendijk et al., 2010). To establish language proficiency and dominance, all children were also tested with a vocabulary test (PPVT) in Dutch and German and their parents received a brief questionnaire (adapted from Bilingual Language Experience Calculator, Unsworth, 2016). The comprehension test consisted of transitive and ECM sentences with a reflexive or a personal pronoun (8 items per condition, 32 in total, see (1) and (2) for examples). Each item was presented with three pictures, one depicting the pronoun interpretation, one the reflexive and one as a distractor depicting a different verb (Fig. 1 and 2); each child was tested in both languages, in separate sessions, with at least a week in between.

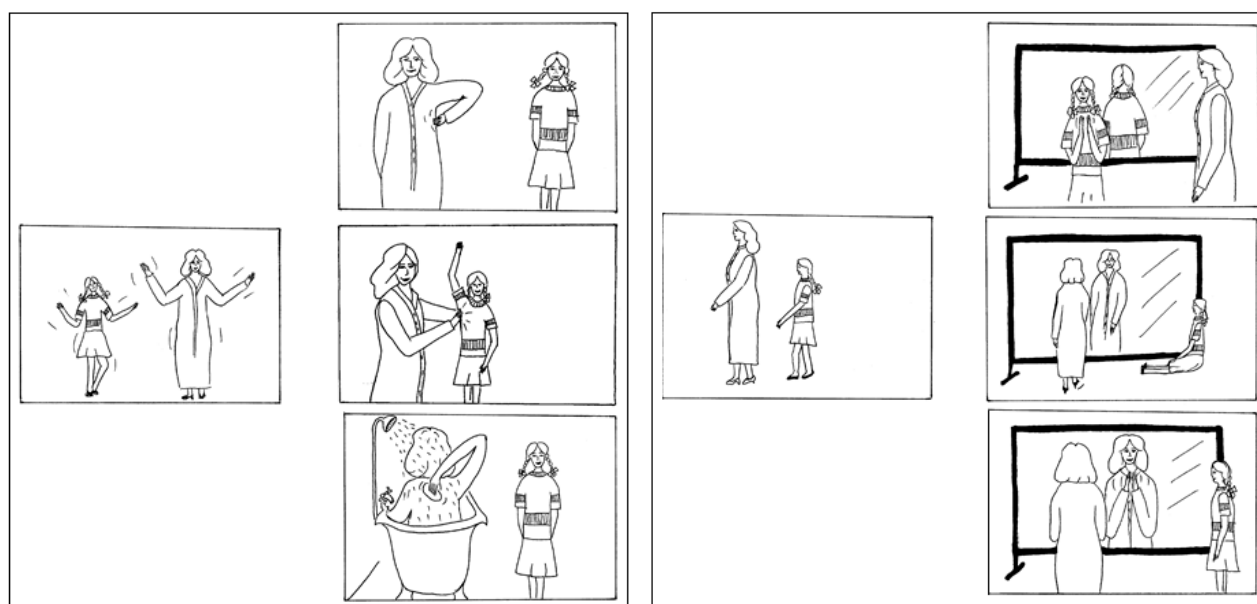
Results The children did not show a clear difference in performance on pronouns versus reflexives in transitive sentences in German, the same children did so in Dutch (see Table 1). Furthermore, performance on pronouns in ECM sentences drops considerably in both languages (as has been reported before, e.g. Baauw et al. 2011). These bilingual children perform lower than monolingual children the same age from earlier studies, in fact, in German their performance is more like that of monolingual 3-4 year olds (Ruigendijk et al. 2010). Mean vocabulary scores were similar in the two languages but with a wide range of variation in both languages. Children with better vocabulary scores in German or very similar scores for Dutch and German overall performed better in German than Dutch and did not show a PIP in German (with one exception). For children with a better vocabulary score in Dutch, the picture is more mixed.

Conclusions Our results indicate that there is no cross-linguistic influence in pronoun interpretation. We find a PIP in Dutch, but not in German. The results also show that the PIP is not a task effect or a language-independent effect of processing or pragmatics (as has been argued before, see Chien & Wexler, 1990; Conroy et al. 2009) and also not strongly influenced by language proficiency. Rather, the PIP seems to originate in the grammatical system of the specific language: the observed cross-linguistic difference may arise from the stronger ambiguity of Dutch pronouns compared to German pronouns.

Examples: All items started with an introduction sentence, e.g ‘first the woman and girl danced ...’

- (1) Dutch... en daarna heeft de vrouw zichzelf/haar gekieteld
 German: ..., und dann hat die Frau sich/sie gekitzelt
 ‘..., and then the woman tickled herself/her’
- (2) Dutch: ... en daarna zag de vrouw zichzelf/haar applaudiseren
 German: ... und dann sah die Frau sich/sie klatschen
 ‘..., and then the woman saw herself/her applauding’

Figure 1 and 2 corresponding with example 1 and 2 respectively.



	Dutch		German	
	reflexive	pronoun	reflexive	pronoun
Transitive	79.9	63.6	78.6	74.4
ECM	82.6	48.4	79.2	63.7

Table 1: % correct

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An Experimental Study of the L2 Acquisition of Mandarin Passives

The present study investigates the acquisition of Chinese Mandarin passive constructions by English-speaking L2 learners and Japanese-speaking L2 learners of Chinese, in the light of Universal Grammar and markedness with interlanguage (IL) phenomenon. The study focuses on the learner's acquisition of *bei*-passives and *bei*-less 'notional passives in Mandarin, the overpassivization phenomenon of Mandarin unaccusative verbs in learners' IL grammar, the learners' sensitivity to varying theta roles of passive subjects, and the proper use of Mandarin morpheme *bei* by these L2 learners.

Passivization displays a complex syntactic phenomenon in different languages. The Mandarin *bei* construction is debatable. Some argue it is a passive, involving movement (Koopman, 1984; Travis, 1984), but others reason it is a biclausal structure (Hashimoto, 1987; Huang, 1999; Wei, 1994). It is also found that a typical L2 error of Chinese L2 learners of English ergative structure is the overgeneralization of passives to ergative structure (e.g. Chang & Wang, 2016; Ju, 2000; Su, 2008; Mathieson, 2017; Yip, 1995; Zobl, 1989, etc.). This overpassivization phenomenon, which is not restricted to any particular L1 group (Kondo, 2005), may thus suggest that the errors are language universal rather than language specific. However, this cannot be proved as L2 universal, unless we can observe the same phenomenon occurring in the reverse direction.

A cross-sectional experiment consisting of an elicited Picture Description Production task and a Grammaticality Judgment task was conducted to examine the above issues. Two main research questions were addressed in this study: (1) To what extent does L1 transfer play a role in the L2 acquisition of Mandarin passives and related structures by the L2 learners? (2) Do L2 learners show a tendency to overpassivize unaccusative verbs in their Mandarin IL?

22 English-speaking learners of Mandarin and 26 Japanese-speaking learners of Mandarin and 12 native speakers of Mandarin participated in the experiment. The English-speaking and Japanese-speaking learners were divided into two proficiency levels – intermediate and advanced.

The results of the experiment show that there is clear evidence of transfer effects from learners' L1s in the acquisition of Mandarin 'notional passives' (topic-comment sentences), passive sentences with the theme/patient NP as the 'retained' object, and passive sentences with passivized subjects of varying theta roles (e.g. Recipient/Goal, Instrument/Material and Locative). It is shown that Mandarin pseudo-passives are marked and L2 learners will be able to acquire them till they reach the late stage of acquisition, which may indicate the turning of the subject-prominent hypothesis to topic-prominent hypothesis in interlanguage. It is also found that the scope of Mandarin passives is more limited when compared with English passives, which indicates that the sentences of Chinese are a superset of the sentences of English in this aspect of grammar. On the other hand, there is no strong evidence for the overpassivization of Mandarin unaccusative verbs, which calls into question the claim that the overpassivization phenomenon of unaccusative verbs is universal in SLA.

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Keywords: L2 acquisition, Mandarin passives, Universal Grammar, language universals, interlanguage, overpassivization

The Development of Subject *Wh*-questions by Japanese Adult Learners of English

This study will theoretically explain how Japanese learners of English (JLEs) develop (short-distance) subject *wh*-questions in English. Although in some first language (L1) acquisition studies, it is proposed that the subject *wh*-question is easier to acquire than the object *wh*-question (Stromswold, 1988; Tyack & Ingram, 1977), in second language (L2) acquisition, it was found that subject *wh*-questions (subject *who*-questions and subject *what*-questions) are more difficult than any other *wh*-questions for JLEs to acquire (Shirahata & Ogawa, 2017; Shirahata et al., 2017). Then, we attempt to explain why subject *wh*-questions are more difficult than the other *wh*-questions for JLEs.

To explain this phenomenon, we adopt the following two theoretical perspectives: i) syntactic approaches: the *Minimalist* approach (Chomsky, 1995) and the *Cartographic* approach (Rizzi, 1997), and ii) a semantic approach: the animate vs. inanimate contrast in the subject noun. More specifically, English has a dual-probe system involving the use of Focus and Force heads as *wh*-probes (Branigan, 2005; Radford, 2009; Rizzi, 1997), whereas Japanese has a single *wh*-probe system in which T/Tense is used as the sole *wh*-probe in short-distance *wh*-questions. From the semantic perspective, the subject *what* (inanimate)-question (e.g., *What swept you off?*) is often produced in English, but native speakers of Japanese normally consider that a sentence which has an inanimate subject and an animate object is unacceptable (Tsunoda, 2009), and they also feel that the subject *nani* (= *what*) (inanimate)-question (e.g., *??Nani-ga anata-o saratta no?* = *What swept you off?*) is unnatural or awkward in Japanese.

Participants in this study were 45 first year university students in Japan. They took the Oxford Quick Placement Test and were divided into three groups (*Low*, *Intermediate* and *Advanced* level). A multiple-choice test was given to them with a specific context and four English *wh*-question sentences. The test sentences included two types of subject *wh*-questions in English involving Type 1: animate subject *who*-questions (e.g., *Who bought this bag?*), and Type 2: inanimate subject *what*-questions (e.g., *What changed Mary so much?*). Each type has 5 tokens, so there were 10 test questions and 10 distractors altogether.

Results of the *who*-question (Type 1) show that mean scores of the correct response were 2.93 for the Low Group, 2.25 for the Intermediate Group and 4.21 for the Advanced Group respectively. Participants in the Low Group obtained a better score than those in the Intermediate Group, indicating what we call “U-shaped development.” The overall results suggest that the choice of initial *wh*-probes used by JLEs is transfer-based; JLEs at the initial stage assume that English has the same T-probe system as Japanese. Then, after receiving plenty of *do*-support input, they gradually become aware that *wh*-questions like *What do you like?* are inconsistent with the use of T as a *wh*-probe. However, they wrongly realise that all the *wh*-questions including subject *wh*-questions must contain a functional head Focus above TP which triggers movement of a *wh*-goal to spec-Focus and concomitant movement of T to Focus. Then, JLEs gradually come to realise that Focus and Force are used in disjunctive environments (viz. object or subject *wh*-questions) by utilizing a small amount of input of subject *wh*-questions. In Type 2, however, mean scores of the correct response are 0.67 for the Low Group, 1.50 for the Intermediate Group and 3.57 for the Advanced Group. The mean score of the Low Group is very low. This is also because of the L1 semantic transfer from Japanese: Japanese rarely puts an inanimate noun in the subject position in verb transitive sentences.

As stated above, by applying findings from theoretical linguistics, we can explain JLEs’ developmental stages of subject *wh*-questions in English.

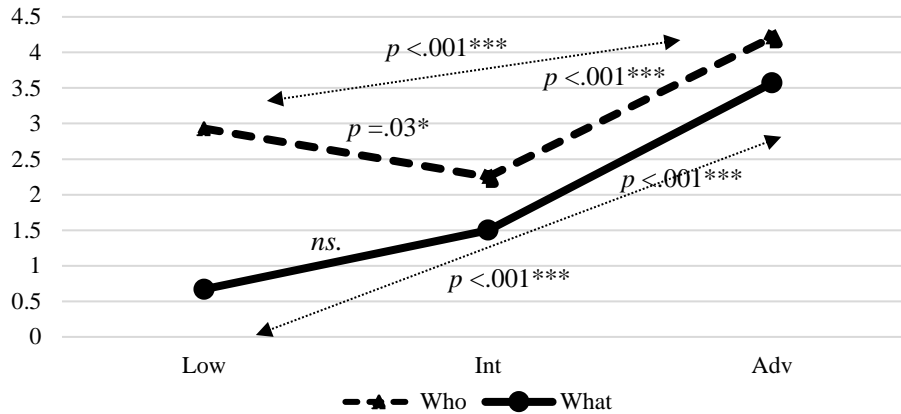


Figure 1. Results of the experiment (1)

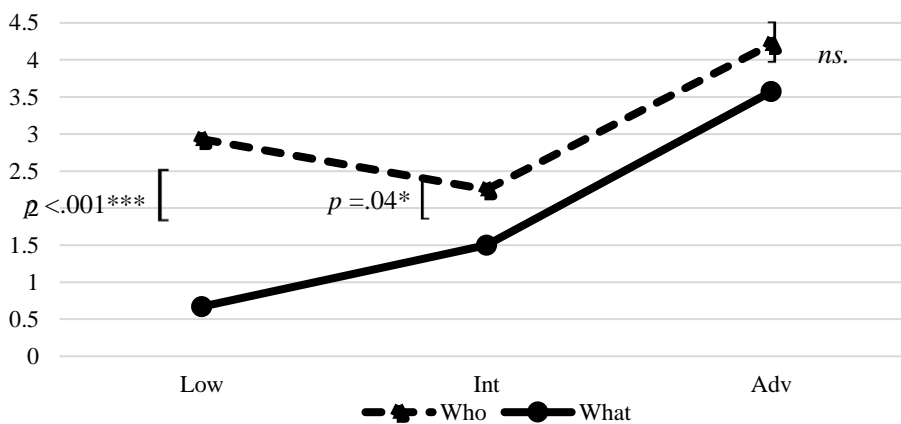


Figure 2. Results of the experiment (2)

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Is there DLD-type phonological impairment in ASD?

Background: In the literature that has addressed the question of phonological development in children with Autism Spectrum Disorder (ASD), findings have been somewhat conflicting (Wolk et al., 2016). Several studies have indicated that in the area of language, phonology is a relatively spared domain for children with ASD (Rapin & Dunn, 2003), while others have identified a subgroup of children with mild or even severe phonological impairment (McCleery et al., 2006, Rapin et al., 2009). Quantitative and qualitative analyses of the phenotypical realization of this impairment have suggested that it resembles that displayed by children with Developmental Language Disorder (DLD) (Kjelgaard & Tager-Flusberg, 2001; Tuller et al., 2016). DLD phonological deficit manifests sensitivity to increasing word length (Archibald & Gathercole, 2006 a.o.) and/or to complex syllable structure, especially consonants in coda position (Ferré et al., 2015; Gallon et al., 2009). While syllable length has been found to be less problematic for children with ASD (Riches et al., 2011; Whitehouse et al., 2008), very little is known about which phonological structures cause difficulties in children with autism and whether they are the same as those in children with DLD.

Objectives: Our goal was to determine whether syllable structures are affected in the same way (quantitatively and qualitatively) in children with ASD with phonological impairment (ASD-PI) and children with DLD. We used a Nonword Repetition Task (the LITMUS-NWR-French, Ferré & dos Santos, 2015), designed to target specific phonological structures, while controlling the impact of working memory (nonword length is restricted to 1 to 3 syllable items). This test has already been shown to reveal phonological impairment in children with DLD (dos Santos & Ferré, 2018).

Method: Eighteen verbal children with ASD-PI aged 6-12 y.o. ($M = 8;11$, $SD = 1;7$) and nineteen age-matched children with DLD ($M = 8;1$, $SD = 1;6$) were administered the NWR task. The phonological impairment in both groups was calculated on the basis of their performance on the NWR task ($< 77\%$ of correct repetitions). Two control groups consisted of younger typically developing (TD) children aged 4 (TD4, $n = 19$) and 5 (TD5, $n = 17$).

Results: Global scores of the DLD group were significantly lower than those of the ASD-PI group. Crucially, both PI groups performed significantly lower than the TD4 and the TD5 groups, showing that phonological abilities of children with ASD-PI and children with DLD are below those of younger TD children (Fig1 and Table 1). Error analysis revealed 4 (/17 different structures) that were similarly affected in both the DLD and the ASD-PI groups (Fig2). One structure, internal codas (/pil.fu/), was highly affected (ASD-PI 45% correct repetition; DLD 38% correct repetition; $p = .423$). Two other structures were affected, but less so: branching onset /plu/ (ASD-PI 82% correct repetition; DLD 79% correct repetition; $p = .338$) and final consonants /skap/ (ASD-PI 85% correct repetition; DLD 76% correct repetition; $p = .116$). A fourth structure, the final cluster with post final -s (/pisk/) condition was highly affected in the DLD group, but only slightly affected in the ASD-PI group (ASD-PI 88% correct repetition; DLD 59% correct repetition; $p = .006$).

Conclusion: In our study both quantitative (overall performance) and qualitative analyses (error typology) showed general similarities between children with ASD-PI and children with DLD. Children with ASD-PI were affected on the same syllable structures as their DLD peers, however their deficit seemed to be more concentrated to very complex syllable structures (internal codas). The few differences detected between the two groups can be attributed to greater heterogeneity of performance and greater severity of phonological deficit in the DLD group. These results reinforce the idea that phonological impairment of children with ASD-PI may be phenotypically the same as the one found in DLD. Moreover, our study confirmed that children with ASD-PI do not resemble their younger TD peers either. Clinically speaking, our study highlighted that specific aspects of phonological complexity (internal coda) could be used as markers of phonological impairment in children with ASD.

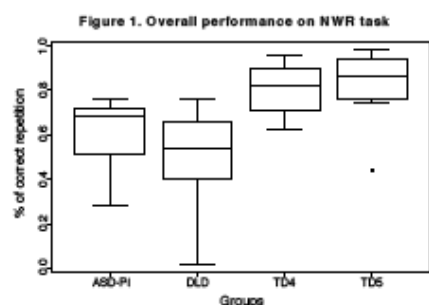
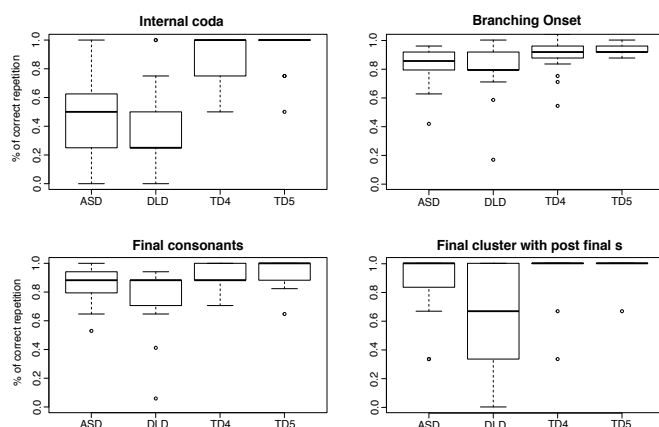


Table 1. Intergroup differences on NWR overall performance: p-values for analyses of variance (ANOVA)

	ASD-PI	DLD	TD4	TD5
ASD-PI		.005	.001	<.001
DLD	.005		<.001	<.001
TD4	.001	<.001		.192
TD5	<.001	<.001	.192	

Figure 2. Mean percentages of exact repetition on internal coda, branching onset, final consonants and final cluster with post final s for each group of children



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The acquisition of focus-identification: The role of variation in focus-marking

❶ The mastery of the comprehension of prosodic focus-marking has typically been described as a protracted developmental process in first language acquisition [1, 2, 3], despite the fact that children are highly sensitive to linguistically relevant prosodic distinctions already in infancy [4, 5]. Some recent studies suggest, however, that when methodological confounds are appropriately avoided, the ability to accurately identify focus, based on its prosodic marking, is revealed to be in place already at an early age, potentially supporting a full competence view [6]. It remains under-studied, however, how the acquisition process may be affected by the variation found in the marking of focus across different languages [7, 8]. Our study contributes to addressing this question by investigating focus-identification by Hungarian children. The system of focus-marking in Hungarian stands out in that in this language focus is marked mandatorily by word order (fronting). Therefore, Hungarian children rarely need to rely exclusively on prosodic cues for focus identification. Our hypothesis was that the systematic surface syntactic marking of focus diminishes the disambiguating role of prosodic marking for the child, therefore we expected that the comprehension of prosodic focus marking will be delayed in comparison to the languages investigated so far, in which syntactic focus marking is only an option. ❷ In our experiment we used a comprehension task (an adaptation of the task in [6]) in which children have to accept or correct assertions made by a puppet. Critical sentences were invariably false (*Fig. 1*, (1)), but the focal accent in them fell either on the Subject or on the VP (a “prosody-only” task). Depending on whether the S or the VP was interpreted as the focus of the sentence, the participant was expected to correct the assertion that it expressed in two different ways: either by correcting the S or by correcting the VP. Half of the participants in each group received only S-focus sentences, and the other half received only VP-focus sentences as critical and control items. ❸ We predicted that the relative delay in the acquisition of prosodic focus marking will be revealed in two ways. **P1:** The proportion of congruent responses will be lower in 4-, 5- and 6-year-old age groups than in the corresponding age groups in [6]. **P2:** The rate of Hungarian children’s focus-congruent responses will increase with age. ❹ Participants’ ($N=52$) responses to critical items are summarised in *Fig 2*. These responses were encoded for statistical analysis (using binomial generalized mixed-effect models) as binary data based on whether they were congruent or non-congruent (the latter including incongruent corrections, double corrections of both the S and the VP, as well as non-corrective responses). The results confirm both **P1** and **P2**. **P1:** While the rate of congruent responses in the S-focus condition was about 50-70% in English, German and French 4-to-6-year-olds in [6], the same measure was only 20-30% in the corresponding Hungarian groups. (The fact that VP-focus sentences elicited more congruent corrections than S-focus sentences was expected, since in Hungarian S+VP sentences VP=focus and S=topic by default, with the default nuclear accent falling on the VP-initial verb [9].) **P2:** We found 6-year-olds’ performance to be better than that of both 4- and 5-year-olds (there was no age effect in any of the languages [6] examined). ❺ Overall, our study suggests that the developmental trajectory of the comprehension of prosodic focus-marking may be affected by the degree of prevalence of alternative focus-marking strategies in the given language, a fact that is not directly explained under a full competence view of the comprehension of prosodic focus marking. In our talk we compare these results to the outcomes of another version of the same experimental task, currently running, in which S- and VP-focus are marked only syntactically but not prosodically. This version adapts the method in [10] of auditory presentation by a “robot” whose voice is devoid of sentence-level intonation and rhythmic properties. We expect that in this “syntax-only” task Hungarian children will perform significantly better in each age group than in the “prosody-only” task, and furthermore, they will show no age effect, similarly to what [6] found in their “prosody-only” experiment in English, German and French.

- (1) a. A KENGURU babázik. (S-focus)
the kangaroo plays.with.a.doll
b. A kenguru BABÁZIK. (VP-focus)
the kangaroo plays.with.a.doll

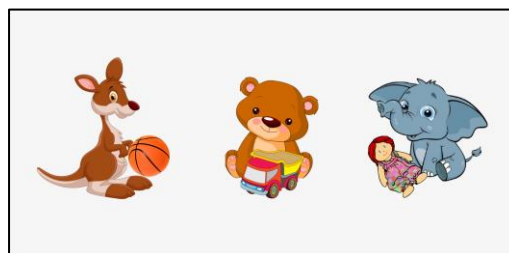


Figure 1. Example visual stimulus

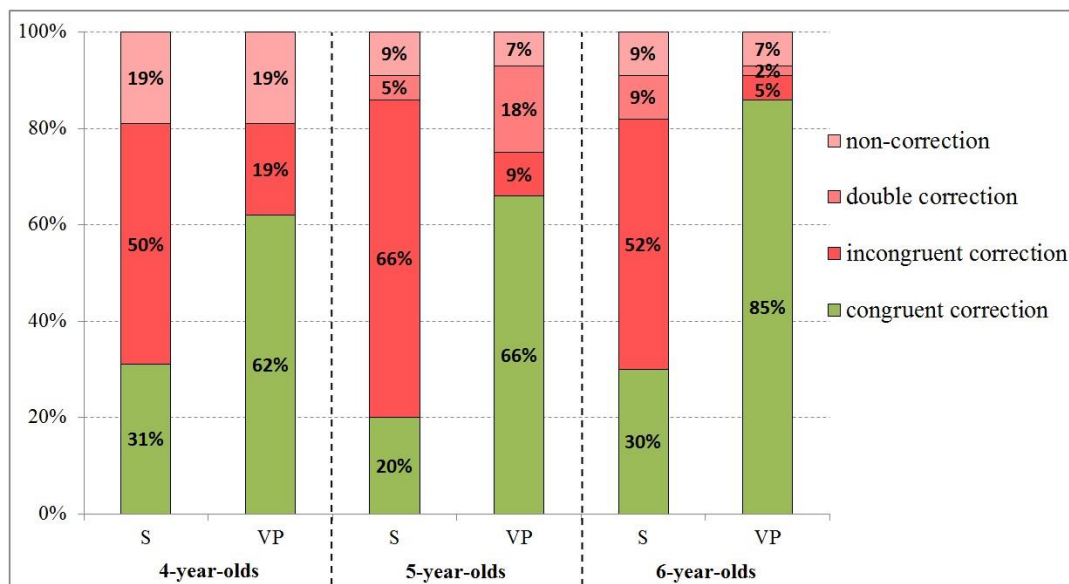


Figure 2. Results of the “prosody-only” experiment

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A Sentence Repetition Task for bilingual children: How and when discourse helps

Sentence Repetition Tasks (SRTs) are useful instruments for assessing bilingual language competence (e.g., [1], [2]). Most existing SRTs have been designed by taking monolingual acquisition of the targeted structures as a point of reference. However, when performing a SRT, bilinguals may rely on different processing resources than monolinguals, being, for example, more sensitive to discourse-pragmatic (instead of grammatical) information ([3] and [4]): Recent studies have shown that among bilinguals, discourse coherence favors sentence processing ([5]). Traditional SRTs include sentences that are not connected to each other (e.g., [2]). We aim to investigate whether adding a discourse dimension to SRTs improves bilingual children's performance and if the effects of discourse are different depending on whether children are tested in the dominant or non-dominant language.

We designed 4 SRTs (2 for Italian and 2 for German) that differ for the presence (story) vs. absence (no-story) of a discourse dimension. In story-SRTs, the target sentences are connected to each other to form a story about an alien and a beaver, while no-story-SRTs include unrelated sentences (Tables 1 and 2). In each language, the two versions target exactly the same types of structures. The sentences are matched for number of words, syllables and frequency of lexical words (measured based on [6] for Italian and [7] for German). To ensure comparability across languages, the sentences of the German and Italian tasks were matched for syntactic complexity (e.g., varying in the presence vs. absence of embedding or movement) as well as number of words, following the guidelines provided by the Bilingualism-SLI COST Action ([2]; [8] for Italian and [9] for German]). Each of the 4 tasks consists of 29 sentences targeting 49 structures (with some structures being targeted more than once). For the analysis here, we only considered if the child was able to reproduce the target structure (independently of changes in other parts of the sentence), giving either 0 or 1 point(s). The maximum score for each SRT was 49.

18 German-Italian bilingual children ranging in age from 7;5 to 11;0 (M: 8;7) living in Hamburg (Germany) and attending a German-Italian bilingual school with main instruction in German were tested in two different sessions (with one week in between), one for the story-SRT in Italian and the other for the no-story-SRT in German and vice versa, counterbalancing the order. As a proxy for dominance, we considered the difference between the percentage scores obtained in a productive vocabulary test in Italian (adapted version of [10]) and German ([11]). We also tested children's memory capacity by using a Backward-Digit-Span task, administered in both languages, considering the best performance across the two languages.

As a group, the children are German-dominant (M: -22.25; SD: 27.37). A 2x2 repeated measure ANOVA with score in the SRT as a dependent variable, condition (story vs. no-story) and language as independent variables and WM-scores as covariate revealed a significant effect of *condition*, *language*, and a significant *condition x language* interaction ($F(16) = 17.80, p = .001$). As Figure 1 shows, participants' performance in the story-SRT is better only in Italian, the non-dominant language. We found no interaction with WM-scores.

The results of the study show that bilingual children's performance benefits from discourse coherence. However, the effects of discourse are only visible in the non-dominant language (cf. vocabulary and SRT-scores in Figure 1), which suggests that bilingual children's sentence processing is sensitive to syntactic and discourse cues to a different extent, depending on whether SRT is performed in the dominant or non-dominant language. These results have implications for the design of language ability assessment tools for heritage and bilingual speakers tested in their non-dominant language. Adding a discourse dimension may affect their performance positively.

Target structures	Story-SRT	No-story-SRT
Coordinated sentences (with clitics)	<i>Lo raggiunge e gli chiede cosa mai gli sia successo.</i> [He reaches him and asks him what has happened to him]	<i>Lei vede il fratello e gli chiede cosa mai gli sia successo.</i> [She sees her brother and asks him what has happened to him]
Subordinated clauses (complement)	<i>Lo raggiunge e gli chiede cosa mai gli sia successo.</i> [He reaches him and asks him what has happened to him] <i>L'alieno gli dice che la navicella ha smesso di funzionare.</i> [The alien tells him that the spacecraft has stopped to work]	<i>Lei vede il fratello e gli chiede cosa mai gli sia successo.</i> [She sees her brother and asks him what has happened to him] <i>I pompieri sentono che la signora ha smesso di chiamarli.</i> [The firemen realize that the lady has stopped to call them]
Structures generated via movement (e.g., clitic left dislocations)	<i>Alcuni pezzi, l'alieno li ha persi durante la caduta.</i> [Some pieces, the alien has lost them during the fall]	<i>Alcune finestre, il nonno le ha chiuse durante il temporale.</i> [Some windows, the grandfather has closed them during the storm]
Structures involving movement and embedding (e.g., object relative clauses)	<i>Il castoro trova i pezzi che l'alieno sta cercando.</i> [The beaver finds the pieces that the alien is looking for]	<i>Il veterinario lava il cane che il leone sta accarezzando.</i> [The vet washes the dog that the dog is petting]
Subordinated clauses (adverbial)	<i>Dopoché ha messo i pezzi insieme, accende il motore.</i> [After putting the pieces together, he turns the engine on]	<i>Dopoché ha messo la lettera in una busta, lei colora il disegno.</i> [After putting the letter in the envelope, she paints the drawing]

Table 1: Sentence Repetition Task with story (on the left) and without story (on the right) for Italian.

Target structures	Story-SRT	No-story-SRT
Coordinated sentences (with pronouns)	<i>Er kommt auf ihn zu und fragt ihn, was passiert sei.</i> [He reaches him and asks him what has happened to him]	<i>Sie sieht den Bruder und fragt ihn, was mit ihm passiert sei.</i> [She sees her brother and asks him what has happened to him]
Subordinated clauses (complement)	<i>Er kommt auf ihn zu und fragt ihn, was passiert sei.</i> [He reaches him and asks him what has happened] <i>Der Alien erzählt ihm, dass das Raumschiff aufhörte zu funktionieren.</i> [The alien tells him that the spacecraft has stopped to work]	<i>Sie sieht den Bruder und fragt ihn, was mit ihm passiert sei.</i> [She sees her brother and asks him what has happened to him] <i>Die Feuerwehrmänner hören, dass die Frau aufhörte, sie zu rufen.</i> [The firemen realize that the lady has stopped to call them]
Structures generated via movement (e.g., topicalization)	<i>Einige Teile hat der Alien verloren, als der Unfall passierte.</i> [Some pieces the alien has lost when the accident happened]	<i>Einige Fenster hat der Großvater während des Sturms geschlossen.</i> [Some windows the grandfather has closed during the storm]
Structures involving movement and embedding (e.g., object relative clauses)	<i>Der Biber findet die fehlenden Teile, die der Alien gesucht hat.</i> [The beaver finds the pieces that the alien is looking for]	<i>Der Tierarzt hat den Hund gewaschen, den der Löwe streichelt.</i> [The vet washes the dog that the dog is petting]
Subordinated clauses (adverbial)	<i>Nachdem er die Teile wieder repariert hat, start er den Motor.</i> [After putting the pieces together, he tries to turn the engine on]	<i>Nachdem sie den Brief in einen Umschlag gesteckt hat, malt sie ein Bild.</i> [After putting the letter in the envelope, she paints the drawing]

Table 2: Sentence Repetition Task with story (on the left) and without story (on the right) for German.

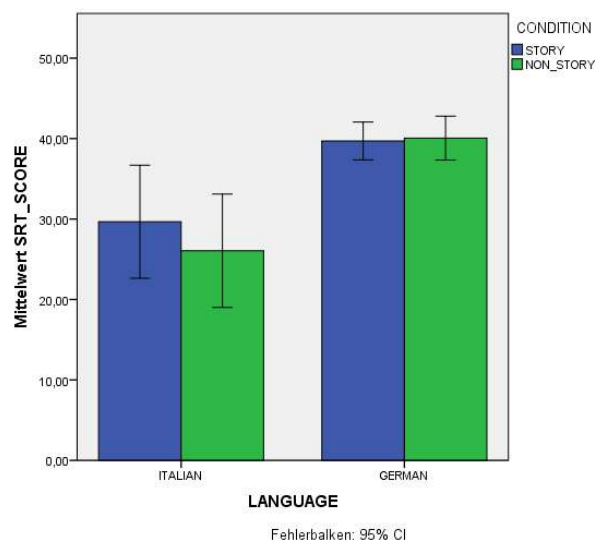


Figure 1: SRT-scores across conditions (story vs. no-story) and languages.

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Scope and Scalar Implicatures in Children's Mandarin: The Role of Working Memory

1. Introduction: Acquisitional delays have been observed for both scope assignment and scalar implicatures (e.g., Musolino 1998; Lidz 2016; Chierchia et al. 2001). Both types of delay have been proposed to follow from children's immature processing capacities. Yet, no one has examined the two phenomena within the same children. This paper provides within-subject data from Mandarin-speaking children on processing capacity, scope assignment for scope-bearing structures like (1), and scalar implicatures (<yixie 'some', suoyou 'all'>).

Reinhart (1999, 2004) proposes that licensing an inverse-scope reading, or checking a scalar implicature, requires *Reference Set Computation* (RSC, as in 2), which is too taxing for young children. If, following Szendrői et al. (2017), I assume that children with limited processing capacity simply skip RSC and allow all the readings under consideration, then the prediction is that Mandarin-speaking children with limited processing capacity will both allow yixie 'some' where the stronger quanbu 'all' is true, and allow inverse scope where adults do not.

2. Method: A 'covered-box' task was used to test scope assignment and scalar implicatures. For each sentence, participants were asked to choose one of three pictures. They were trained to choose the hidden picture whenever they thought both visible pictures were incorrect; for example, the hidden picture was the expected adult response to the items in (3).

i. *Acquisition of scope assignment:* Two readings were created: surface-scope (as control) and inverse-scope readings of sentences like (1). There were 9 items for each reading (n=18), plus 9 matched fillers, in pseudorandom order. *Inclusion criteria:* a child had to be correct on at least 7 of the 9 control items, and on at least 7 of 9 filler items: $p(\text{at least 7 of 9 correct} | H_0) = .008$.

ii. *Acquisition of scalar implicatures:* The target scale was <yixie 'some', suoyou 'all'>. Two conditions were created: logically true & pragmatically informative (LI) (as control) and logically true & pragmatically under-informative (LU). There were 6 items for each condition (n=12) and 6 matched fillers, presented in pseudorandom order. *Inclusion criteria:* a child had to be correct on at least 5 of the 6 control items, and on at least 5 of 6 filler items: $p(\text{at least 5 of 6 correct} | H_0) = .017$.

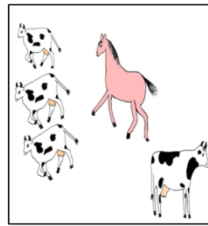
A *digit-span task* was used to evaluate working memory. Participants were asked to recall a sequence of numerical digits, both forwards and backwards, with progressively longer sequences.

Participants: 22 Mandarin-speaking children (4;05-7;04, mean age 5;08) and 12 Mandarin-speaking adults participated in all three tasks. 18 children (4;10-7;04, mean age 5;09) passed the screening for scope assignment, 16 children (4;05-7;04, mean age 5;08) passed the screening for scalar implicatures, and 12 children (4;10-7;04, mean age 5;10), as well as all adults, passed both.

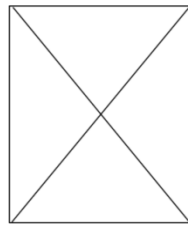
3. Results & Discussion: Adults never allowed inverse-scope readings (0%), but children (n=18) accepted them around 57% of the time (see (4)). Moreover, these children showed a significant inverse correlation between backward digit span and the acceptance of inverse scope readings ($r = -.6997$, $p = .0012$). For scalar implicatures, adults seldom allowed yixie (4.17%) in the LU condition, but children (n=16) did so frequently (84.38%) (see (5)). Children showed a significant inverse correlation between backward digit span and the acceptance of yixie 'some' in the LU condition ($r = -.7587$, $p = .0006$).

The results for the 12 children passing both screenings are shown in (6). Once again, children showed a significant inverse correlation of backward digit span both with their acceptance of inverse scope readings ($r = -.6919$, $p = .0126$), and with their acceptance of yixie 'some' in the LU condition ($r = -.8172$, $p = .0012$). There was also a strong positive correlation between acceptance of inverse scope readings, and acceptance of 'some' in the LU condition ($r = .6397$, $p = .0252$). In sum, the present evidence provides strong new support for Reinhart's approach to the observed delays in both scope and scalar implicatures.

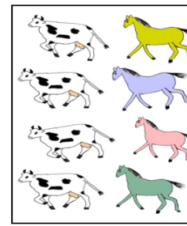
1. Mandarin Chinese: you **yi-pi** ma zai zhui **mei-tou** nainiu ($\exists > \forall / * \forall > \exists$)
have one-Cl horse Progressive chase every-Cl cow
'There is a horse chasing every cow.'
2. *Reference Set Computation*: The reference set consists of pairs $\langle d, i \rangle$ of derivation and interpretation, and it is motivated by interface needs: A given $\langle d, i \rangle$ pair is blocked if the same interface effect could be obtained more economically (i.e., there is a more economical $\langle d, i \rangle$ competitor in the reference set). Reference set computation is triggered *only* by the application of uneconomical procedures. (Reinhart 2005)
3. *i. Scope-assignment*:
Test sentence: you yi-pi ma zai zhui mei-tou nainou. 'There is a horse chasing every cow.'



Distractor



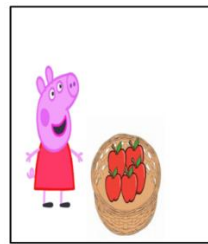
Hidden picture



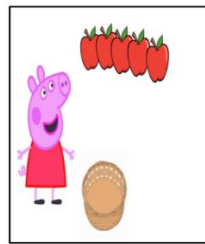
Inverse Scope

ii. Scalar implicature:

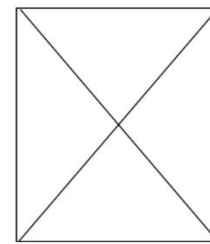
Test sentence: xiaozhu peiqi na-le yixie pingguo. 'Peppa Pig took some apples.'



LU condition



Distractor



Hidden picture

4. *Results for scope assignment*

Participants:	Children (N=18)	Adults (N=12)
Acceptance of surface-scope readings	95.1%	100%
Acceptance of inverse-scope readings	57.4%	0%

5. *Results for scalar implicatures*

Participants:	Children (N=16)	Adults (N=12)
Acceptance of 'some' in LI conditions	99.0%	100%
Acceptance of 'some' in LU conditions	84.4%	4.2%

6. Results for the 12 children who passed all inclusion criteria

Acceptance of surface-scope readings	Acceptance of inverse-scope readings	Acceptance of 'some' in LI conditions	Acceptance of 'some' in LU conditions
96.3%	60.2%	98.6%	80.6%

Selected References:

Chierchia, G. et al. (2001) The acquisition of disjunction: Evidence for a grammatical view of scalar implicatures. *BUCLD 25*. Lidz, J. (2016) Quantification in child language. *Oxford Handbook of Developmental Linguistics*. Reinhart, T. (1999) The processing cost of reference set computation: Guess patterns in acquisition. *OTS Working Papers in Linguistics*.

PHONETIC DRIFT AND POSITIONAL MARKEDNESS IN BILINGUAL PRODUCTIONS

Research has shown that sequential bilingual learning may have an effect on L2 speech production even in cases in which speakers began acquiring their L2 in early childhood and have subsequently had ample opportunities to continue learning its speech patterns. That is, even early exposure to L2 may not be sufficient for bilinguals to acquire native-like (monolingual-like) phonetic patterns in their L2 (Flege, 2007; Fowler, Sramko, Ostry, Rowland & Halle, 2008; Dupoux, Peppercamp & Sebastian-Galles, 2010; Yavaş, 2017).

While the effects of bilingualism on L2 are well-documented, L1 does not seem to be immune to these either. There have been several studies showing non-monolingual-like L1 productions among bilinguals. Evidence for such phonetic drift was provided by Flege (1987) regarding VOTs in English-French bilinguals, Major (1996) in English-Portuguese bilinguals, and Kang & Guion (2006) in late Korean-English bilinguals. The occurrence of phonetic drift is not restricted to temporal aspects as it is also found in spectral aspects of consonant production (Peng, 1993), in intonational properties (Mennen, 2004) and in vowel production (Baker & Trofimovich, 2005). In the study described below, we examine the possibility of such phonetic drift in L1 (Spanish) of the Spanish-English bilinguals.

This study examines the effects of (L2) English laterals in different phonetic contexts on the productions of Spanish laterals by Spanish-English bilinguals. Spanish /l/ is always ‘clear’ and is associated with a high second formant (F2) frequency and a large difference between F2 and F1 frequencies (Hualde, 2005; Quilis, 1981), while English lateral is described as having both ‘clear’ (onset position) and ‘dark’ (coda position) variants (alternatively, degrees of dark) (Recasens 2011). Dark laterals have a dorsal approximation at the velar region as well as some pre-dorsal lowering. Dorsal backing and lowering of ‘dark’ laterals triggers a significant lowering of F2. The focus is to see to what extent bilinguals’ productions acoustically match to those of monolingual Spanish speakers. A total of 25 early Spanish-English bilinguals were recruited. They were recorded while reading aloud sentences in Spanish containing laterals in onset and coda positions adjacent to different vowels. Target words with laterals were spectrographically analyzed through an investigation of F1 and F2 values extracted from the approximate midpoint of the laterals. The middle of the steady-state portion of each lateral production was identified perceptually and visually. Lateral targets in onsets were further confirmed by waveform where the following vowels show a clear increase in amplitude (Simonet, 2010). The measurements obtained were compared with those of 15 Spanish monolingual controls. Results revealed patterns in the (non)monolingual-like nature of the productions. The most successful renditions (monolingual range) occurred in onset position before front vowels, while the targets in the coda positions after back vowels were the most non-monolingual-like. As such, the results are suggestive of a drift in terms of positional markedness. On the other hand, since bilinguals’ English lateral productions were found significantly different from those of monolingual English speakers in all syllable positions (Yavaş, 2017), this leads us to believe that , bilinguals are Spanish-dominant in their phonologies of the laterals, while they may be English-dominant in non-phonological aspects.

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Availability of the reciprocal reading in L2 Japanese

Reciprocal anaphors can take its antecedent in a local domain while they cannot in a non-local domain according to Binding Principle A (Chomsky, 1981). However, regarding the Japanese reciprocal *otagai* (corresponding to *each other* in English), the syntactic status is arguable; it is either an anaphor or pronoun (Ueyama, 1998; Hoji, 2003, 2006, 2010, among others). In the current study, we will focus on the case where a null object construction follows its antecedent sentence involving the reciprocal anaphor *otagai*. Takahashi (2008, 2016) shows that null arguments in Japanese have the sloppy reading as a case in point. The sentence in (1b), following (1a), can mean that *Ron and Hermione despise Ron and Hermione*, and hence, the sloppy reading.

- (1) a. Harii to Ginny-wa otagai-o sonkeishiteiru
Harry and Ginny-TOP each other-ACC respect
'Harry and Ginny respect each other.'
- b. Ron to Hermione-wa [e] keibetushiteiru.
Ron and Hermione-TOP despise
'(Lit.) Ron and Hermione despise.'
- (Takahashi, 2016)

Takahashi (2014), following Oku (1998) and Saito (2007), argues that the sloppy reading, also called the reciprocal reading in a case of (1b), is a result of Argument Ellipsis (AE). *Otagai-o* 'each other-ACC' in (1a) is copied onto the empty object position [e] in (1b) at LF, which means that the empty object is not occupied by *pro*. Saito (2007) claims that the availability of AE is due to absence of ϕ -feature agreement, which can account for the distribution of AE cross-linguistically, while he admits that Japanese also allows *pro*.

In the L2 acquisition literature, acquisition of null arguments has not been well examined regarding argument ellipsis (but see Yamada and Miyamoto, 2017; Yusa, 2017; M. Yusa, Zhiguo, Yusa and Nakayama, 2018). To fill this gap, the current study tested L1 European *non-pro-drop* language speakers and Japanese native speakers as a control group. We hypothesized that those European language speakers may have difficulty in interpreting L2 Japanese null arguments as shown in (1b) due to their L1 property: ϕ -feature agreement. The L2 learners were classified into advanced (n=5) and upper intermediate (n=7) levels according to their results from the Japanese Language Proficiency Tests (JLPT) (see Table 1). Our results of the truth-value judgment task revealed that the control group favors the sloppy reading much more than the strict reading (91.7% the sloppy reading vs. 25% the strict reading) whereas the opposite pattern was observed for L2 learners' allowing more the strict reading (58.3%) than the sloppy reading (33.3%) as shown in Table 2. Statistically, although no difference is found between the advanced and upper intermediate learners, there is a significant difference between the L2 learners and the control group in the sloppy ($p<.001$) and the strict ($p<.05$) reading. Our data indicates that the L2 learners did not allow the sloppy reading categorically as the control group did and that the status of null arguments in the L2 grammar is not AE.

With regards to those who allow the sloppy reading, we follow Yusa (2017) in that such L2 learners' reciprocal interpretation can be explained by V-stranding VP-ellipsis (Otani and Whitman, 1991; see (2) below). The process includes V-to-T raising as observed in languages such as French and Spanish. Thus, their interlanguage grammar is still within an option provided by UG, which is neither "rough" nor "wild" (Schwarts and Sprouse, 2000). The current study suggests that European language speakers learning L2 Japanese, even at higher proficiency levels, do not attain a native-like reciprocal reading as a result of their L1 influence, and yet the learners utilized an alternative way to obtain the reciprocal reading which UG legitimately constrains.

Table 1: Learner-group language profiles (*8 English, 2 French, 1 German, and 1 Dutch).

Learners group	N	Age	Level	Length of Study (year)
European <i>non-pro-drop</i>	12*	19–26	Advanced	(n = 5) 1–6 (mean = 2.9)
leaners of L2 Japanese		(mean 21.7)	Upper-int.	(n = 7)

Table 2: Acceptance rate - null arguments judged appropriate on the TVJT.

		Sloppy reading	Strict reading
L2 learners	(n=12)	33.3%	58.3%
Upper-int.	(n=7)	28.6%	64.3%
Advanced	(n=5)	40.0%	50.0%
Control	(n=12)	91.7%	25%

[V-stranding VP-ellipsis]

- (2) Ron to Hermione-wa [_{VP} ~~otagai o *t_i*~~] keibetushi_V-teiru_T
 Ron and Hermione-TOP despise
 ‘(Lit.) Ron and Hermione despise.’

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*This abstract is considered for an oral presentation or a poster.